

Marked Salmon Production by the Hatcheries of Russia in 2014

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 2014 the share of marked salmon in Sakhalin and Kurils made up 90,5%.

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 2014

In 2014 Russian hatcheries released 631,8 million of marked juveniles. The major part of marked juvenile salmon are Chum salmon – 399,4 million (63,2%) and Pink salmon – 224,2 million (35,5%) from the total amount of marked salmon. The share of other species (Sockeye, Chinook and Coho) did not exceed 1,5%. Sockeye were released 4,7 million, Coho – 2,5 million, Chinook – 1 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	7,3	28,3	258,6	104,7	0,5	399,4	63,2
Pink	8,9	0	97,3	118	0	224,2	35,5
Coho	1,4	1,1	0	0	0	2,5	0,4
Sockeye	0	4,7	0	0	0	4,7	0,7
Chinook	0	1	0	0	0	1	0,2
Total	17,6	35,1	355,9	222,7	0,5	631,8	100

The most part of marked juveniles was released from the hatcheries in Sakhalin (355,9 million) and Iturup Island (222,7 million). In Magadan region there was 17,6 million, Kamchatka – 35,1 million, in Khabarovsk region – 0,5 million. In Magadan juveniles was marked at three hatcheries, in Kamchatka – at five hatcheries, in Khabarovsk region at one hatchery, in Sakhalin at fourteen hatcheries and in Iturup Island at four hatcheries.

All together 36 different mark patterns were used for marking. 27 of which were used for Chum salmon: 4 mark patterns were used in Magadan, 3 of them in Kamchatka, in Khabarovsk – 1, in Sakhalin – 13, in Iturup – 8. For marking of Pink salmon 9 marks were used, 3 of which in Magadan, in Sakhalin – 4, in Iturup – 2.

Marked juvenile coho was released in Magadan region and Kamchatka. Juveniles were released at the age of fingerlings and one-yearlings. Three marks were used for fingerlings and 2 for one-yearlings which were marked in 2012.

Sockeye and Chinook were marked at hatcheries of Kamchatka. Two marks were used for Sockeye and one – for Chinook salmon.

As well as during the previous years, the most part of the salmon (90.1%) was marked by “dry” method before hatching of embryos.

Data on release of the marked salmon are represented in 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 2014

