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# IMPACT OF EUROPEAN UNION ENVIRONMENTAL LAW ON DREDGING

## ABSTRACT

In certain aspects of environmental law there is a potential friction between EU Directives and international conventions. In these cases, international conventions have priority over EU law because they constitute treaties between sovereign nations. Thus when the question arises, “Is dredged material waste or not?”, the answer may not always be the same. The European Commission has consistently argued that dredged material is a form of “waste” since the holder attempts to get rid of it. The industry, as represented by the European Dredging Association, maintains that dredged material is foremost a natural resource that should be kept in its environmental compartment. Since this difference is apparently a long way from being resolved, another question arises: Can the dredging community live with the EU waste hierarchy principles as such?

The answer as far as the waste hierarchy is concerned is a mitigated “yes, provided that the national authorities understand the issue”. Moreover, for marine waters where the bulk of dredging takes place anyway, the framework established under the umbrella of the London Convention has

priority over EU law and is also more helpful to the sector. Other Directives on environmental protection, in particular the Habitats and Birds Directives, cause administrative nightmares and lead to delays or cancellation of projects and to increased costs.

## INTRODUCTION

The European Dredging Contractors established the European Dredging Association (EuDA) in 1994 as a trade association for contacts with European institutions; this includes influencing and tracking EU law that might impact the dredging sector. Amongst the areas where EU legislation affects the industry, environmental law has taken a prominent role. The EuDA Environment Committee has recently prepared a comprehensive review of European environmental rules and their impact on the practice of dredging and dredged material disposal. This article presents a summary of the findings.

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Above, Beach replenishment along the Dutch coast where water, sand and birds intermingle and EU Directives on Birds and Habitats pertain.

## ON INTERNATIONAL LAW

The European Union is formed by a community of nations that have agreed by Treaty to transfer legislative and executive competences in a number of domains to a supranational level. Environmental law is an area where EU competences are far reaching because it was recognised early on that environmental problems and pressures do not stop at national borders, but are felt community wide.

EU law is in essence built on three types of instruments:

- Framework Directives (the term of Directive is equivalent to a law in national legislation) define a general approach which sets a number of boundary conditions and constraints and have to be implemented by each member state in accordance with its specific circumstances. Certain provisions of a Framework Directive may also be detailed in a later stage at the European level and made effective by other legal instruments. When the instrument of a Directive is used in such a case, one speaks of a Daughter Directive.
- Directives are equivalent to laws and are binding on the member states, except for

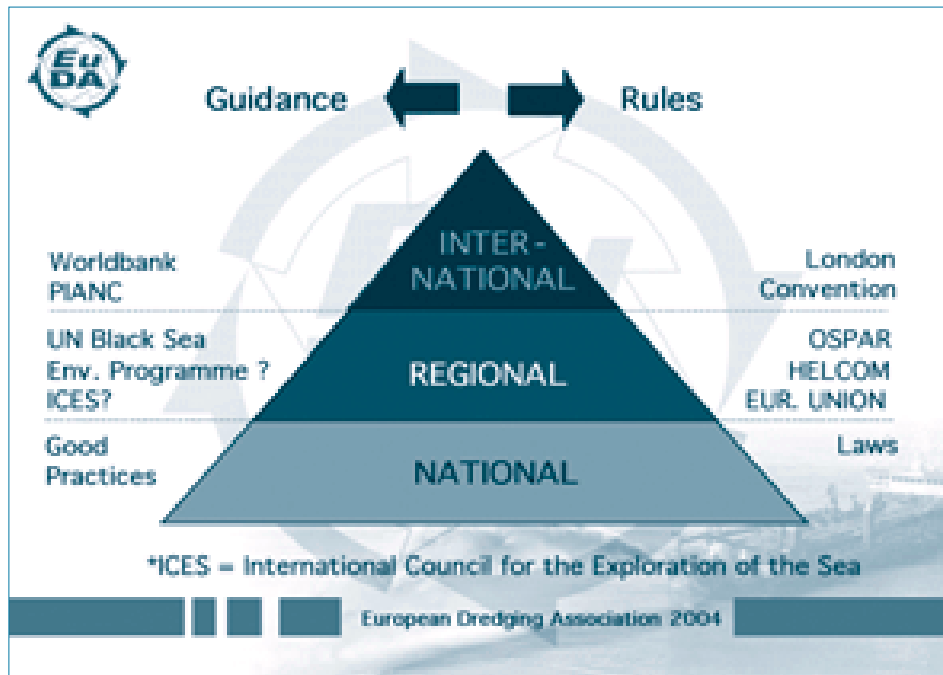


Figure 1. Hierarchy of legislation.

