



## **The effect of water abstraction on aquatic ecosystem in the Koritnica River**

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The effect of damming and water diversion on river hydrology, morphology, physico-chemical parameters and phytobenthos community during the low flow period has been assessed in the Koritnica River, NW Slovenia. The sampling sites were selected upstream (unregulated river flow i.e. no water abstraction) and downstream (regulated river flow, i.e. water abstraction) of a dam.

The Koritnica River is a 15.7 km long alpine river with winter and late summer low flows. Although the river flow was much reduced below the dam, the mean water velocity was not significantly lower than in the unregulated upstream stretch. This is the consequence of the changed river channel morphology downstream of the dam. Namely, the physical measurements pointed out a narrower river channel of the regulated reach when compared to the unregulated reach. Eventhough the composition of mesohabitats upstream and downstream of the dam did not differ much, our results indicated a higher percentage of fast and turbulent flowing habitats upstream of the dam, where they occupied 42% of the channel area, and only 15% in the regulated river reach.

In July 2006, 32 algal taxa were determined in the Koritnica River at four sampling sites. Most of them (22) belonged to Bacillariophyceae, three to Chlorophyceae, two to Cyanophyceae, two to Zygnematophyceae, one to Florideophyceae, one to Xantho-

phyceae and one to Chrysophyceae. Downstream of the dam, we identified more algal species. The physico-chemical conditions were the same at all sites, so the altered hydro-morphological parameters are the major reason for changes in the phyto-benthos composition.