

Partial Identification of Tagged Pink Salmon Returning to Iturup Island in the Years 2010-2011

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SakhNIRO, ZAO «Gidtrostroy»

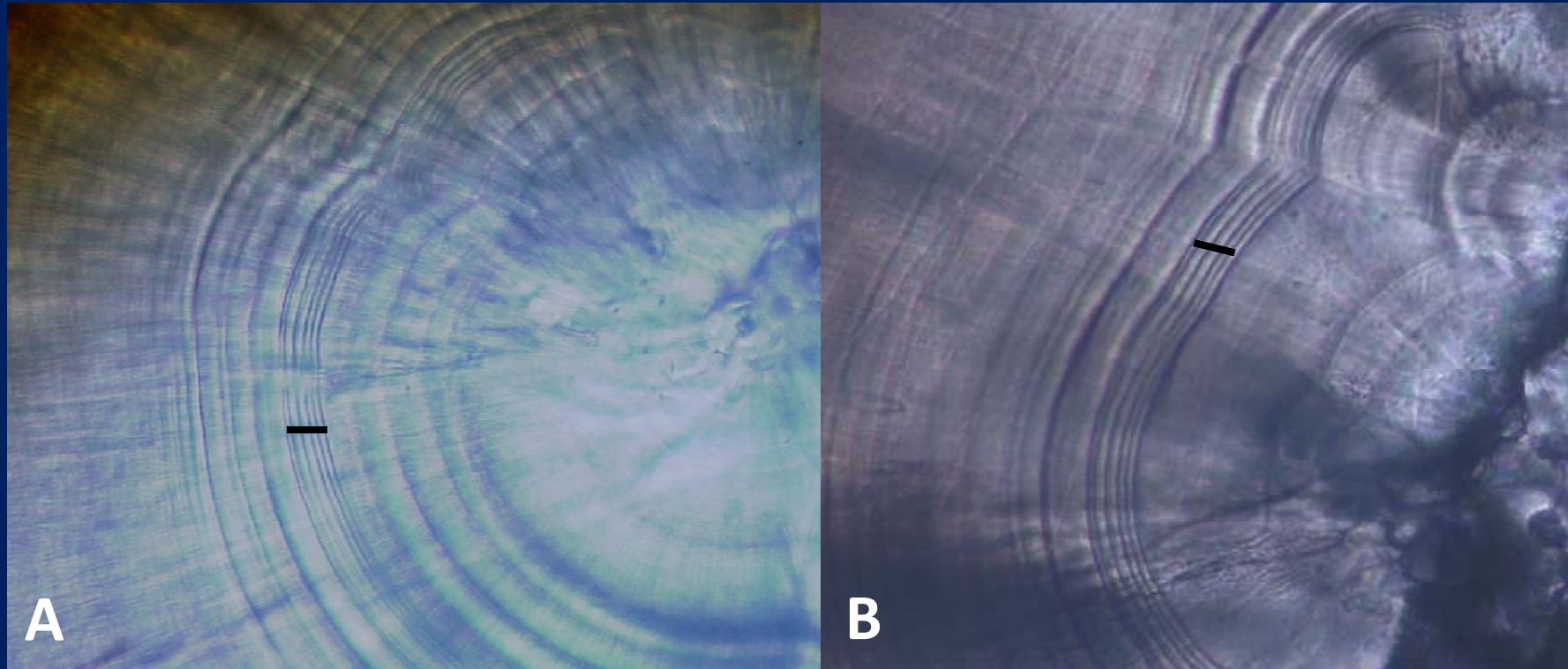
Yuzhno-Sakhalinsk

2012

Release volume of tagged juveniles at JSC «Gidrostroy» facilities in 2009-2010

Name of Salmon hatchery	Species of Salmon	Total release in millions	Tagged juveniles		Kind of tag
			in millions	%	
Release year		2009			
«Reidovo»	Pink	42,24	41,6	98,5	H1,2,2
«Reidovo»	Pink	42,24	0,6	1,5	1,2n,2nH1,2,2
«Kurislkiy»	Pink	67,4	7,32	10,9	3n,1,2nH
Total		151,88	49,52		
Release year		2010			
«Reidovo»	Pink	42,2	11,8	28	1,2,2H1,2,2
«Reidovo»	Pink	42,2	10,3	24,4	1,2,1H1,2,2
«Reidovo»	Pink	42,2	20,1	47,6	H1,2,2
«Kurilskiy»	Pink	61,8	52,2	84,6	3,2,2nH
Total		188,4	94,4		

Tags on otoliths of Pinks and Chums at Kurilskiy hatchery, 2009 release



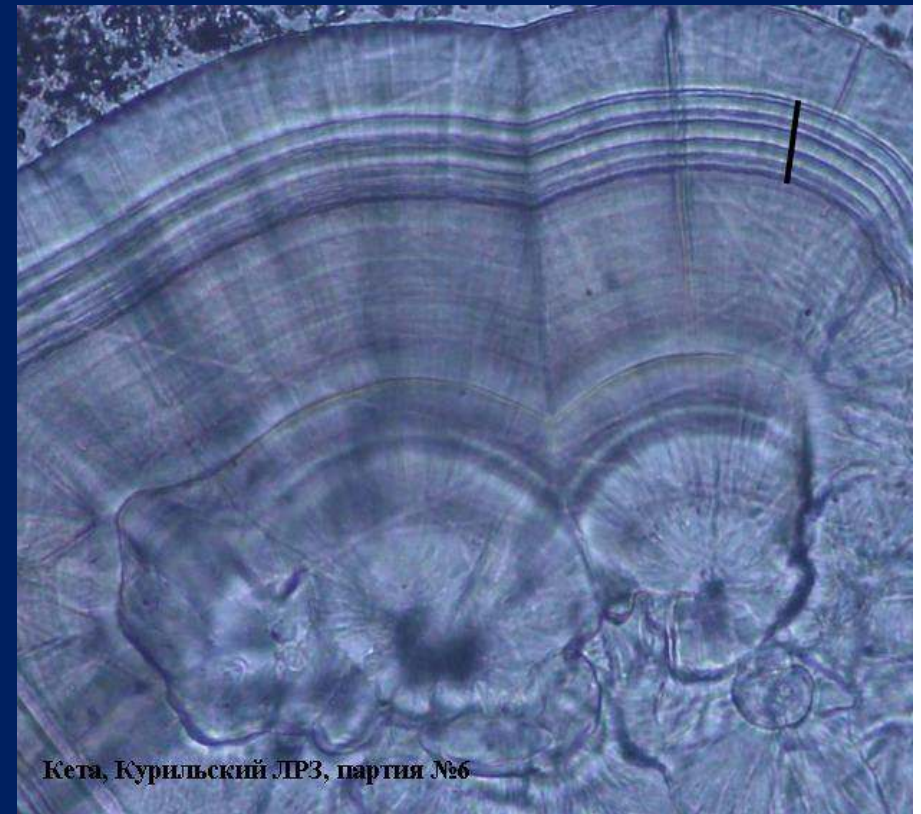
Dry method of tagging, Pinks (A), Chums (B).