law. As the ratification is done by sovereign states, the EU as a supranational body does not play a role. Consequently, International Conventions have priority over EU law. As will become evident, this may lead to friction between the rules at the international and supranational levels.

Figure 1 illustrates the situation and lists also a number of advisory bodies and/or guidance documents that are helpful, but are not legally binding.

### EU law and dredged material

EU law does not deal specifically with dredged material, nor is there any intent to do so. Nevertheless, a number of EU Directives have an impact on the management of dredged material, either directly or indirectly. Figure 2 presents an overview of the structure of the relevant regulations and the relationship between the various Directives.

the fact that they first have to be “transposed” into national law. This poses a particular problem: Some member states have a tendency to transpose (environmental) EU law in a very strict and stringent manner, while others tend to follow the minimum requirements of the Directive.

- Regulations are legal decisions taken at EU level that are binding as such for the member states and do not need transposition. They usually concern more technical details on which there is no major disagreement.

It may be clear that the EU law has the potential to deeply influence national legislation; also clear is that the resulting hierarchy of rules and regulations is anything but simple, while the transposition mechanism often results in the opposite effect of what was intended: In several cases transposition creates important differences in national law. Moreover, the impact of a particular EU law frequently has to be tested before the Court of Justice in order to assess its judicial limits.

The next question to be raised is: how do International Conventions and Treaties relate to EU law and to national law?

International Conventions, such as the London Convention which was established under the umbrella of the IMO, but also the Oslo-Paris (OSPAR) Convention for the Atlantic and the North Sea, are agreements between sovereign nations; each nation decides independently whether or not to ratify a particular Convention. When a certain number of countries have ratified a Convention, it can become international

The conclusion is that relevant rules can be grouped under the three headings of waste, water and habitat protection. Of these three, the Waste Framework Directive and related Directives occupy the most discussion time, since a great deal depends upon defining what constitutes waste and, subsequently, on the limits of competence of the regional seas conventions versus EU law.

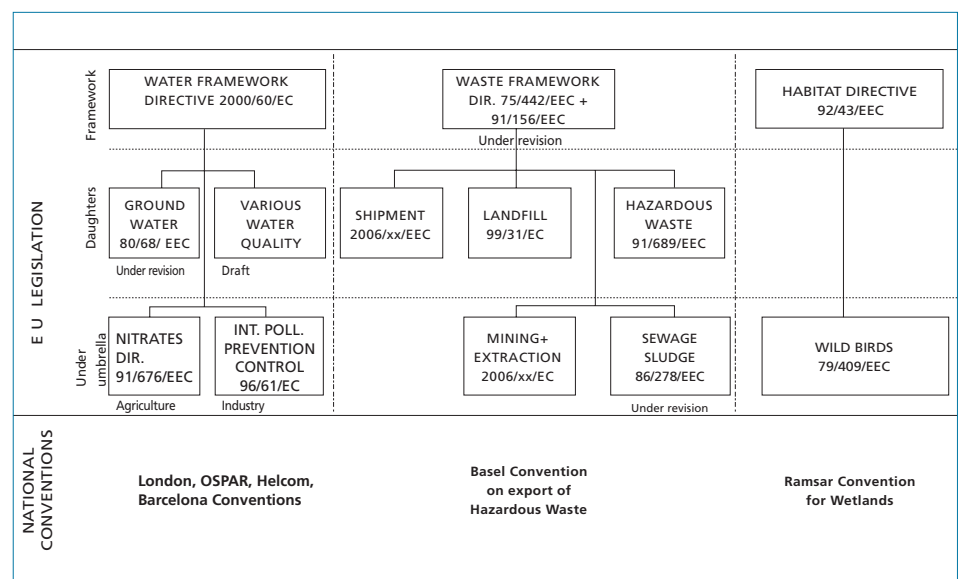


Figure 2. Overview of the structure of the relevant regulations and the relationship between the various Directives.



