

## Abstract for the poster exhibition

**INFORM: A modelling system for predicting the response of flood plain vegetation and fauna due to changes in ground and surface water levels**

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Today there is a growing need to provide good environmental information for planning procedures, like environmental impact studies. Therefore, the German Federal Institute of Hydrology (BfG) has developed the Integrated Floodplain Response Model INFORM as a tool to structure and clarify the often complex assessment of environmental impacts. The main client of this system is the German Federal Waterways and Shipping Administration (WSV).

INFORM provides an interface to hydrological, ecological, groundwater and soil related modelling tools. It enables to analyse environmental impacts of changes of river ground and surface water levels resulting from natural causes (e.g. river-bed erosion) or from human intervention (e.g. construction work).

The system's 'heart' (calculation kernel), a GIS (Arc Info Workstation), calculates and displays spatial information such as risk areas. Furthermore, INFORM enables a transparent and adaptable evaluation of the results regarding criteria commonly used in nature conservation. With its mostly open architecture, INFORM is adaptable to different problems and queries and can be updated or extended.

The central 'biotic' component of the system is MOVER (Model for Vegetation Response), which allows to predict the so-called plant habitat suitability of sites, i.e. the likelihood of occurrence of specific vegetation or biotope types in flood plains of large free flowing lowland rivers in Germany. There are also tools to model the habitat suitability of Carabide beetles, molluscs and fish. Details can be found in Fuchs et al. (2003).

The so-called INFORM-DSS has been developed to provide an interface to the client (WSV). Technicians of the WSV can use it during the pre-planning stage to roughly assess the effects of typical construction measures such as groynes on water levels. Sending these data via standard internet protocol to the BfG, INFORM is applied by BfG experts to roughly assess the impact on plant and animal habitats.

### Reference:

Fuchs, E., Giebel, H., Hettrich, A., Hüsing, V., Rosenzweig, S., Theis, H.-J. (2003): Einsatz von ökologischen Modellen in der Wasser- und Schifffahrtsverwaltung – Das integrierte Flussauenmodell INFORM- BfG-Mitteilung Nr. 25, Koblenz.

Additional information can be found at: [www.bafg.de/INFORM](http://www.bafg.de/INFORM)