Tags on otoliths of juvenile Salmon in the release of Kurilskiy hatchery in 2010

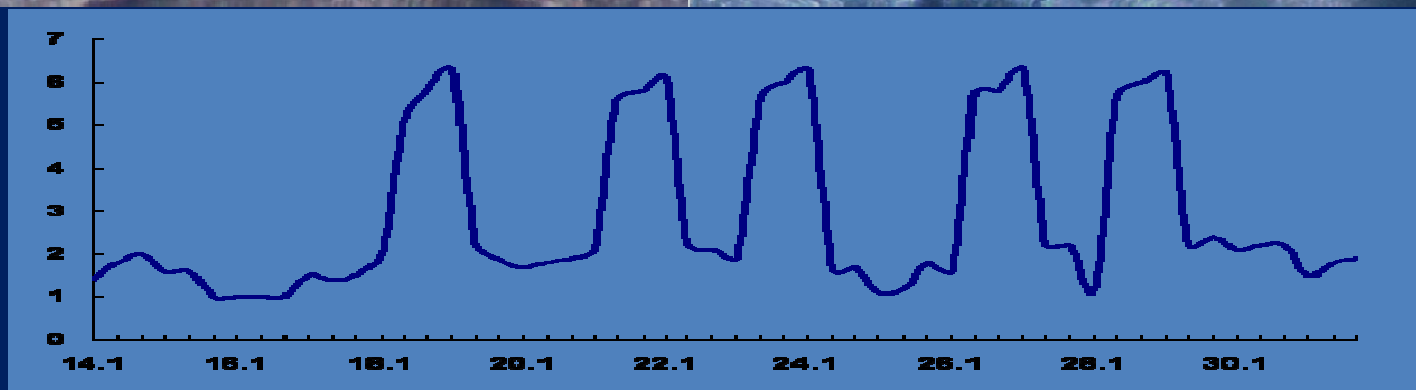
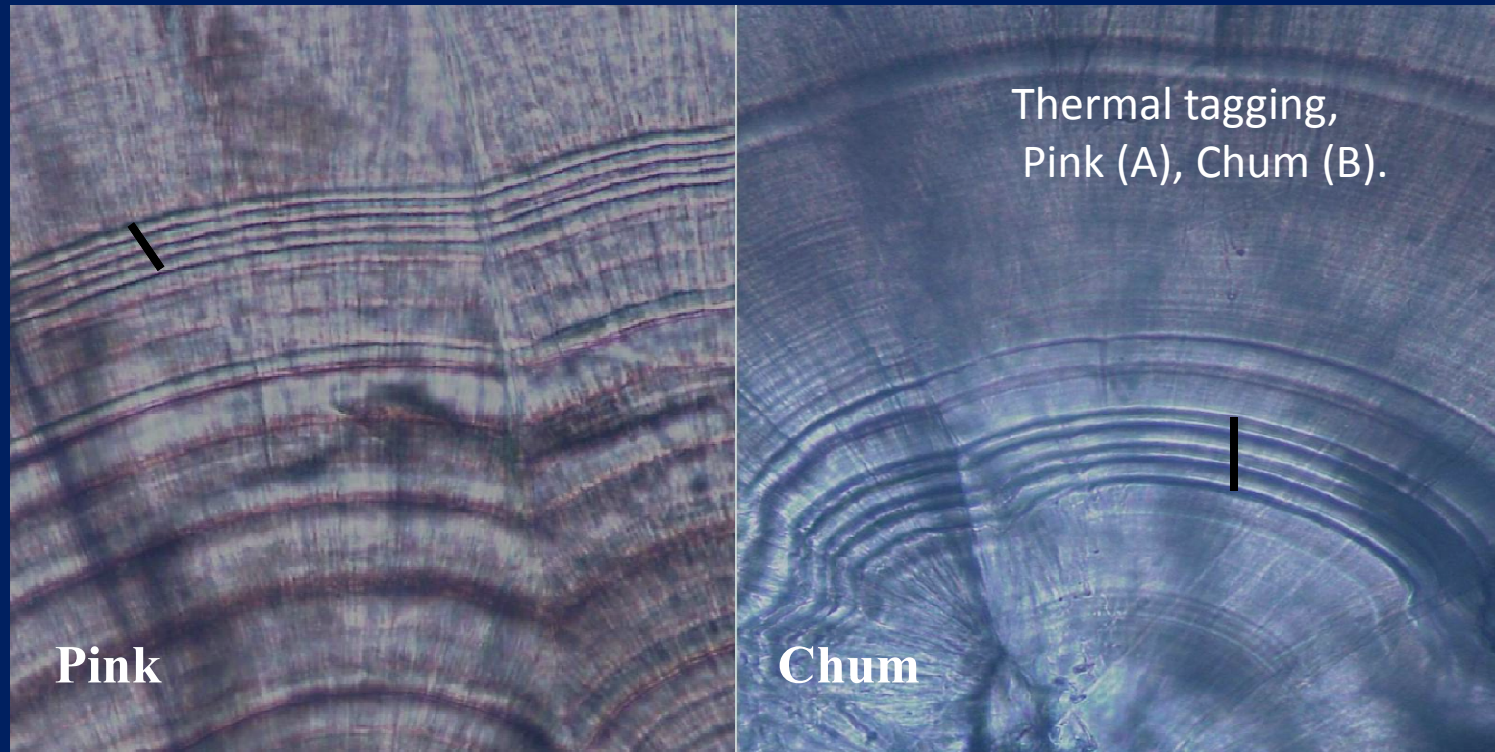


Pink Salmon of Kurilskiy, dry method of tagging, 2010 release (batch 24)

Kurilskiy Chum, 2010 release
(batch 6)



