

Dredged material management at Watershed level in Europe

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Introduction

In Europe Watershed management can be seen as River basin Management. We have over one hundred river basins in Europe. the bigger ones like the Danube and the Rhine are trans boundary. This River basin management includes sediment and dredged material management. Reasons to dredge are: keeping our Ports and Waterways accessible, construction of new ports and waterways, remediation and environmental dredging for ecological improvement. Other reasons are: the management (preventing) of flooding, dredging for drainage and water management and dredging to prevent siltation of reservoirs. In most of these dredging projects large quantities of material have to be taken care off afterwards. Handling options for this material is relocation of sediments in the aquatic system; beneficial use either in water or on land with or without pre-treatment; disposal in water possible in a confined way or disposal on land. It is clear that for certain in trans boundary circumstances regulations and proper management is required.

Dredged Material and Legislation

Dredged activities can have an impact on the surface water the groundwater, on soils, on nature. The activities influence other infrastructure. In some countries dredged material is considered as a waste. In all these sectors there is legislation which is relevant to the dredging. In Europe there is a complex patchwork of regulations. A few examples of these regulations with an implication for dredged material are: The Waste Directive, The Landfill Directive and the Water Framework Directive.

River Basin Sediment Management Plan

All the River basins in Europe have to make a River Basin Management plan. The objectives and requirements of this plan are must be

- Evaluation and / or monitoring of sediment quality
- Action to reduce input of contaminants
- Action to reduce unnatural erosion and to control sedimentation processes
- Action to provide and maintain water depths, discharge conditions, the maintenance of wetland areas, shallow water areas and retention spaces, and clean up measures
- Framework for relocation of dredged material in the aquatic system
- Options for use of dredged material, including on land
- Framework for (confined) disposal of dredged material in water and on land.

Sustainable Sediment Management

Sustainable sediment management is to find solutions for your sediment in the context of the whole river system carefully balancing environmental and socio-economical values. The interaction with stakeholders is increasingly becoming important. Also your management plans may not result in up or downstream impacts, not now or in the future. It means that sustainable management is embracing the whole soil-water system finding integrated solutions with respect for natural processes and functions (working with nature).

Conclusions

Sediment is a valuable environmental and socio-economic resource. As sediment belongs in our rivers, relocation of dredged material is the preferred management option. But, although quality is improving, relocation is restricted in many cases. Thus we should continue source reduction efforts. We have to manage our legacy of the past. European policies only provide a fragmented basis, to protect and manage sediment resources. Effective protection and proper management deserves a more focussed approach.

Recommendations

EU policy development is aiming at integrating sustainable sediment management into the European Water Framework Directive and other EU regulations. Sediment management means finding solutions that carefully balance the socio-economic and environmental values and that are set within the context of the whole river system.