

RESEARCH ON THE BEHAVIOUR OF SHORE DEFENCES TO HYDRODYNAMIC EROSION

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Abstract

Shore defences located in beds formed in weakly cohesive rocks are affected by the phenomenon of hydrodynamic erosion in a differentiated way. Research carried out over a period of about 20 years on a section of the Moldova River highlighted the behaviour of "heavy - concrete slabs" and "light – geo-bags" bank defences. The climate changes of the last period of time, which influenced the hydrological regime of the river, determined a rapid degradation of the shore protection made of concrete slabs. The replacement of the shore defence made of concrete slabs with a structure made of geo-bags filled with ballast influenced the behaviour of the shore to hydrodynamic erosion. At the same time, the shore protection made with geo-bags filled with ballast stabilized with cement allowed a better cooperation with the foundation ground consisting of weakly cohesive rocks. The defence made of geo-bags has a larger area and perimeter at the same cross-section of the river. This situation causes the reduction of the velocities and the frictional effort at the wall, respectively the reduction of the erosion effort.

Key words: geo-bags, river beds, type of degradation, unstable banks