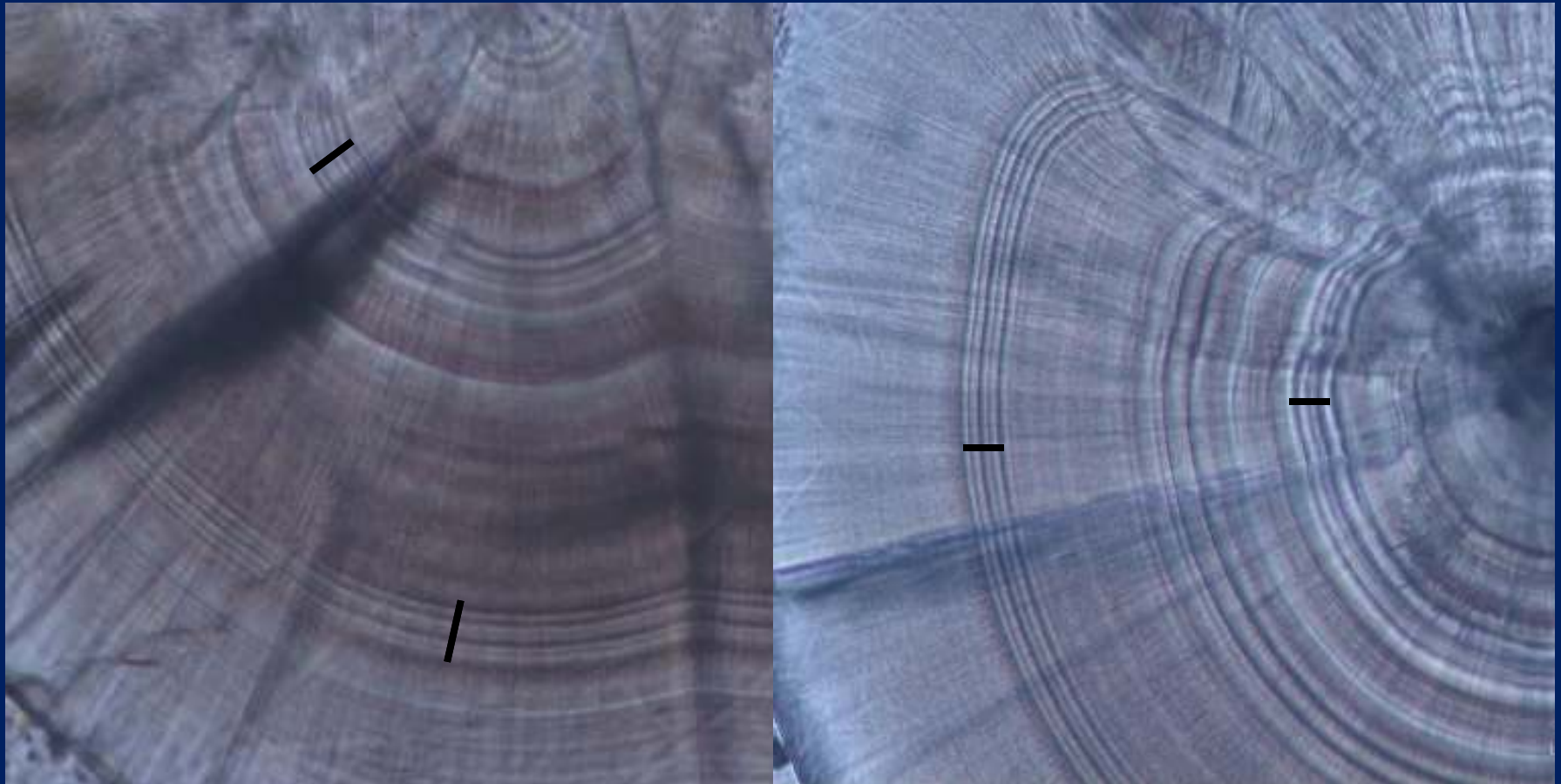
Tags on otoliths of Pinks and Chums of Reidovo hatchery, 2009 release



Dynamic of water temperature in the process of thermal tagging of juveniles

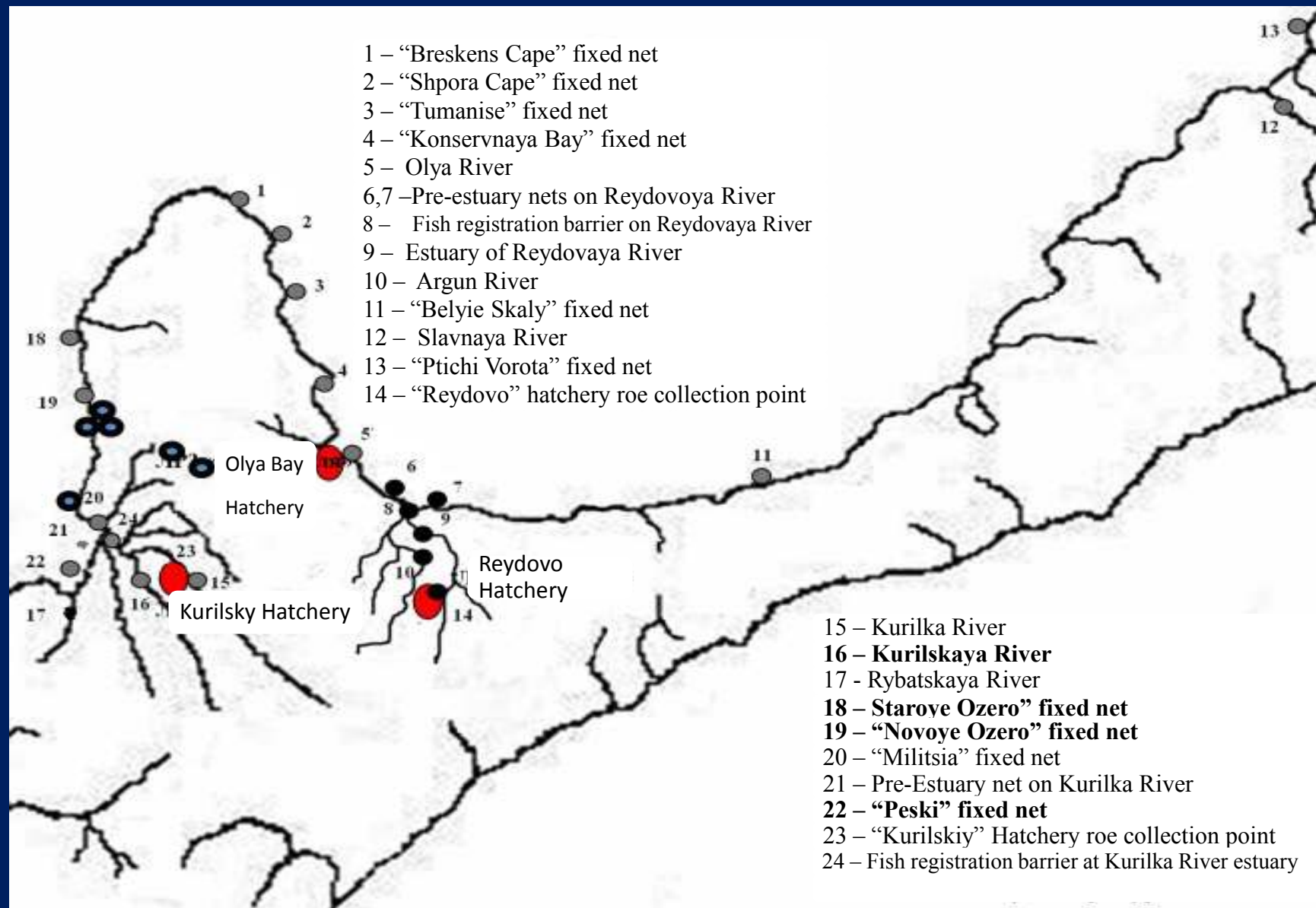
Tagging of otoliths on Pinks from Reidovo hatchery, 2010 release