ID#	MARK TYPE	BROOD YEAR	YEAR OF RELEASE	SPECIES	COUNTRY	STATE/ PROVINCE	AGENCY	FACILITY	STOCK	FINAL RELEASE SITE
1	2	3	4	5	6	7	8	9	10	11
RU13-01	DM	2013	2014	CHUM	RUSSIA	MAGADAN	OKHOTSERYBVO	ARMANSKY HATCHERY	ARMAN RIVER	OKSA RIVER
RU13-02	DM	2013	2014	CHUM	RUSSIA	MAGADAN	OKHOTSERYBVO	ARMANSKY HATCHERY	BOGURCHAN RIVER	ARMAN RIVER
RU13-03	DM	2013	2014	CHUM	RUSSIA	MAGADAN	OKHOTSERYBVO	OL'SKY HATCHERY	OLYA RIVER	OLYA RIVER
RU13-04	DM	2013	2014	CHUM	RUSSIA	MAGADAN	MAGADANNIRO	OL'SKY HATCHERY	KUL'KUTY RIVER	KUL'KUTY RIVER
RU13-05	DM	2013	2014	CHUM	RUSSIA	MAGADAN	OKHOTSERYBVO	OL'SKY HATCHERY	YAMA RIVER	UGLIKANKA RIVER
RU13-06	DM	2013	2014	CHUM	RUSSIA	MAGADAN	OKHOTSERYBVO	YANSKY HATCHERY	YANA RIVER	YANA RIVER
RU13-07	DM	2013	2014	CHUM	RUSSIA	KAMCHATKA	FGU DIREK CIA LRZ	OZERKOVSKY HATCHERY	BOL'SHAYA RIVER	BOL'SHAYA RIVER
RU13-08	DM	2013	2014	CHUM	RUSSIA	KAMCHATKA	FGU DIREK CIA LRZ	KETKINSKY HATCHERY	AVACHA RIVER	AVACHA RIVER
RU13-09	TM	2013	2014	CHUM	RUSSIA	KAMCHATKA	FGU DIREK CIA LRZ	PARATUNSKY HATCHERY	PARATUNKA RIVER	PARATUNKA RIVER
RU13-10	DM	2013	2014	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVO	ADO-TYMOVSKY HATCHERY	TYM' RIVER	TYM' RIVER
RU13-11	DM	2013	2014	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVO	ADO-TYMOVSKY HATCHERY	PORONAY RIVER	TYM' RIVER
RU13-12	DM	2013	2014	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVO	POBEDINSKY HATCHERY	PORONAY RIVER	PORONAY RIVER
RU13-13	DM	2013	2014	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVO	BUYUKLOVSKY HATCHERY	BUYUKLINKA RIVER	BUYUKLINKA RIVER
RU13-14	TM	2013	2014	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVO	SOKOLOVSKY HATCHERY	UDARNITSA RIVER	BELAYA RIVER
RU13-15	TM	2013	2014	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVO	SOKOLOVSKY HATCHERY	TARANAY RIVER	BELAYA RIVER
RU13-16	TM	2013	2014	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVO	SOKOLOVSKY HATCHERY	NAYBA RIVER	BELAYA RIVER
RU13-17	DM	2013	2014	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVO	SOKOLOVSKY HATCHERY	REYDOVAYA RIVER	BELAYA RIVER
