Manual for the CHARM tool on interdisciplinary reservoir management

In this file you will find a tool that allows you to look through the most common implications of reservoir operation. You can expect specific characteristics and more general information. The tool is intended to assist in the different steps of operation to ensure a smooth and conflict-free operation of the reservoir system and the connected catchment area. The recommendations given are derived from the CHARM (CHAllenges of Reservoir Management) research project, which investigated the parameters, sediments, biofilm, cyanobacteria, greenhouse gases and social implications. This tool, as a conceptual model, is intended to provide an overview of the interrelationships and challenges of reservoir management in a case study perspective from Germany and be available to a broad audience and the public.

**Manual for navigating through the tool**

**When moving through these recommendations for action, always click on arrows**

**and boxes to get to the beginning, or to the next point. The graphical elements are activated via interlinkages between the sheets and will automatically guide you to the corresponding page. Arrows will bring you to an external website with further information on the topic. The central part is containing a matrix of the most common environmental and legal issues concerning reservoirs and displays interaction of the different items and influences. This can be understood as an information based, via Delphi questioning on the opinion of the experts of the CHARM research project. However, this list is not meant to be a holistic approach, but rather a case study of the reservoirs researched in this project. The Matrix of the most common implications of reservoir management in a central European (or more specific German context) offers an opportunity to look into challenges and opportunities in operating water reservoirs.**

**Manual for Cross-Impact Matrix**

The cross-impact matrix presents a descriptive summary of the implications and interactions found in the CHARM project and the researched case studies to gain an overview via the individual colour coding of the corresponding cells. To read the matrix, there is a cross impact from the y (columns) to the x (rows) axis. This means, the codes for the individual cells are always referring to these interactions. If you want to change the cells, simply fill in your individual interaction symbols according to the legend and the colour coding auto function will give you a comprehensive overview of the implications at your specific case study. If there are implications missing, that are important in your case, feel free to add it to the matrix.

The five points correspond to the topics investigated in the **CHARM** (www.charm-bw.de) research project.