Lot №2, tags 1,2,2H1,2,2



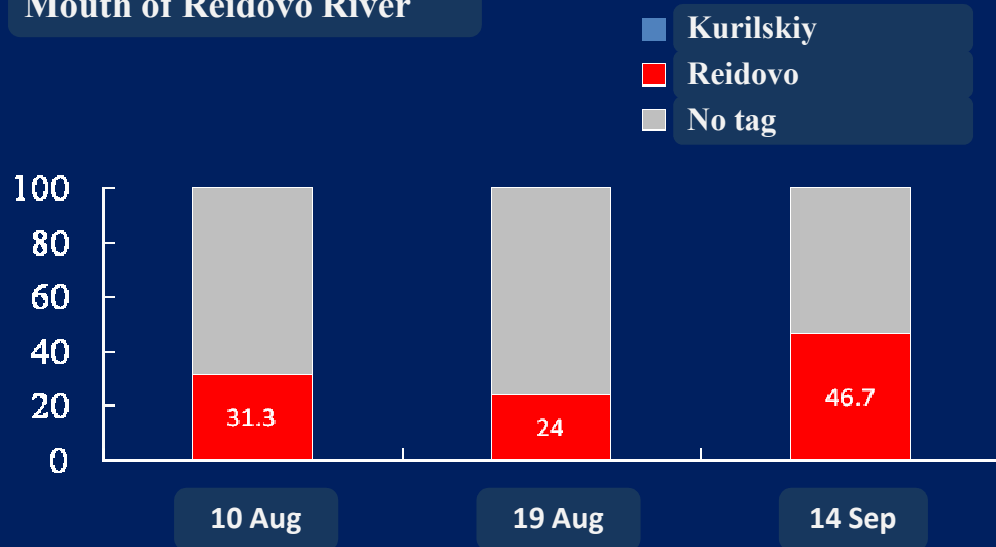
Lot № 8, tags 1,2,1H1,2,2

Area of material collection, 2010



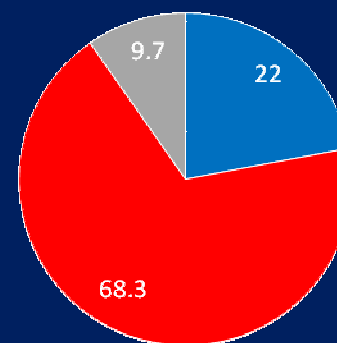
Portion of hatchery Pinks in the regions of Prostor Bay, 2010

Mouth of Reidovo River



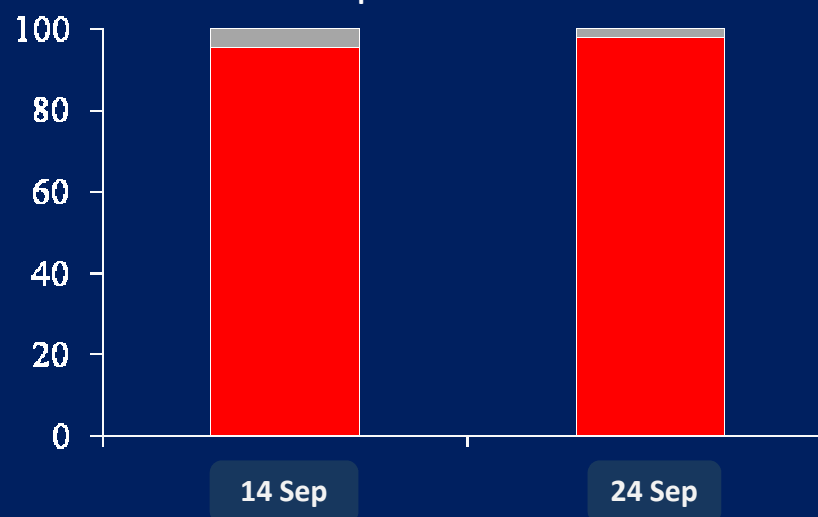
Fish registration barrier at mouth of Reidovo River

22.09.2010

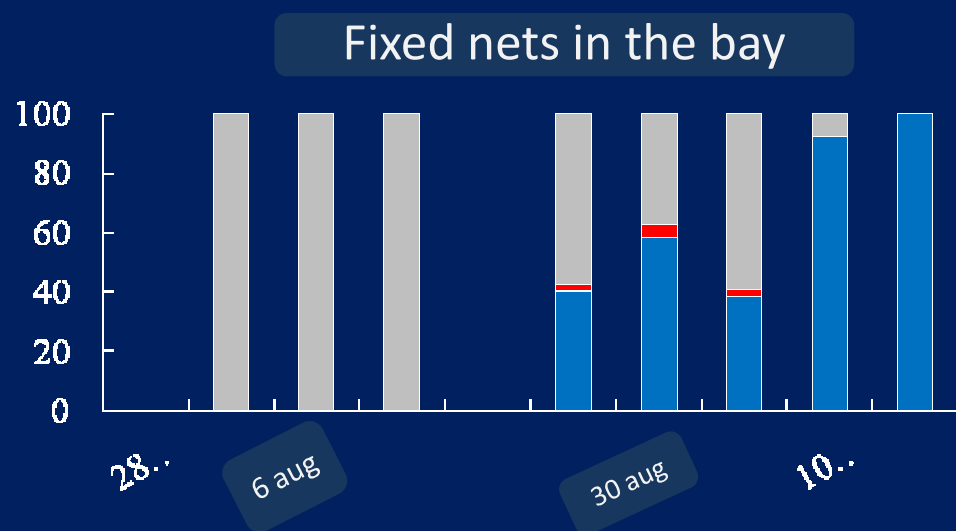


Tagged individuals were registered in the region of Reidovo hatchery from the beginning of August, their portion gradually increased, the maximum was registered in the second half of September at the hatchery roe collection point (up to 98%). Individuals of Kurilskiy hatchery were registered in the Reidovo River mouth (22%) in the last 10 days of September.