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**WASTE FRAMEWORK DIRECTIVE**

The Directive establishes a hierarchy, a strategy for prioritising management of "waste" as follows:

- a) Prevention
- b) Re-use
- c) Recycling
- d) Processing or recovery
- e) Disposal

"Waste" is defined as "any substance or object which the holder discards or intends to discard". Under this very broad definition the European Commission has consistently argued that dredged material is a form of "waste" since the holder attempts to get rid of it. So far this discussion has not been very fruitful: The industry as represented by the EuDA maintains that dredged material is foremost a natural resource that should be kept in its environmental compartment and that this does not in itself cause the material to become a form of waste.

Basically, it is difficult to understand why a material that can be "re-used" in the same application as where it was found should be called waste in the first place (see Box for a case study).

As a clear definition apparently has not yet been found, the question becomes: Can the dredging community live with the EU waste hierarchy principles as such? With this in mind the EuDA Environment Committee has developed an approach in the form of a decision logic diagram in line with the established "waste" hierarchy. A distinction between marine water and fresh water dredging has also been made since the constraints are somewhat different. These distinctions are presented in Figures 3 and 4. In both cases the logic sequence of the waste hierarchy is followed.

**Marine water dredging**

The fact that the regional sea conventions define their own limits of jurisdiction was

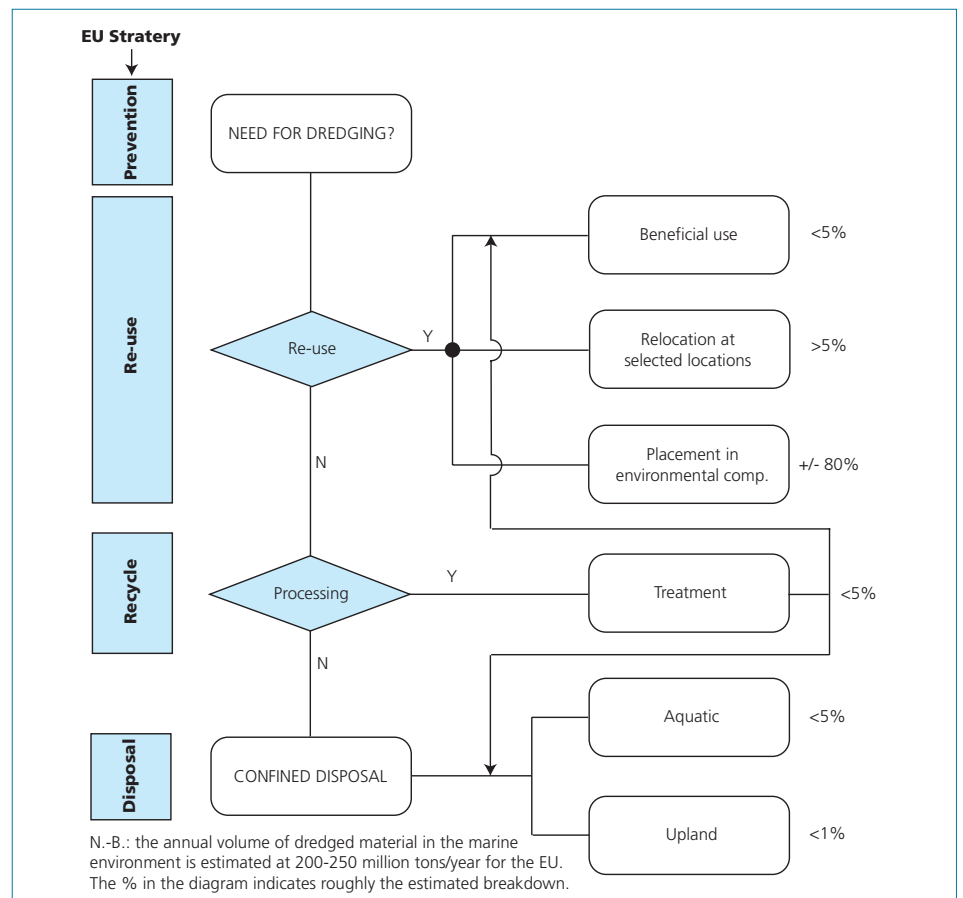


Figure 3. Decision logic diagram for dredged material in a marine environment.

