

**PROGNOSTIC, VEGETATION MAPS IN THE EVALUATION OF AN IMPACT OF
HYDRO ENGINEERING MEASUREMENTS IN THE VISTULA VALLEY**

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The management of river valleys is one of the most important issues concerning wetlands protection in Europe. Discussions about effective management of the Vistula river-bed and its valley between Warsaw and Wloclawek have been held for many years. It is caused by the fact that the upper part of this stretch was hardly regulated in the past what influences both natural conditions and economic use of the river. In contrast, the lower part of this stretch was radically changed after construction of the dam reservoir about 40 years ago. Various conceptions have been taken into account. There have been projects of new stepped falls over the Wloclawek reservoir as well as projects of complete restoration of the river-bed and its valley.

To evaluate possible effects of the river-bed regulation and changes in the valley features on vegetation, analysis of 2 chosen scenarios was carried out. Analysis was based on digital, complex maps of vegetation. Present vegetation conditions and a range of developed changes were used to draw 2 prognostic maps which present probable consequences of 2 extreme scenarios. First one concerned radical environmental transformations to obtain maximum economic efficiency. Within this scenario, 2 new stepped falls between Warsaw and Plock were planned as well as development of accompanying facilities (traffic facilities) and extension of towns and other settlements in the area. Second one was not less radical. It concerned damage of hydro engineering constructions: nearly complete removal of Wloclawek dam and dikes along the river as well as removal of buildings and land-use changes.

In the analysis of the vegetation changes, plant communities from the Natura 2000 directive were particularly taken into account. However, the study was not only aimed to indicate areas which should be protected but also to present the scale and character of possible valley transformations depended on different management ideas.