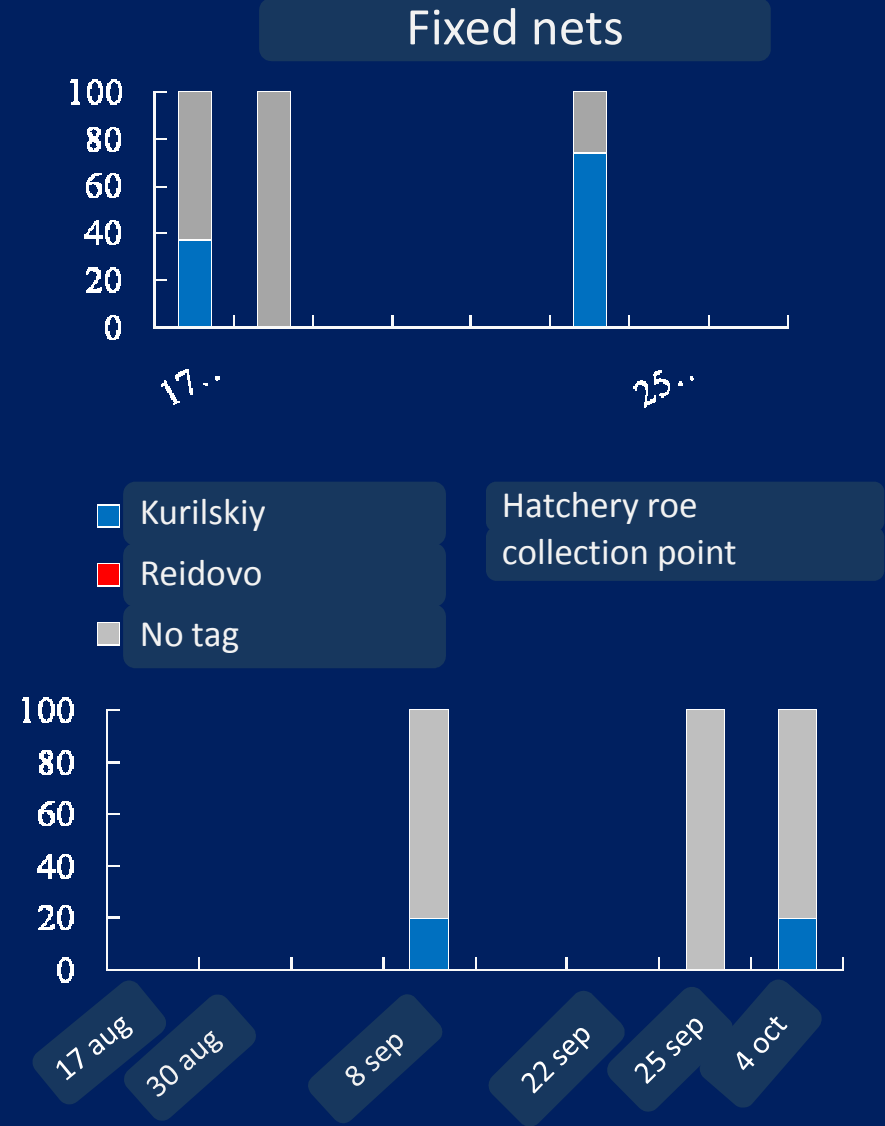
Reidovo Hatchery roe collection point



Portion of hatchery Pinks in the region of Kurilskiy Bay, 2010

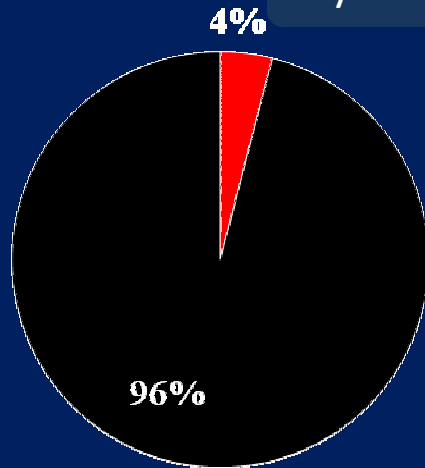


Individuals from Kurilskiy hatchery registered at the end of August (40-60%), toward the middle of September their portion reached 98-100%, both in the nets in the Bay, and closer to the mouth of Reidovo River. At the net near the mouth the maximum was 74%. At the hatchery roe collection point, the tagged individuals observed did not exceed 20%. Pinks of Reidovo hatchery were observed only in nets that were distant from the mouth.



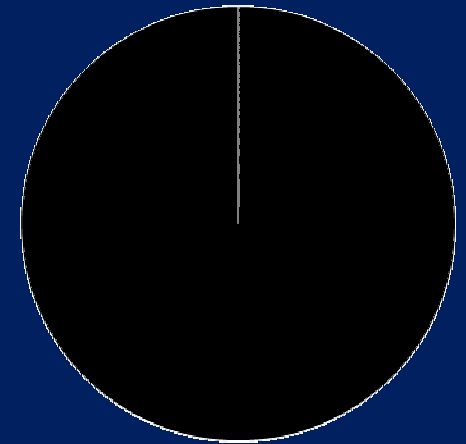
Portion of hatchery Pinks in spawning grounds in the Reidovo hatchery region, 2010

Olya River 20.09.2010

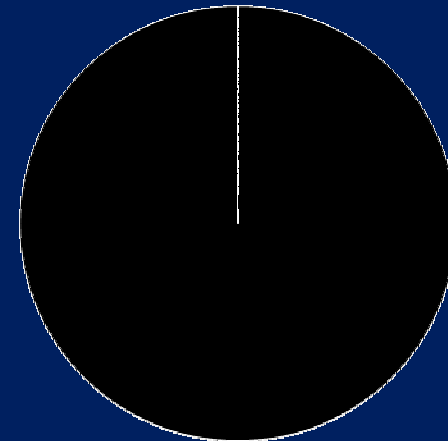


- Kurilskiy
- Reidovo
- No tag

Slavnaya River 24.07.2010



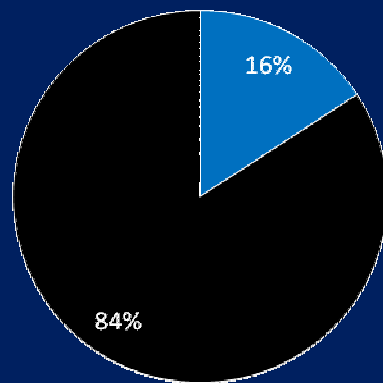
Argun River 19.09.2010



Up to 4% of Pinks from Reidovo hatchery were observed in the Olya River.

Portion of hatchery Pinks in spawning grounds in the Kurilskiy hatchery region, 2010

Kurilka River 10.09.10

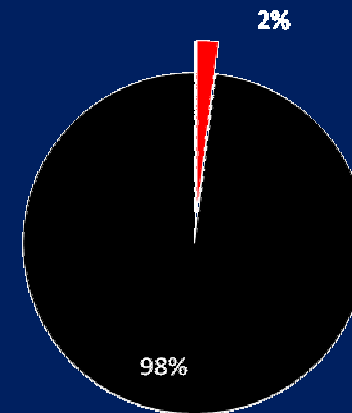


■ Kurilskiy
■ Reidovo
■ No tag

About 16% of Pinks from Kurilskiy hatchery are in spawning grounds in the main riverbed of Kurilka River;

The presence of single Pink specimens from Reidovo hatchery was noted in Rybatskaya River.