carefully considered. For the OSPAR Convention the limit is the tidal influence in the tributaries. Disposal of dredged material is dealt with in essence under the Dredged Material Assessment Framework (DMAF) which was developed for the London Convention and has been reviewed in *Terra et Aqua* (Burt and Fletcher, nr. 66 March 1997) previously. The OSPAR Convention clearly has no competence concerning upland disposal or for beneficial use applications outside the marine compartment. As the Conventions accept the placement of dredged material back into the marine waters, the conclusion was drawn that EU law has hardly any impact on the dredging process in marine and coastal waters, except when heavily contaminated materials are involved. Figure 3 shows the quantities and the breakdown into categories.

At this point one faces the potential friction between international law under the Conventions and EU law as a supranational body of rules. The first question to ask

concerns the territorial limits of competence of EU environmental law. There is no simple, nor single answer to that question, but the Water Framework Directive (see below) claims jurisdiction roughly until one mile beyond the coastline. However, international law supersedes EU law and the jurisdictional boundary of the OSPAR Convention and other regional conventions extends well inland. The EuDA Environment Committee therefore takes the position that for marine dredging the international conventions apply as implemented by national law and EU law only may apply when nothing is foreseen in these conventions. Since the conventions accept that dredged material is put back into the water body, unless it is too contaminated, the Environment Committee concludes that for dredging in marine waters current EU law may only be relevant to the confined disposal of dredged material on land.

Figure 3 shows the quantities of dredged material and the assignment to the categories in the waste hierarchy.

The conclusion is that overall some 5-10% of the dredged material may be so contaminated that it needs to be disposed of in a confined facility. At this point in the review the question arises whether disposal sites fall under any specific EU waste legislation and if so which ones.

The answer is that upland disposal would be covered by the so-called Landfill Directive, which introduces stringent isolation requirements and leads to considerable expense. Landfill sites are typically not intended for the disposal of dredged material, but in some cases there is no alternative available. In most countries concerned this applies only to a minute fraction of the dredged material.

So what about sub-aquatic disposal sites? These are clearly not covered by specific EU rules and must be regulated at the national level. Fundamental to the assessment stated above is the consideration that placing dredged material back into its environmental compartment is a form of re-use that is in principle beneficial for the environment. In fact, it is particularly helpful in maintaining the sediment balance.

### Fresh water dredging

With respect to fresh water dredging, one must recognise that the Conventions no longer play a role, but that the Waste Framework Directive applies. The same approach can be followed as for marine waters, since in both cases the waste hierarchy is respected. The resulting interaction with other EU legislation such as the Water Framework Directive may be stronger. In terms of the decision logic the following "disposal" modes were considered:

- Beneficial use:
  - as fill material
  - as construction material
  - for soil improvement of agricultural land
- Relocation:
  - Placing dredged material at specific locations in the environmental compartment so that it fulfils its role in the sediment balance.

