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## Reducing water related risks in the Lower Danube through Nature Based Solution implementation

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The Lower Danube wetlands, one of the most important European wetland ecosystem, lost nearly 80% of its surface over the last century due to river dredging, land reclamation and flood control. Anthropogenic interventions along the Danube river water course, such as construction of the hydropower plants Iron Gates I and Iron Gates II and alterations along its banks, have generated high bank erosion processes as well as riverbed changes with negative impact on navigation. The negative effects induced by anthropic interventions coupled with climate change impact have intensified the flooding and drought events.

We propose a wetland restoration project in the Lower Danube by designing a Nature Based Solution (NBS) for dealing with flood risk. Our research is focused on the Dabuleni-Potelu-Corabia (DPC) enclosure, a land reclamation area dammed in 1965 against catastrophic floods, having a safety reserve height of 1 meter. This area along with other Lower Danube stretches have been heavily impacted by the catastrophic flood of 2006 and their resilience to such events is even more weakened by less destructive but more frequent floods. We propose different scenarios for the restoration of the DPC enclosure based on a hydraulic model of the catastrophic flood from 2006. Furthermore, we explore the potential of implementing this NBS discussing the generated benefits and co-benefits and describe the different steps to develop a Natural Assurance Scheme for the Lower Danube.