RU13-18	TM	2013	2014	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVO	BEREZNYAKOVSKY HATCHERY	BOL'SHOY TAKOY RIVER	BOL'SHOY TAKOY RIVER
RU13-19	TM	2013	2014	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVO	BEREZNYAKOVSKY HATCHERY	TARANAY RIVER	BOL'SHOY TAKOY RIVER
RU13-20	DM	2013	2014	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVO	TARANAYSKY HATCHERY	TARANAY RIVER	TARANAY RIVER
RU13-21	DM	2013	2014	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVO	SOKOL'NIKOVSKY HATCHERY	ZAVETINKA RIVER	ZAVETINKA RIVER
RU13-22	DM	2013	2014	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVO	YASNOMORSKY HATCHERY	YASNOMORKA RIVER	YASNOMORKA RIVER
RU13-23	DM	2013	2014	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVO	KALININSKY HATCHERY	KALINKA RIVER	KALINKA RIVER
RU13-24	DM	2013	2014	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVO	UROZHAYNYY HATCHERY	CHERNAYA RIVER	CHERNAYA RIVER
RU13-25	DM	2013	2014	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVO	UROZHAYNYY HATCHERY	YASNOMORKA RIVER	CHERNAYA RIVER
RU13-26	DM	2013	2014	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVO	UROZHAYNYY HATCHERY	KALINKA RIVER	CHERNAYA RIVER
RU13-27	DM	2013	2014	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVO	UROZHAYNYY HATCHERY	ZAVETINKA RIVER	CHERNAYA RIVER
RU13-28	DM	2013	2014	CHUM	RUSSIA	SAKHALIN	SALMO	OHOTSKY HATCHERY	UDARNITSA RIVER	UDARNITSA RIVER
RU13-29	DM	2013	2014	CHUM	RUSSIA	SAKHALIN	SALMO	LESNOY HATCHERY	OCHEPUKHA RIVER	OCHEPUKHA RIVER
RU13-30	DM	2013	2014	CHUM	RUSSIA	ITURUP	GIDROSTROY	REYDOVYY HATCHERY	REYDOVAYA RIVER	REYDOVAYA RIVER
RU13-31	DM	2013	2014	CHUM	RUSSIA	ITURUP	GIDROSTROY	KURIL'SKY HATCHERY	KURILKA RIVER	KURILKA RIVER
RU13-32	DM	2013	2014	CHUM	RUSSIA	ITURUP	GIDROSTROY	KITOVYY HATCHERY	KURILKA RIVER	KITOVAYA RIVER
RU13-33	DM	2013	2014	CHUM	RUSSIA	ITURUP	GIDROSTROY	KITOVYY HATCHERY	KURILKA RIVER	KITOVAYA RIVER
RU13-34	DM	2013	2014	CHUM	RUSSIA	ITURUP	GIDROSTROY	KITOVYY HATCHERY	KURILKA RIVER	KITOVAYA RIVER

