

Application of the Water Framework Directive Explorer in different continents: technical matters and practical results

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Abstract: The European Water Framework Directive Explorer is an integrated water system modeling tool, which allows simulating the ecological outcome of restoration actions in river catchments. It was originally designed to deal with water management issues in The Netherlands, related to the implementation of the European Water Framework Directive in the different catchments of this member state. During the past years, this tool was also applied in several catchments in Belgium, Colombia and Vietnam. In this paper, the technical difficulties that were encountered during application of this software tool in foreign countries with dissimilar river characteristics and uses as well as management boards are discussed, and the practical results for water management are presented. The major technical difficulties were related to the development of relevant mass balances in these tropical countries (peak flows during rainy season for instance) and the lack of knowledge related to the ecology of streams (lack of identification guides and missing ecological indicator systems). However, the added value of this tool for river management is very high, since it illustrated in the different catchments the need of good monitoring strategies in river management, and the outcomes of the simulations are moreover important to convince stakeholders and policy-makers to make the necessary moves to protect water resources and their combined functions.

Keywords: *integrated assessment, river restoration, decision making*

Abstract only