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The EU Water Framework Directive Implications for the Dredging Community

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The European Community's Water Framework Directive came into force since 22nd December 2000 and now has to be incorporated into national legislation in the Member States. Its aim is to bring about coordinated management of water systems, extending beyond national and state boundaries. It is expected that the Directive will stimulate an all-embracing approach to water protection with a stronger ecological focus and that, in addition, economic considerations will increase in importance.

Effects on the handling of dredged sediments must also be expected as a result of the new conditions. Intensive involvement in the ongoing discussion is essential to ensure that sufficient attention is given to the issues of the improvement and upkeep of ports and waterways, especially dredging and the handling of dredged material.

Learning from history

Suspended solids and sediments are essential, integral and dynamic parts of river systems. But, at this moment, managers who are responsible for dredging and dredged material are not aware that they could be affected by the WFD in the next few years. Experts talk about a lot of existing regulations relating to water quality, fisheries or biological characteristics of rivers, but they seem to forget some very crucial points.

It is possible that the same course of events will occur as accompanied the introduction of the Habitats Directive. Many problem owners recognized their conflicts so late in the day that any influence in the development phase of these regulations was impossible.

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When the EC Landfill Directive was established many experts within the EC had never envisaged it being used to regulate dredged materials. Today, many dredging experts in several European nations are mulling over how to deal with these regulations. Once again, it seems that not enough experts from the dredging community were involved in developing this directive at an early stage.

Now the EC has created another Directive that will be important from the navigational and dredging viewpoint. Currently, the EC-WFD mentions themes of dredging and dredged material only indirectly, in Appendix VIII, in the sense that “suspended solids are some of the most important harmful substances”. Those who are experts in dredging and dredged material know that suspended solids are an essential part of the biological system of a river and will naturally become sediment in the river at some later stage further down stream. Eventually, this sediment will appear to dredging operators downstream as “material to be dredged”.

The key items of the Water Framework Directive

In future, bodies of water are to be managed according to standardised principles and objectives in relation to river basins, i.e. all the way through from tributaries to coastal waters. Administrative and state boundaries will no longer be relevant.

The chemical and physical parameters are no longer the crucial criterion for the assessment of water status; water ecology, especially aquatic fauna and flora, is now paramount.

A good ecological and chemical status is to be achieved within 15 years in the case of surface waters, and a good ecological potential and good chemical status is to be achieved in 15 years in the case of heavily modified or artificial water bodies. In addition, the ban on deterioration will apply.

Ports and waterways will often have to be regarded as artificial or heavily modified water bodies. If a good ecological status cannot be restored here, or cannot be restored with reasonable resources, or if its restoration would, for example, have a crucial adverse effect on shipping or flood protection, a good ecological potential must be achieved. Examination for the designation of heavily modified water bodies also includes changes resulting from future measures.

Every Member State must take sole responsibility for carrying out an inventory (actual status), setting objectives (target status) and defining the measures required. Member States must ensure that the programmes of measures are coordinated for the entire river basin district.

The management plan includes, amongst other things, a general description of the river basin, a summary of all significant pressures and impact of human activity on the water bodies, a list of environmental objectives for the water bodies, a summary of the economic analysis and of all the measures and programmes of measures. The management plan must be updated regularly every six years.

Dredged material and sediments are not mentioned by name in the Water Framework Directive, though “materials in suspension” are included in the list of the most important pollutants in Annex VIII. Materials in suspension which settle at the bottom of a body of water become sediment and thus potential material for dredging. In Annex X, the Directive contains a list of 32 priority substances, 20 of which accumulate in the material in suspension or in the sediment. Apart from known parameters such as mercury and cadmium, the list also includes new, previously less well-known groups of substances.

It is clear that there is still a need for research regarding a number of the requirements arising from the Directive, starting with the type classification of bodies of water and extending to the recording and evaluation of ecological criteria and to definition issues concerning significant anthropogenic pressures or questions of economic analysis.

With regard to the drawing-up of programmes, the Directive calls for the active involvement of all interested organisations and of the public. It also stipulates that attention should be paid to the principle of cost recovery in respect of water services and that appropriate contributions should be made by the various users in the light of the polluter-pays principle.

The Water Framework Directive

- is to be incorporated into national legislation by the end of 2003
- an inventory of the status of all water bodies is to be carried out by the end of 2004
- programmes of measures and management plans are to be drawn up by the end of 2009
- a good water status is to be achieved in all bodies of water by the end of 2015

What are the implications for the handling of dredged material?

It is still not possible to see what effects the Water Framework Directive will have on the handling of dredged material. Precisely for this reason, it is important that the interests of shipping and dredging are included as soon as possible in the intensive discussion which is already underway.

Apart from various open and still unresolved issues, there are some opportunities, and also risks, only a few of which can be listed here:

- What is the procedure for type classification and the setting of reference conditions for surface waters or the interpretation of the term "significance" in connection with the recording of localised, diffuse and other types of pollution?
- What is a good ecological and chemical status, what is a good ecological potential of a body of water, and who defines it and what are the criteria? And how does this relate to upkeep or improvement measures?
- What criteria are used to assess sociological and economic matters, and who decides on these?
- What is the significance of the fact that "materials in suspension" are listed as pollutants? Materials in suspension are an elementary component of water as an ecological system. To maintain the morphological equilibrium, they remain in the water in the course of widespread movement. Perhaps the text of the actual version of WFD could be modified to talk about "contaminated solids" instead of just "solids" in the future. But does that solve the problem?
- How is the handling of dredged material to be viewed in the context of the Directive?
- How are water protection measures financed? If, in some cases, dredged material is removed from the water and treated on land, a sizeable quantity of pollutant might also be removed from the water. Normally, the dredge operator is not responsible for these amounts of pollutant, though he is hindered by them in his work. How is that to be evaluated in relation to the objectives of the Water Framework Directive? Might polluters be required to contribute to the costs of treating the dredged material under the management plan?

CEDA and PIANC have a wide range of know-how available which can help to provide answers to these questions in an appropriate and reasonable way. In order to prevent the emergence of one-sided regulations which might hinder the handling of dredged sediments in future, it is absolutely essential that CEDA and the people and institutions represented in it now take a greater part in the discussion.

The way forward

We all suffer from water pollution that generally comes from upstream river sources because the sediments to be dredged are contaminated by this pollution. By this means many of us become problem owners as managers responsible for maintaining water fairways or simply as dredging contractors.

Now, through the WFD we have a big opportunity to start influencing those sources of contamination that affect us. SedNet is starting to develop this theme by the creation of Networks, such as was initiated in Venice last year.

In the context of the main aim of EC-WFD, experts will easily soon discover that there will be many other aspects to be addressed, when considering water quality, river ecology, and socio-economic aims, when focusing on the field of dredging.

Each river system must be developed for the given local fluvial or coastal situation, and especially tidal river systems, which link many ports to deep seas, particularly on the coasts between Skagen and Gibraltar.

Managers of man-managed hydraulic systems in a natural background context are some of the most important stakeholders in the sense of the WFD, even if sediments and dredging are not mentioned in the WFD text at this time. The future development of these man-managed systems requires an understanding of the complex hydraulic-morphologic – ecologic function of sediments. Much information has to be given in the next months and years to those who are involved with developing the next steps of the EC-WFD. Discussion is required to determine if and how the WFD gives managers a new chance to find ways to support nature in cases where navigational dredging is necessary.

Working TOGETHER to develop the WFD is now a question of finding a consensus between the different disciplines all over Europe. THE JOB to be done is to meet both the ECOnomical and ECOlogical aims.