Table 2 (Continued). Marked salmon production by the hatcheries of Russia in 2014

ID#	NUMBER OF RELEASED	HATCH CODE	RBr	GRAPHIC IMAGE		MARK SCHEDULE
				PREHATCH	POSTHATCH	
1	12	13	14	15	16	17
RU13-01	998500	4,3H	1:1.4,2.3	I I I I I I I		(3X)24D:24W,(1X)24D:48W,(3X)24D:24W
RU13-02	558970	4,3H	1:1.4,2.3	I I I I I I I		(3X)24D:24W,(1X)24D:48W,(3X)24D:24W
RU13-03	3278000	6nH	1:1.6n	IIIIII		(6X)12D:12W
RU13-04	885000	4,2nH	1:1.4,2.2n	I I I I I I		(3X)24D:24W,(1X)24D:48W,(2X)12D:12W
RU13-05	137800	4,2nH	1:1.4,2.2n	I I I I I I		(3X)24D:24W,(1X)24D:48W,(2X)12D:12W
RU13-06	1452000	3n,3nH	1:1.3n,2.3n	III III		(2X)12D:12W,(1X)12D:60W,(3X)12D:12W
RU13-07	1890190	5,1H	1:1.5,2.1	I I I I I I I		(4X)24D:24W,(2X)24D:48W
RU13-08	7059086	3,3H	1:1.3,2.3	I I I I I I		(2X)24H:24C,(1X)24H:48C,(3X)24H:24C
RU13-09	19350300	H4	2:1.4		I I I I	(4X)24H:24C
RU13-10	23970690	5,1H	1:1.5,2.1	I I I I I I I		(4X)24D:24W,(2X)24D:48W
RU13-11	12650950	5,1H	1:1.5,2.1	I I I I I I I		(4X)24D:24W,(2X)24D:48W
RU13-12	20856300	1,5n,1H	1:1.1,2.5n,3.1	I IIIII I		(1X)24D:60W,(4X)12D:12W,(1X)12D:60W,(1X)24D:24W
RU13-13	43800000	1,3,1H	1:1.1,2.3,3.1	I I I I I I		(1X)24D:48W,(2X)24D:24W,(2X)24D:48W
RU13-14	3436000	H3n,1,2	2:1.3n,2.1,3,2		III I I I	(2X)12C:12H,(1X)12C:48H,(1X)24C:48H,(2X)24C:24H
RU13-15	1577200	H3n,1,2	2:1.3n,2.1,3,2		III I I I	(2X)12C:12H,(1X)12C:48H,(1X)24C:48H,(2X)24C:24H
RU13-16	6777800	H3n,1,2	2:1.3n,2.1,3,2		III I I I	(2X)12C:12H,(1X)12C:48H,(1X)24C:48H,(2X)24C:24H
RU13-17	6536900	5,2H3n,1,2	1:1.5,2.2+3.3n,4.1,5,2	I I I I I I I	III I I I	(4X)24D:24W,(1X)24D:48W,(2X)24D:24W+(2X)12C:12H,(1X)12C:48H,(1X)24C:48H,(2X)24C:24H
RU13-18	20444467	H3,1,2n	2:1.3,2.1,3,2n		III I I I	(2X)24C:24H,(2X)24C:48H,(2X)12C:12H
RU13-19	2752500	H3,1,2n	2:1.3,2.1,3,2n		III I I I	(2X)24C:24H,(2X)24C:48H,(2X)12C:12H
RU13-20	15482400	1,5H	1:1.1,2.5	I I I I I I I		(1X)24D:48W,(5X)24D:24W
RU13-21	15669000	5nH	1:1.5n	IIIIII		(5X)12D:12W
RU13-22	9048000	1,2H	1:1.1,2.2	I I I		(1X)24D:48W,(2X)24D:24W
RU13-23	35430000	4n,2nH	1:1.4n,2.2n	IIII II		(3X)12D:12W,(1X)12D:60W,(2X)12D:12W
RU13-24	6064400	7nH	1:1.7n	IIIIII		(7X)12D:12W
RU13-25	1263700	7nH	1:1.7n	IIIIII		(7X)12D:12W
RU13-26	1694100	7nH	1:1.7n	IIIIII		(7X)12D:12W
RU13-27	623800	7nH	1:1.7n	IIIIII		(7X)12D:12W
RU13-28	20339200	8nH	1:1.8n	IIIIII		(8X)12D:12W
RU13-29	10198400	4n,3nH	1:1.4n,2.3n	III III		(3X)12D:12W,(1X)12D:60W,(3X)12D:12W
RU13-30	27759000	5,2H	1:1.5,2.2	I I I I I I I		(4X)24D:24W,(1X)24D:48W,(2X)24D:24W
RU13-31	7916100	4,1H	1:1.4,2.1	I I I I I		(3X)24D:24W,(2X)24D:48W
RU13-32	11574900	3H	1:1.3	I I I		(3X)24D:24W
RU13-33	10509100	3-3H	1:1.3,2.3	I I I I I I		(2X)24D:24W,(1X)24D:72W,(3X)24D:24W
RU13-34	7706200	6H	1:1.6	I I I I I I		(6X)12D:12W