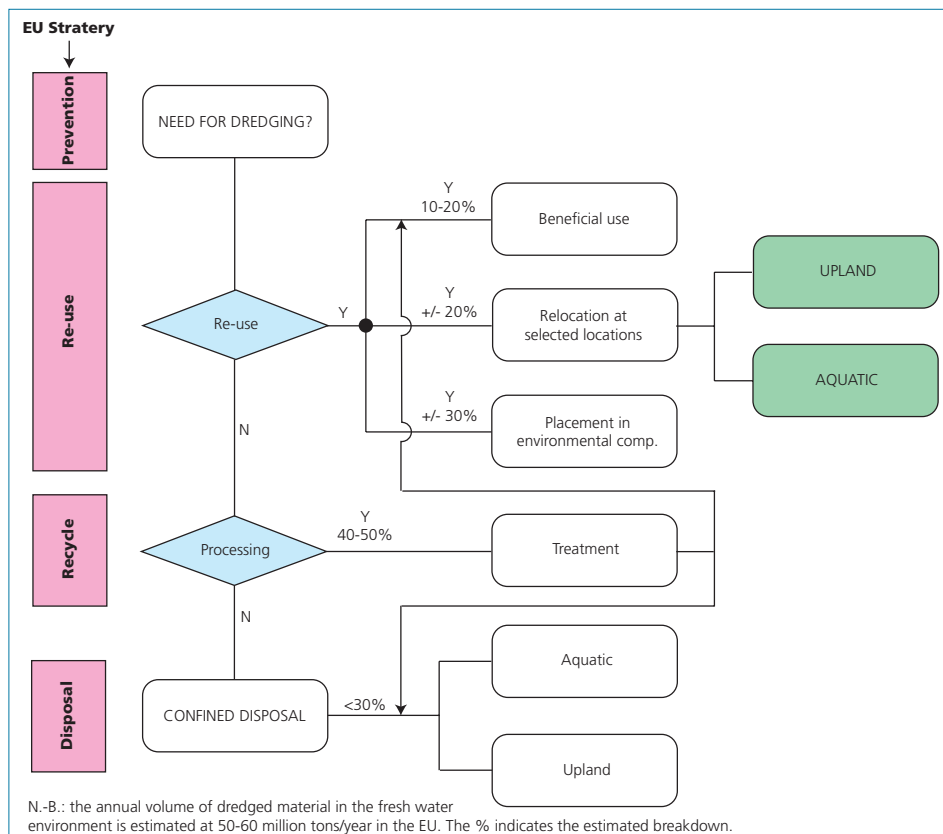


Figure 4. Decision logic diagram for dredged material in a fresh water environment.



Figure 5. Where does the Water Framework Directive apply? In the northern Netherlands, a branch of the Rhine, the River IJssel, carried contaminated silt into Lake Ketelmeer where it settled into the bed. In an action to clean-up the waterway, the IJssel-oog (eye) repository was constructed for safe storage of contaminated dredged materials.

- **Placement:**  
The disposal of dredged material at suitable disposal locations.
- **Processing:**
  - separation of sand and silt
  - manufacturing bricks or basalt
  - biological treatment to reduce contaminant level
  - dewatering, ripening
  - land farming
  - and more...

Direct impact of specific waste legislation is in this case limited to the Landfill Directive

which establishes the (stringent) provisions for the landfill sites, but which also recognises that disposal of dredged material along waterways, on agricultural land or at suitable subaquatic locations are acceptable solutions, as long as contaminants remain below certain limits. The Landfill Directive thus provides a number of escape routes that help to avoid disposing dredged material in landfills. Some member states have recognised these possibilities in their national rules, but others appear to focus more on the isolation provisions for landfill sites, thus adding to the cost of dredged material disposal.

### **Contaminants**

The last aspect to be discussed under this heading concerns the contaminants.

The European Commission will not set any specific limit values for dredged material; this is left to the member states. The only quantitative values that have been around are limits set in a separate Sewage Sludge Directive; for lack of other standards these have sometimes been quoted in connection with dredged material. However, these values are currently being revised since they are too high and they are not actually suitable for dredged material.





Figure 6. Completion of the Ketelmeer clean-up led to better access to the River IJssel, which resulted in clean materials to create De Kreupel, a 70 ha bird sanctuary.

Member states have been requested under the rules of the OSPAR Convention or equivalent, to set limit values for sea disposal of contaminated dredged material. As a consequence one can find a wide range of classification systems and threshold values in some member states, while other countries are of the opinion that dredged material does not lend itself to setting limit values for individual substances and should be assessed on a case by case basis.

### WATER FRAMEWORK DIRECTIVE

The Water Framework Directive, which became European law in 2000, has as its goal to gradually improve the quality of European waters to some standard which may be called "good". This objective is very laudable, but the way to get there is still very much under discussion amongst the Commission, the member states and the stakeholders.

