

AN EVALUATION SYSTEM FOR TECHNICAL WATER MANAGEMENT SCENARIO'S FOR THE BIEBRZA RIVER VALLEY, NE-POLAND

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The Biebrza National Park includes a large peatland area in the Biebrza river valley, in NE Poland. Among nature conservationists the area is famous for its waterfowl habitat and for the near natural condition of the peatland vegetation. The area was partially drained by digging shortcut canals for land reclamation and improvement of the transportation possibilities of timber over water at the end of the 19th and beginning of the 20th century. Later, within parts of the peatland drainage networks consisting of small canals and ditches were developed. As a result in some areas of the Park the groundwater levels are gradually lowering, resulting in an undesired change of the peatland vegetations by eutrophication and by that threatening the habitat conditions. Objective of this paper was the development of a new integrated tool for evaluation of technical management scenarios by the BNP. The tool will be based on a groundwater model, which uses the cellular automate PCraster for dynamic modelling of overland flow, channel water levels and as a GIS tool during pre- and post-processing MODFLOW files for prediction of patterns of groundwater depth, water fluxes and nutrient availability patterns.