

## Editorial

# Sediments and the European Water Framework Directive

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The very successful installation of the 'Demand-driven European Sediment Research Network (SedNet)' [1] provides a stable common platform for both researchers and practitioners in this field. Demand-driven? Surely, demand within a new market first has to be developed. Until now, very few 'problem owners' face a large majority of potential 'solvers', as has been indicated from an inquiry among SedNet participants. At first, 'harmonization' of sediment quality objectives and management performance is needed for both the European river basins and with respect to the most sensitive areas within these basins – floodplains, estuaries and coastal zones. Distinctions such as 'problem owners' and 'problem solvers' should then become obsolete.

The self-declared problem owners to date are mostly located at the mouth of the large rivers and they are in a rather uncomfortable situation as they have to pay the expenses for all former, actual and future shortcomings in the emission control within their catchment area. According to available information, there should be many more 'interim owners' of sediment problems in the upstream river basin. Many of them, however, ignore their problems or claim to follow a procedure called 'sediment relocation'; among the latter, the problems for the management by the 'end owners' can be aggravated further.

In fact, it is not really a transfer of contaminated sediment to its original site, but rather a down-locating (as re-cycling of waste materials mostly is a down-cycling), which contradicts the ecological principle of not to disperse, dilute or mix pollutants but rather treat them at the site of their highest concentrations. Although the large-scale effect of natural and technical resuspension processes

is well-known – for example, typical patterns of dioxin congeners from the Bitterfeld area can be detected in the sediments of the Port of Hamburg in the Elbe River more than 300 km downstream – sediment problems in river basins are still regulated locally, sometimes by means of dubious threshold values.

Here, a clear deficiency of the European Water Framework Directive (WFD) becomes evident. The WFD aims at achieving a good ecological potential and good surface water chemical status in European river basins until the year 2015 by a combined approach using emission and pollutant standards. These consider priority pollutants from diffuse and point sources, but neglect the role of sediments as a long-term secondary source of contaminants. Such a lack of information may easily lead to unreliable risk analyses with respect to the – pretended – 'good status'.

The requirements for a river basin-wide sediment concept will be even more challenging than the actual Water Framework Directive. It will include inventories of interim depots within the catchment area (underground and surficial mining residues, river-dams, lock-reservoirs), integrated studies on hydromechanical, biological and geochemical processes, risk assessments on sedimentary biocoenoses and, last but not least, development of decision tools for sustainable technical measures on a river basin scale including sediment aspects. Many of these could be promising themes for interdisciplinary research in the European Commission's 6<sup>th</sup> Framework Program.

[1] Brils J (2002): The SedNet Mission. *JSS – J Soils & Sediments* 2 (1) 2–3