The question raised here is: Could this Directive possibly be a constraint for dredging operations? In the implementation

process of the Water Framework Directive (which is foreseen to last some ten years), it has been repeatedly emphasised that this law has a long-term goal. It is recognised that water quality varies considerably over time and as a function of physical parameters, chemical conditions, biological and ecological factors as well as hydromorphological boundary conditions. Obviously it is no easy task to cast such a framework into detailed implementation measures and therefore a series of questions arises:

- Will there be constraints on dredging operations in ports where the risk of releasing contaminants from silt cannot be excluded?
- Is short-term deterioration of water quality resulting from operational interventions and maintenance practices an issue?
- How should one deal with the interaction between water and sediment?
- Can one legislate water quality without setting boundary values for sediment?
- How should changes in hydromorphology owing to infrastructure works be assessed in terms of their impact on water quality?

Even though these questions can be considered reasonable, it is too early to provide answers since the relevant River Basin Management strategies and the Daughter Directives are still under development. Much will depend on the consideration of variability over time: does exceedance of established quality standards, e.g. for TBT, matter if the annual average is within the limits? How can the legislator deal with the weak links between chemical quality and hydromorphology?

In the implementation process it has been repeatedly stated that the Directive is not intended to interfere with normal operations and maintenance practices of waterways and ports. This will be translated into guidance for selection of sampling and monitoring points remote from areas of activity and in establishing quality standards that recognise (some) variability in the aquatic environment.

The conclusion of this committee is that maintenance dredging will probably not be affected by this Directive, but that capital dredging may become even more constrained in water bodies falling under its

scope. One may also foresee new business opportunities for environmental dredging in water bodies where historic contamination needs to be removed in order to meet the ecological objectives (Figures 5, 6 and 7)

## HABITATS AND BIRDS DIRECTIVES

These two Directives aim to protect biodiversity and rare biotopes and species. The implementation process has led to the establishment of an ecological network across Europe called Natura 2000. Natura 2000 consists of designated "special areas of conservation" under the Habitats Directive and "special protection areas" under the Birds Directive most of which would be interconnected via corridors or other means of protection. Why would these Directives impact dredging?

The reason is that coastal ports and harbours are very often located at, near or adjacent to Natura 2000 sites. This imposes on ports many restrictions in case they want to expand their site area or when they wish to build new infrastructure. In short port development projects face severe delays and increased costs, in particular when situated at the mouth of estuaries. Similar observations can be made for infrastructure development along valuable stretches of coastline.

The consequences for the dredging sector are likely to be indirect, but significant. The European dredging industry has noticed increasing problems with permits for infrastructure development in the marine environment and it faces increasing monitoring requirements in sensitive environments. A number of important infrastructure development projects have even been cancelled. Other impacts would entail such things as the presence of designated marine sites near ports, where disposal is not permitted; delays in infrastructure projects near designated sites and problems with establishing acceptable forecasts for habitat impact studies.

Again, there are also opportunities: The Habitats Directive foresees the possibility to provide compensation measures if valuable nature would be threatened owing to

project development. The dredging sector can often be of considerable help in creating new nature sites near the development area. This can take the form of artificial islands, extended beaches and berms or habitat restoration through the re-creation of mudflats and salt marshes.

## MARINE STRATEGY

The European Commission published a *Thematic Strategy on the Protection and Conservation of the Marine Environment* in October 2005 (see <http://ec.europa.eu/environment/water/marine.htm>). This is currently a document for discussion, but may have repercussions on dredging in a more distant future. The strategy and the resulting proposed Directive aim to achieve "good environmental status" of European marine

waters by 2021. It also claims competence to regulate the status of the seabed and its subsoils. Currently good environmental status is not defined, but by analogy to the implementation of the Water Framework Directive one can assume that it will be established on the basis of a series of parameters, including physical and chemical conditions, biological and ecological processes, physiographic and geographic factors. In the wake of such an approach it is clear that the European Commission attempts to establish jurisdictional competence over the wider marine environment, where currently only international bodies like OSPAR and the respective member states are competent to regulate.