Table 2 (Continued). Marked salmon production by the hatcheries of Russia in 2014

ID#	MARK TYPE	BROOD YEAR	YEAR OF RELEASE	SPECIES	COUNTRY	STATE/ PROVINCE	AGENCY	FACILITY	STOCK	FINAL RELEASE SITE
1	2	3	4	5	6	7	8	9	10	11
RU13-35	DM	2012	2013	CHUM	RUSSIA	ITURUP	GIDROSTROY	HATCHERY ON BAY OLYA	OLYA RIVER	OLYA RIVER
RU13-36	DM	2012	2013	CHUM	RUSSIA	ITURUP	GIDROSTROY	HATCHERY ON BAY OLYA	OLYA RIVER	OLYA RIVER
RU13-37	DM	2012	2013	CHUM	RUSSIA	ITURUP	GIDROSTROY	HATCHERY ON BAY OLYA	OLYA RIVER	OLYA RIVER
RU13-38	TM	2013	2014	CHUM	RUSSIA	KHABAROVSK	OOO "KOMETA"	KOMETA HATCHERY	TIKHOE LAKE	GYDZHU RIVER
RU13-39	DM	2013	2014	PINK	RUSSIA	MAGADAN	OKHOTSKRYBVOD	ARMANSKY HATCHERY	OYRA RIVER	ARMAN RIVER
RU13-40	DM	2013	2014	PINK	RUSSIA	MAGADAN	OKHOTSKRYBVOD	ARMANSKY HATCHERY	OKSA RIVER	ARMAN RIVER
RU13-41	DM	2013	2014	PINK	RUSSIA	MAGADAN	OKHOTSKRYBVOD	OL`SKY HATCHERY	TANON RIVER	UGLIKANKA RIVER
RU13-42	DM	2013	2014	PINK	RUSSIA	MAGADAN	OKHOTSKRYBVOD	OL`SKY HATCHERY	LANKOVAYA RIVER	UGLIKANKA RIVER
RU13-43	DM	2013	2014	PINK	RUSSIA	MAGADAN	OKHOTSKRYBVOD	OL`SKY HATCHERY	BOGURCHAN RIVER	UGLIKANKA RIVER
RU13-44	DM	2013	2014	PINK	RUSSIA	MAGADAN	OKHOTSKRYBVOD	OL`SKY HATCHERY	BOGURCHAN RIVER	TANON RIVER
RU13-45	DM	2013	2014	PINK	RUSSIA	MAGADAN	OKHOTSKRYBVOD	YANSKY HATCHERY	YANA RIVER	YANA RIVER
RU13-46	DM	2013	2014	PINK	RUSSIA	SAKHALIN	SAKHALINRYBVOD	ANIVSKY HATCHERY	BYSTRAYA RIVER	BYSTRAYA RIVER
RU13-47	DM	2013	2014	PINK	RUSSIA	SAKHALIN	SAKHALINRYBVOD	ANIVSKY HATCHERY	TARANAY RIVER	BYSTRAYA RIVER
RU13-48	DM	2013	2014	PINK	RUSSIA	SAKHALIN	SAKHALINRYBVOD	TARANAYSKY HATCHERY	TARANAY RIVER	TARANAY RIVER
RU13-49	DM	2013	2014	PINK	RUSSIA	SAKHALIN	SALMO	LESNOY HATCHERY	OCHEPUKHA RIVER	OCHEPUKHA RIVER
RU13-50	DM	2013	2014	PINK	RUSSIA	SAKHALIN	DELTA	BAKHURA HATCHERY	BAKHURA RIVER	BAKHURA RIVER
RU13-51	DM	2012	2013	PINK	RUSSIA	ITURUP	GIDROSTROY	KURIL`SKY HATCHERY	KURILKA RIVER	KURILKA RIVER
RU13-52	DM	2012	2013	PINK	RUSSIA	ITURUP	GIDROSTROY	REYDOVYY HATCHERY	REYDOVAYA RIVER	REYDOVAYA RIVER
RU13-53	DM	2013	2014	COHO	RUSSIA	MAGADAN	OKHOTSKRYBVOD	ARMANSKY HATCHERY	ARMAN RIVER	ARMAN RIVER
RU13-54	DM	2013	2014	COHO	RUSSIA	MAGADAN	OKHOTSKRYBVOD	ARMANSKY HATCHERY	BOGURCHAN RIVER	ARMAN RIVER
RU13-55	DM	2013	2014	COHO	RUSSIA	MAGADAN	OKHOTSKRYBVOD	YANSKY HATCHERY	YANA RIVER	YANA RIVER
RU13-56	TM	2013	2014	COHO	RUSSIA	KAMCHATKA	FGU DIREKCIA LRZ	PARATUNSKY HATCHERY	PARATUNKA RIVER	PARATUNKA RIVER
RU13-57	TM	2013	2014	CHINOOK	RUSSIA	KAMCHATKA	FGU DIREKCIA LRZ	MALKINSKY HATCHERY	BOL`SHAYA RIVER	BOL`SHAYA RIVER
RU13-58	DM	2013	2014	SOCKEYE	RUSSIA	KAMCHATKA	FGU DIREKCIA LRZ	MALKINSKY HATCHERY	BOL`SHAYA RIVER	BOL`SHAYA RIVER
RU13-59	DM	2013	2014	SOCKEYE	RUSSIA	KAMCHATKA	FGU DIREKCIA LRZ	OZERKOVSKY HATCHERY	BOL`SHAYA RIVER	BOL`SHAYA RIVER
RU12-68	DM	2012	2014	COHO	RUSSIA	KAMCHATKA	FGU DIREKCIA LRZ	VILUYSKY HATCHERY	BOLSHOY VILUY LAKE	BOLSHOY VILUY LAKE
RU12-69	DM	2012	2014	COHO	RUSSIA	MAGADAN	OKHOTSKRYBVOD	ARMANSKY HATCHERY	OLA RIVER	UGLIKANKA RIVER

