

**Smoltification hormone level changes in Salmons subjected for restocking in Latvia**

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Restocking of *Salmo salar* in Latvia is performed in three River basins: Daugava, Gauja and Venta. Smolts are released in the same rivers the breeders were fished from, so they are subjected to the homing. According to the Guidelines for Artificial Fish Resources Restocking Program the main criteria for fish release is appropriate weight. Nevertheless, annual success of restocking program fulfillment depends from various circumstances - from physiological maturity of Salmon to annual peculiarities in weather conditions and fish resource management features.

To verify physiological maturation (smoltification) of smolts subjected to the release in Daugava, Gauja and Venta Rivers, Thyroid hormones: L-thyroxine (T4) and triiodo-L-thyronine (T3) as well as Condition factor (CF) were measured. T4 significantly increased from January (12.5 nmol/L) to end of April (79.4 nmol/L) in fish farms based on rivers Venta and Gauja, but in fish farms located on Daugava raised slowly (respectively 8.9 nmol/L in January and 27.2 nmol/L in April). Smoltification hormone results revealed that smolts released in Gauja and Venta are more matured for migration to the Baltic Sea than smolts released in Daugava. Condition factor decreased in all fish farms.

Results makes us to think that insufficient maturity of released smolts can be one of the reasons (among all others!) for spawning Salmon return decrease in separate years.