

ASSESSMENT OF YEAR CLASS STRENGTH OF RIVER LAMPREY *LAMPETRA FLUVIATILIS* ON THE BASIS OF AMMOCOETES MONITORING AND COMMERCIAL CATCH DATA

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Populations of many migratory fish and lamprey species in the Baltic Sea basin have been declined. In most cases, decline can be linked to human activities, such as destroying and fragmenting of freshwater habitats, overfishing etc. River lamprey is a typical representative of such species. Nowadays the commercial fishery of river lamprey in Baltic Sea is carried out in Latvia, Estonia, Russia and Finland (Thiel et al. 2009). River lamprey is one of the most important target species in Latvian inland water fishery. Heavy fishing pressure requires a method for evaluation of state and trends of Latvian river lamprey population.

Year class strength (YCS) is an important and widely used index for evaluation and management of fish resources. YCS gives an indication on the spawning and survival success of a particular year's generation. Exact assessment of the YCS in the case of River lamprey is difficult. Because of a lack of any age registering structures (scales, otoliths, etc.) the age determination of particular lamprey individuals is doubtful. Main objective of this study was to test the possibility of assessment of the YCS on the basis of currently available ammocoetes monitoring data in rivers Gauja, Salaca and Venta.

Assessment of the YCS was made for each river separately. Density of ammocoetes of particular year's generation in all river-life period (age groups 0+, 1+, 2+, 3+ and 4+) was compared to long-term ammocoetes density data of the same age group. The results of this assessment were confronted with commercial catch data of the same age group. Fluctuation of annual catch corresponds to the strength of one separate generation (Birzaks and Abersons 2011).

This study showed that on the basis of currently available data only the exceedingly strong or very weak year classes can be pointed out. Therefore it can be concluded, that in principle the river lamprey YCS assessment on the basis of the ammocoetes monitoring data is possible. Though the year classes closer to average could not be analysed because of great variability of the ammocoetes density data in different years. For improvement of YCS assessment, the ammocoetes monitoring and age determination methods for river lamprey must be improved as well.

References

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