Table 2 (Continued). Marked salmon production by the hatcheries of Russia in 2014

ID#	NUMBER OF RELEASED	HATCH CODE	RBr	GRAPHIC IMAGE		MARK SCHEDULE
				PREHATCH	POSTHATCH	
1	12	13	14	15	16	17
RU13-35	12917870	3n2H	1:1.3n,2.2	III II		(2X)12D:12W,(1X)12D:60W,(2X)24D:24W
RU13-36	20504280	1,4,1H	1:1.1,2,4,3.1	I III I I		(1X)24D:48W,(3X)24D:24W,(2X)24D:48W
RU13-37	5793550	5H	1:1.5	I III I I		(5X)24D:24W
RU13-38	533000	3,2H	1:1.3,2,2	I III I I		(2X)24H:24C,(1X)24H:48C,(2X)24H:24C
RU13-39	1301600	4,3H	1:1.4,2,3	I III I III		(3X)24D:24W,(1X)24D:48W,(3X)24D:24W
RU13-40	2453100	4,3H	1:1.4,2,3	I III I III		(3X)24D:24W,(1X)24D:48W,(3X)24D:24W
RU13-41	948900	6nH	1:1.6n	IIIIII		(6X)12D:12W
RU13-42	1299000	6nH	1:1.6n	IIIIII		(6X)12D:12W
RU13-43	1142100	6nH	1:1.6n	IIIIII		(6X)12D:12W
RU13-44	152419	6nH	1:1.6n	IIIIII		(6X)12D:12W
RU13-45	1563000	3n,3nH	1:1.3n,2.3n	III III		(2X)12D:12W,(1X)12D:48W,(3X)12D:12W
RU13-46	30482400	3,4H	1:1.3,2,4	I II I III I		(2X)24H:24C,(1X)24H:48C,(4X)24H:24C
RU13-47	6181900	3,4H	1:1.3,2,4	I II I III I		(2X)24H:24C,(1X)24H:48C,(4X)24H:24C
RU13-48	19401640	5H	1:1.5	I III I I		(5X)24D:24W
RU13-49	26732400	5nH	1:1.5n	IIIIII		(5X)12D:12W
RU13-50	14534600	4,2H	1:1.4,2,2	I III I II		(3X)24D:24W,(1X)24D:48W,(2X)24D:24W
RU13-51	75307900	1,4H	1:1.1,2,4	I III I I		(1X)24D:48W,(4X)24D:24W
RU13-52	42709200	4,2nH	1:1.4,2,2n	I III I II		(3X)24D:24W,(1X)24D:48W,(2X)12D:12W
RU13-53	365552	3,4H	1:1.3,2,4	I III I III I		(2X)24H:24C,(1X)24H:48C,(4X)24H:24C
RU13-54	93529	3,4H	1:1.3,2,4	I III I III I		(2X)24H:24C,(1X)24H:48C,(4X)24H:24C
RU13-55	580100	3n,3nH	1:1.3n,2.3n	III III		(2X)12D:12W,(1X)12D:108W,(3X)12D:12W
RU13-56	641200	H4	2:1.4		IIII	(4X)24H:24C
RU13-57	999445	H3,1,2	2:1.3,2,1,3,2		III I II	(2X)24C:24H,(2X)24C:48H,(2X)24C:24H
RU13-58	559065	3,1,2H	1:1.3,2,1,3,2	I III I III		(2X)24C:24H,(2X)24C:48H,(2X)24C:24H
RU13-59	4094222	5H	1:1.5	I III I I		(5X)24H:24C
RU12-68	465505	5H	1:1.5	I III I I		(5X)24H:24C
RU12-69	378980	3n,4H	1:1.3n,2,4	III III I I		(2X)12D:12W,(1X)12D:60W,(4X)24D:24W