



## **Nutrient loads within the Sava River Catchment and comparison with load relations in the Baltic region**

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This study compiles estimates of total nitrogen and phosphorus loads in the Sava River Catchment (SRC), investigates the load relations to human drivers of excess nutrient loading, and compares them with corresponding relations implied by data reported for the Baltic region. Nutrient load data, associated average discharge concentrations (ratio of load to water discharge) and their relations to human drivers are investigated across subcatchments of the SRC with different agricultural and population conditions. The Zagreb subcatchment, which has the smallest area but the highest population density and runoff among the investigated SRC subcatchments, exhibits the highest loads of both nitrogen and phosphorus. Overall for the SRC, results show high correlation ( $R^2=0.93-0.95$ ) of nutrient loads with population density and of concentrations with farmland share. A further question investigated here is then to what degree these relations are comparable with such relations found also for the Baltic region. The two regions are otherwise quite different in their climatic, agricultural and wastewater treatment conditions, so relation consistency, even if surprising, would be important in indicating some degree of relation transferability worthy of further investigation also in other regions. For the Baltic region corresponding correlations to those found in the SRC are in the range  $R^2=0.79-0.88$ . In particular nitrogen and phosphorus concentration correlations with farmland share are qualitatively consistent between the regions. At the same time, phosphorus concentration correlation with population density shows quite different results between regions. Obtained results indicate a certain level of transferability of dependencies between the two regions and call for further detailed investigations on finer spatial-temporal scales.