Rybatskaya River 13.09.10



Kurilskaya River 10.09.10

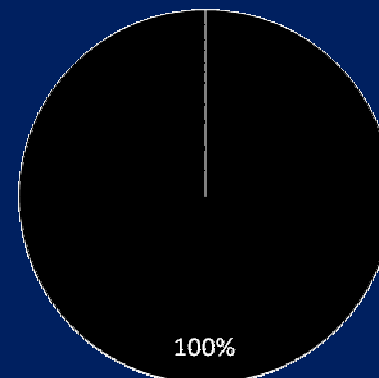
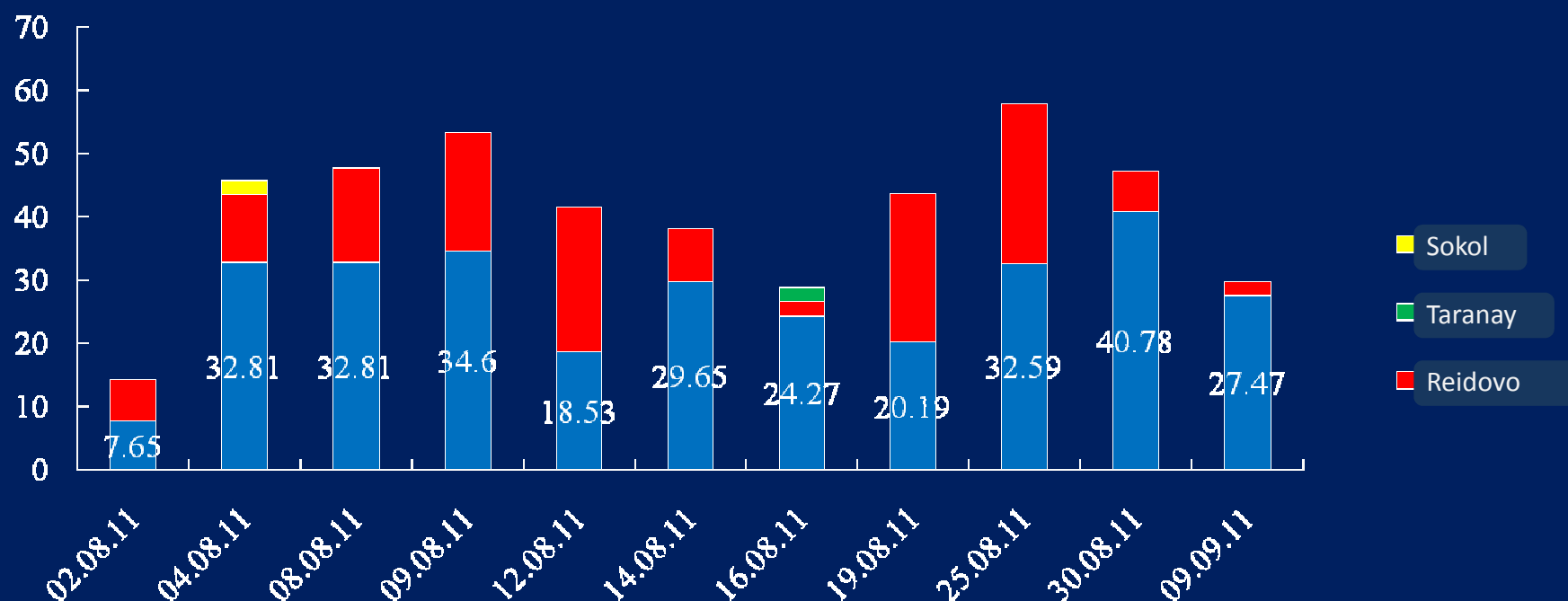


Diagram of the region of study, 2011

- Prostor Bay ● Kurilskiy Bay ● Northern Iturup

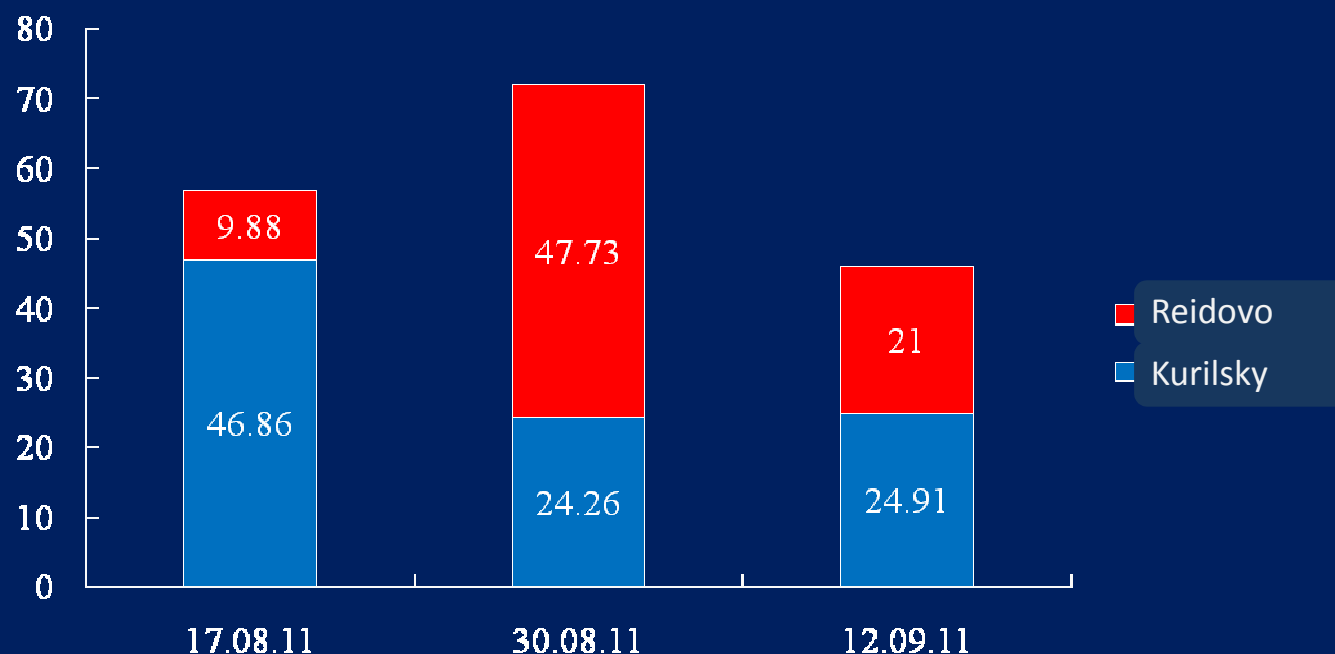


Portion of hatchery Pinks in the fixed net catches in Northern Iturup, 2011



The portion of hatchery Pinks in the net catches in Northern Iturup (region of Cape of Friz) changed from 18% (at the beginning of the run) to 57%. During the main part of the period of observations, about 40-45% hatchery fish were noted in the catches. In the middle of August somewhat of an increase in the portion of wild Pinks was noted. Pinks of Kurilskiy hatchery were predominant. Among the tagged fish, solitary specimens tagged at Sakhalin hatcheries (Taranaiskiy and Sokolovskiy) were registered.

