

A webGIS Methodology to Support Sediments Management in Wallonia

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Abstract : According to Europe's first River basin Management Plans (RBMPs), 56% of European rivers failed to achieve the good status targets of the Water Framework Directive WFD. In Central European countries such as Belgium, even more than 80% of rivers failed to achieve the WFD quality targets. Although the RBMP's should reduce the stressors and improve water body status, their potential to address multiple stress situations is limited due to insufficient knowledge on combined effects, multi-stress, prioritization of measures, impact on ecology and implementation effects. This paper describes a webGis prototype developed for the Walloon administration to improve the communication and the management of sediment dredging actions carried out in rivers and lakes in the frame of RBMPs. A large number of stakeholders are involved in the management of rivers and lakes in Wallonia. They are in charge of technical aspects (client and dredging operators, organizations involved in the treatment of waste...), management (managers involved in WFD implementation at communal, provincial or regional level) or policy making (people responsible for policy compliance or legislation revision). These different kinds of stakeholders need different information and data to cover their duties but have to interact closely at different levels. Moreover, information has to be shared between them to improve the management quality of dredging operations within the ecological system. In the Walloon legislation, leveling dredged sediments on banks requires an official authorization from the administration. This request refers to spatial information such as the official land use map, the cadastral map, the distance to potential pollution sources. The production of a collective geodatabase can facilitate the management of these authorizations from both sides. The proposed internet system integrates documents, data input, integration of data from disparate sources, map representation, database queries, analysis of monitoring data, presentation of results and cartographic visualization. A prototype of web application using the API geoviewer chosen by the Geomatic department of the SPW has been developed and discussed with some potential users to facilitate the communication, the management and the quality of the data. The structure of the paper states the why, what, who and how of this communication tool.

Keywords : sediments, web application, GIS, rivers management

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