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## **Morphological and hydraulic response of the braided-wandering river to human intervention (the case study of the Belá River, Slovak Carpathians)**

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The contribution evaluates the impact of river training works designed to address problems associated with flooding on the braided-wandering Belá River in Slovakian Carpathians. This impact was investigated after the flood event in July 2018 on 11 river reaches where the river engineering and management intervention was applied. We analyzed its impact by spatio-temporal variations in river morphology (12 channel parameters) and changes in cross-section and hydraulic parameters (flow velocity, shear stress, stream power, W/D ratio) between pre- and post-flood management periods. The research hypotheses related to decreasing geodiversity in managed river reaches, a rapid increase in flow velocity during an extreme flood in river reaches where there is no sufficient floodplain inundation due to artificially high banks built by river training works, and increasing erosive force in the channel zone thanks to river management intervention were confirmed. The intervention in the braidplain area of the Belá River resulted in an undesirable simplification of the river pattern, loss of geomorphic diversity, loss of channel–floodplain connectivity, and disturbance and restraint of hydromorphological continuity. Identification of main conflicts of the Belá River management is important for clarifying the different approaches of stakeholders in the study area and aims to provide an objective illustration of their consequences. The presented analyses could help in future management issues as well as in the more critical decision-making process in vulnerable and rare braided river systems on the present when we are losing so many natural rivers by human decisions. This research was supported by the Science Grant Agency (VEGA) of the Ministry of Education of the Slovak Republic and the Slovak Academy of Sciences (02/0086/21).