

## **HOMING OR OTHER FACTORS? PRELIMINARY RESULTS OF THE STUDY OF THE RIVER LAMPREY SPAWNING MIGRATION IN YEAR 2013**

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The river lamprey *Lampetra fluviatilis* is a diadromous species. In Latvia, the river lampreys enter for spawning in almost all rivers and streams flowing into the Baltic Sea and the Gulf of Riga. River lampreys are fished during the spawning migration. Catch statistics are the only accessible long-term data for evaluation of the river lamprey population dynamics in Latvia. Quality of interpretation of the catch statistics greatly depends also on the additional information available. The fishing regulations and fishing effort has changed significantly during the last decades and the conclusions of the historical research cannot be directly applied to recent situation.

The main objectives of the study of the river lamprey spawning migration are to obtain the recent information on the fishing mortality rate and to evaluate the strength of the homing instinct. An additional aim of this research is to evaluate the efficiency of different tag types for tagging of the river lampreys.

Study of the river lamprey spawning migration is done using the mark-recapture method. Alive lampreys ( $n = 1998$ ) were collected in the rivers Gauja, Daugava, Salaca and Pēterupe. After tagging lampreys were released in the Gulf of Riga in five different locations. Length of 702 tagged specimens was measured to nearest mm. Collection of the recapture data is done in cooperation with commercial fishermen. Tagging was performed during the November and December 2013, collection of the tags from recaptured specimens is still carried out. In this paper the data collected until the January 9, 2014 are analysed.

So far at least 432 (21.6%) of tagged specimens are recaptured. That shows much lower fishing mortality rate than the rate (50%) estimated by Ryapolova (1970). However the recapture of the tagged specimens is still carried out and total recapture rate will be higher. Also the recapture rate in some samples is much higher (more than 35%) than the average. Analysis of the recapture data shows that only 59.9% of the tagged lampreys were recaptured in the same river. It allows concluding that the strength of the homing instinct of the river lamprey is relatively low. Nonetheless the results from the different samples are highly variable. Specimens from the sample tagged in November 14 in the Pēterupe River were recaptured in the Gauja River only. In oppose, 96.2% of the specimens from the sample tagged in November 11 in the Gauja River were caught in the same river. Analysis of the lampreys tagged with different tags shows that the recapture rate of the streamer tags (18.7%) is lower than the recapture rate of the loop tags and spaghetti tags (23% and 24% respectively). Still, the results from different samples are variable and existing data do not show statistically significant difference. Significant difference has not been found also in the length dispersion between tagged and recaptured specimens.

### **References**

- Rjapolova N.I. 1970. Результаты мечения речной миноги (*Lampetra fluviatilis* L.) в реке Гае [Results of tagging of the river lamprey (*Lampetra fluviatilis* L.) in the Gauja River]. In: *Papers of Baltic Fisheries Research Institute (BaltNIIRH)*. Zvaigzne, Riga, vol. 4, p. 379-389.