



Integrative planning tools for implementation of the EU- Water Framework Directive

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The complex goal of a “good ecological status” set by the European Water Framework Directive (EWFd) demands a new integrative planning approach. First of all depend the ecological status on many different morphological, physico-chemical and biological characteristics, which have to be analysed and characterized in a strong cooperation of ecologists, hydrologists and engineers. The framework conditions of planning specified by the EU demand a consideration of socio-economic aspects as well as public participation. To fulfil these guidelines an interaction between socio-economy, geo- and natural scientists and engineers is needed. A joint information system can be used to provide a platform for this cooperation. As the tools used by the different disciplines are covering a wide range of specific methodologies e.g. mathematical models, rule-based systems, scenario management etc. condensed information for planners but also for stakeholders, which take part in the planning process, is needed. Decision Support Systems (DSS) are helpful to aggregate this information from a complex information system. According to the general concept of EWFd the DSS should be open and interactively useable. Within a pilot project, financed from the German Federal Ministry for Education and Research such a DSS was developed for a river basin with an area of 5.500 sq. km in Germany. It is based on a information system, which characterises the ecological status, its deficits with regard to the different components of the ecological quality, the anthropogenic pressures and the measures in form of strategies which could be implemented to improve the ecological status. These options are assessed with regard to their social and economic consequences. Here the conflicts among stakeholders, the costs of measures but also the benefits of an improved ecological status were considered. With regard to participative planning the system was designed with the aim to support group decision processes. The main components of

the information system as well as the general structure of the DSS will be shown.