Portion of hatchery Pinks in fixed nets in the Prostor Bay region, 2011

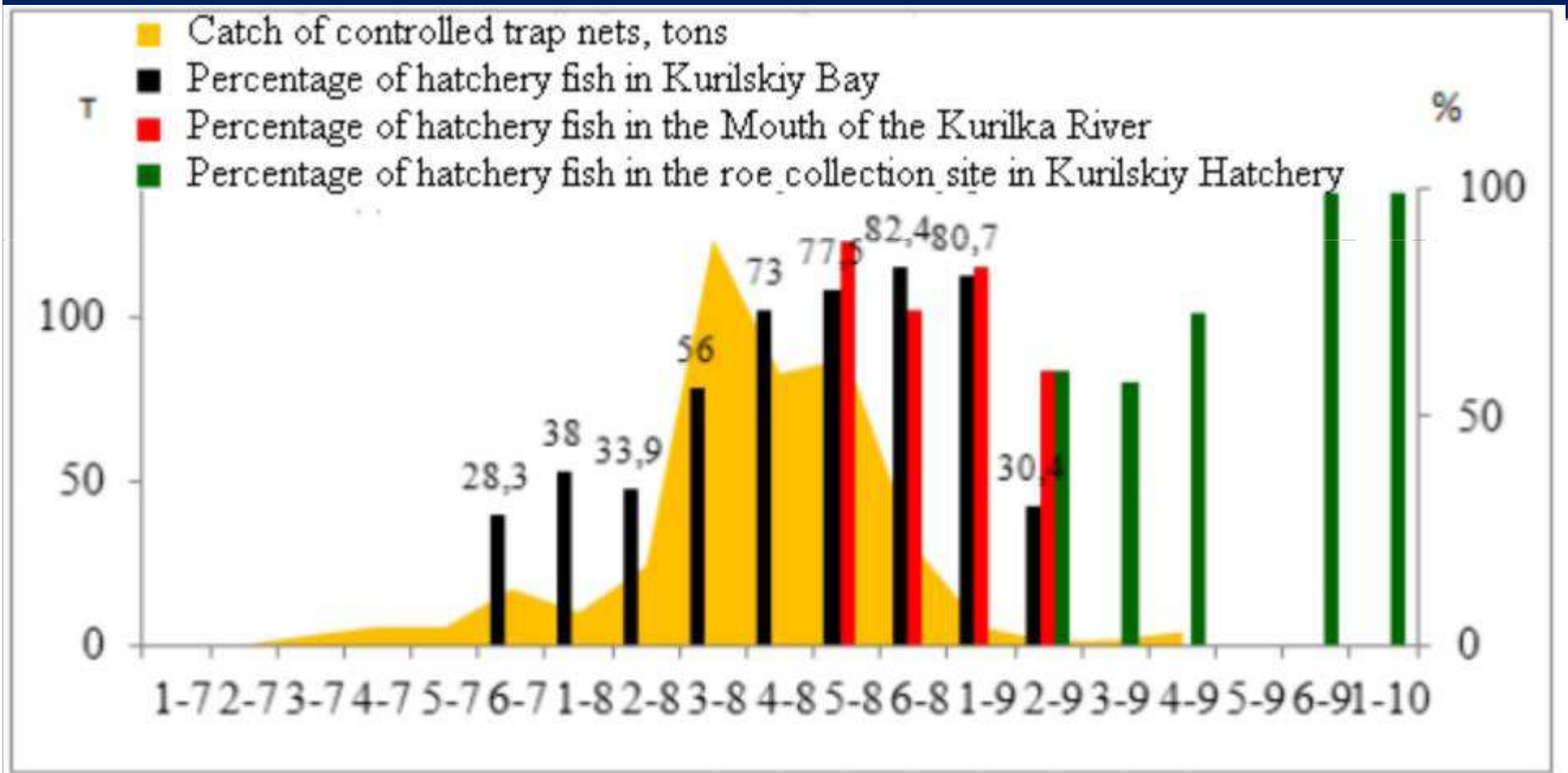


A significant number of Kurilskiy hatchery Pinks was observed in nets in the Reidovo River region, as well as in the northern nets.

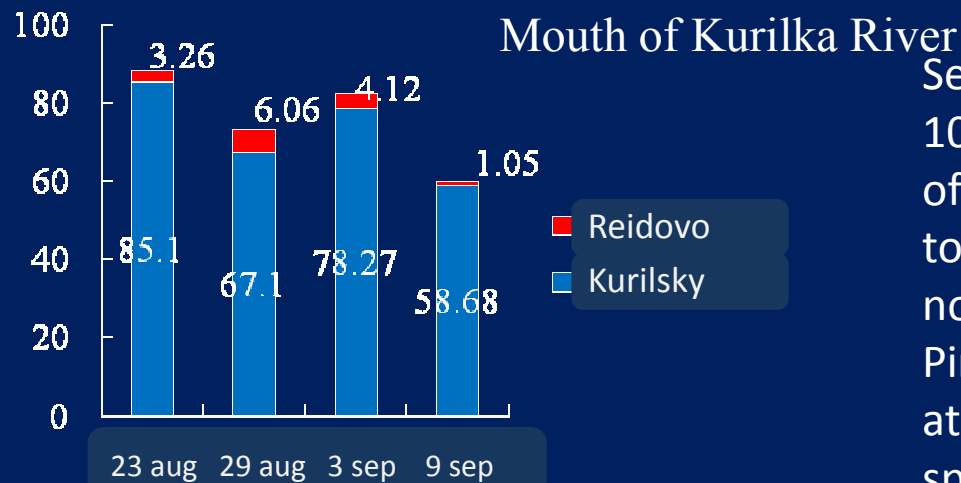
By the beginning of September, an increase in the portion of Reidovo hatchery Pinks was noted.

By the middle of September, a decrease in the portion of Reidovo hatchery Pinks was observed, while the Kurilskiy hatchery (portion) was preserved.

Change in portion of hatchery Pinks in catches from the Kurilskiy hatchery region over the course of the fishery in 2011