The discussion on the Marine Strategy is in an early stage and it is expected that member states will be reluctant to give up their exclusive



Figure 7. Also created from clean fill is an 800 ha nature reserve at the mouth of the IJssel (IJsselmonding).



jurisdiction over marine zones. The following quotes give an indication of the intention of the European Commission on the role it wishes to play in the marine environment:

- *“Many of Europe’s regional seas are the subject of international conventions and a number of these have made excellent contributions to the marine protection. However, these conventions have few enforcement powers and this compromises their effectiveness in achieving agreed goals.”*
- *“In order to build on progress made through the existing institutions, policies and conventions and to take action to make further progress, there is a need to formulate a clear, overarching vision for the marine environment and associated policies. A strong EU policy on marine protection will complement and bolster the current patchwork of institutional arrangements by providing a legally enforceable framework (...).”*

## CONCLUSION

The conclusion of this assessment by the EuDA Environment Committee is that the impact of EU environmental legislation on the dredging sector is fundamental with respect to the question of dredged material management and priorities, but is restricted when it comes to detailed implementation rules. The main impact results from the Landfill Directive, but even here much depends on the way the member state concerned has transposed this piece of legislation into national law. Especially for marine waters, where the bulk of dredging takes place anyway, the framework established under the umbrella of the London Convention has priority over EU law and is also more helpful for the sector.

The Marine Strategy may in the future undermine the exclusive competence of the international conventions.

The impact of the Water Framework cannot yet be established in full, but it is likely to have mainly indirect effects as a result of complicating project development. Direct effects may result from additional monitoring requirements during projects and after completion as imposed by the respective permitting authorities in member states.

The conclusion with respect to dredging operations in relation to the Habitats and Birds Directives is: their effects will be mainly indirect but not insignificant. The effects of this legislation can lead to significant delays in project approval and also to important increases in costs caused by extended needs for impact assessment. Of particular concern to the industry is the fact that impact assessment for ecological effects in marine waters may be very difficult, since the environment is so dynamic, and thus lead to further delays in the approval process.

## CASE STUDY

*That the lofty definition of “waste” in EU legislation can lead to lengthy and rather useless debates may be illustrated by a recent case involving the Port of London Authority (PLA) and the English Environment Agency (EA).*

*The PLA intends to carry out dredging in the River Thames Prince’s Channel in view of increasing the navigational depth and it plans to use the dredged sand to improve a nearby construction site. EA has taken the view that the material resulting from dredging is waste according to the Waste Framework Directive and should therefore meet stringent requirements when it is disposed of on land. The EA does not wish to recognise the fact that clean sand can be used beneficially as construction material. The case was submitted to Lord Kingsland for a legal ruling.*

*The Right Honourable Lord, rather than stating something like “don’t be silly”, or “let’s use common sense”, or even “what’s*

*in a name?”, had to review the case law produced by the European Court on these and similar matters and based thereon produced a long argument which concludes that:*

1. *“the dredged substance [from the Prince’s Channel] is [not waste, but] a product, or at least a by-product;*
2. *if, nevertheless [the interpretation of the Waste Framework Directive would conclude that] it is initially waste, then it is fully recovered when it becomes physically identifiable as a product (....) once it is in the hopper of the dredger”.*

*The reader will notice that in the legal sense it makes significant difference at which step in the waste hierarchy one finds oneself. Lord Kingsland draws the conclusion that, once dredged material is targeted for re-use, recycle or recovery, it is no longer waste, or it has never been waste in the first place. These conclusions are in fact based on a very strict reading of the definition (“Waste is any*

*substance or object which the producer or the person in possession of it discards or intends to discard”). The interpretation thus hinges on the meaning attributed to “discard”. Lord Kingsland, after a lengthy review of the jurisprudence, concludes that, as long as the holder of the material intends to re-use or recycle, it never becomes waste on the way; if the material is intended to be recovered there is some leeway for interpretation. Lord Kingsland is of the opinion that it still does not become waste, but even if it is considered to become waste, the part that is recovered turns into a “product” or a “by-product” and is no longer waste.*

*Only material that the holder explicitly intends to discard, or is forced to discard, is thus “waste” under the definition. A long argument is probably not necessary to conclude that this kind of reasoning is so subtle and sophisticated that the dredging contractor no longer feels at ease. Nor for that matter does the European Dredging Association.*