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Towards an integrated management of water resource issues in the Dyle catchment (Scheldt basin, Belgium) – The European MULINO project (*MULTi-sectoral, INtegrated and Operational decision support system for sustainable use of water resources at the catchment scale*)

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The pressure on water resources is continuously increasing in Europe. If a great deal of scientific knowledge is available in many fields, this knowledge is often treated in isolation. To support the scientific basis for integrated water management, the MULINO project, an acronym for MULTi-sectoral, INtegrated and Operational decision support system (DSS) for the sustainable use of water resources at the catchment scale, funded by the European Union, is currently executed. The purpose of the MULINO project is to provide a tool to improve the integrated management of water resources at the catchment scale, following the requirements of the EU Water Framework Directive (WFD, J.O.CE, 2000).

The DSS developed is a computer system based on hydrological modelling, multi-disciplinary indicators and multi-criteria evaluation procedures. The underlying design of the DSS is based on the Driving Forces-Pressures-State-Impact-Responses framework for reporting on environmental issues (EEA, 1999; OECD, 1993).

One case study is the 700 km² Dyle catchment situated in the centre of Belgium (50°38N 4°45E) and part of the Scheldt basin. A coupling of an integrated hydrological model (SWAT: Soil and Water Assessment Tool, Arnold *et al.*, 1993) with land use change modelling (SFARMMOD, Audsley *et al.*, 1979) is developed in close collaboration with local end users and stakeholders. This work will provide a useful tool to analyse water resources management alternatives and to assist local managers in complex problems such as flooding, nitrate and pesticides contamination of waters, as to identify solutions for the implementation of the WFD at the catchment scale.

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