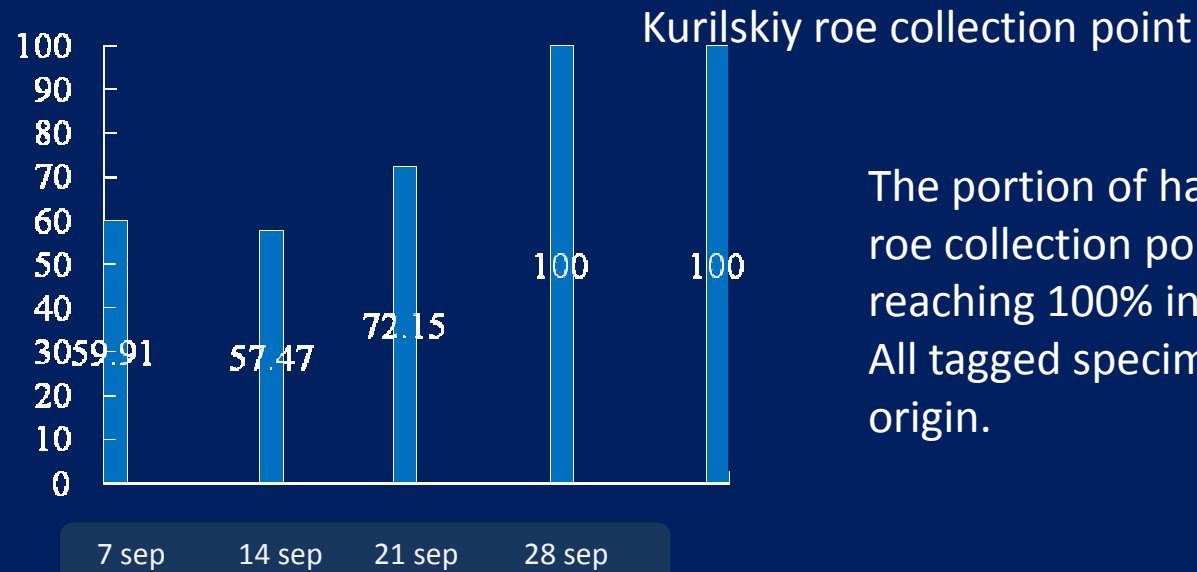


Portion of hatchery Pinks in fixed nets in the region at the mouth of Kurilka River, 2011



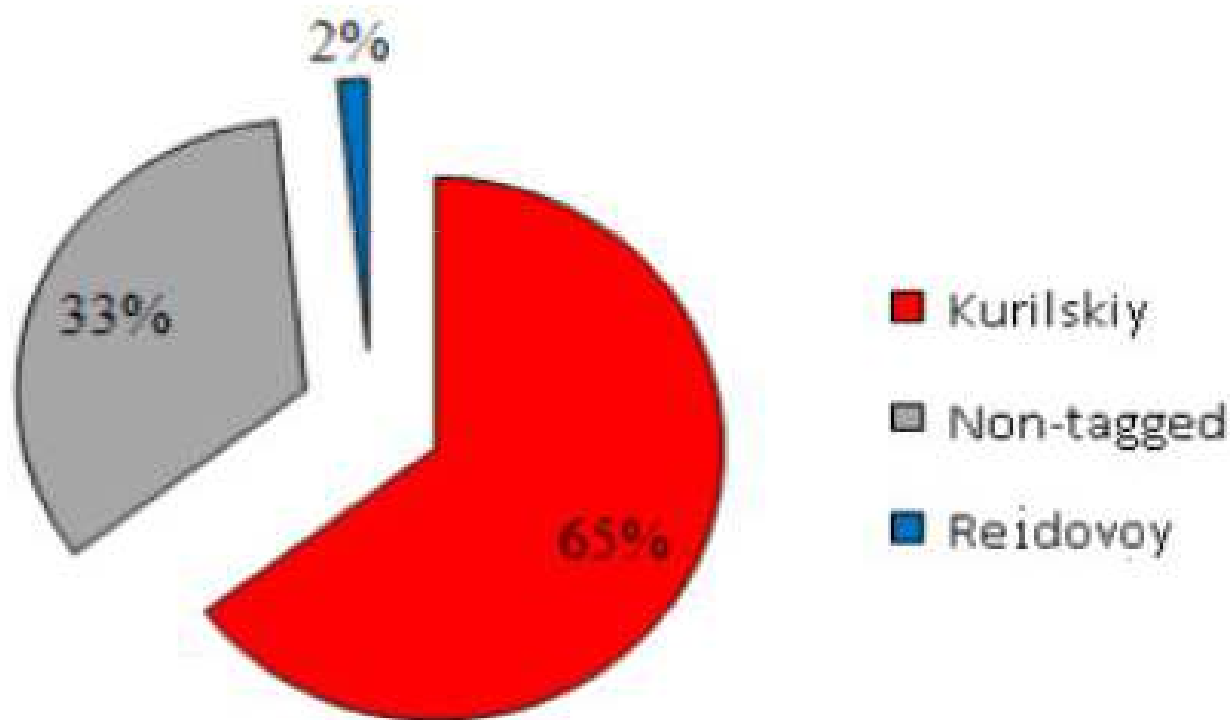
Series of observations from the last 10 days of August to the first 10 days of September, weekly. A tendency toward a decrease in hatchery fish is noted.

Pink Salmon from Reidovo hatchery at the mouth of Kurilka River were sporadic.



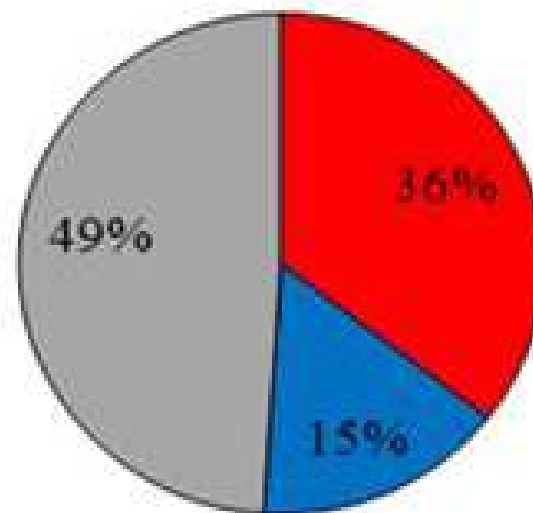
The portion of hatchery Pinks at the Kurilskiy roe collection point is high and is increasing, reaching 100% in the last days of the month. All tagged specimens are of Kurilskiy hatchery origin.

Correlation of Pinks of different origins, registered in the region of Kurilskiy hatchery during the observation period



Portion of specimens of different origins in the overall catches from Salmon approaches to Iturup Island for the entire period of observation, 2011

■ Kurilsky Hatchery ■ Reidovoy Hatchery ■ Wild Species



Conclusions

- As a result of the tagged pink salmon identification in the return of the years 2010-2011, data was obtained about the proportion between wild and hatchery-origin pink salmon in the areas of Reidovo and Kurilskiy salmon hatcheries, in Prostor and Kurilskiy Bays, as well as the ways of migration to the spawning grounds of the Northern part of Iturup Island.
- A significant portion of hatchery-origin pink salmon was registered in approaches to the basic rivers of hatcheries.
- A significant portion of catch in the year 2011 was provided by activities of the hatcheries.
- In 2011 the straying portion for pink salmon from Kurilskiy Salmon Hatchery was larger than for the pink salmon from Reidovo Salmon Hatchery; it may be connected with the longer period of spawning migration along the Iturup Island coast.
- The initial data provides a supposition that a significant portion of hatchery-origin pink salmon migrate through the Friz Strait. At the same time, the registered presence of spawners with tags from Reidovo Salmon Hatchery in net catches in Kurilskiy Bay, without visiting Kurilka River, can be explained by straying in the rivers of the Bay, or by the existence of other paths of migration.
- The data obtained will become a basis for the development of calculation methods for counting quantity of the return of hatchery-origin pink salmon to Iturup Island.

Thank you for your attention