



## **INLAND NAVIGATION IN THE NEW EU – LOOKING AHEAD: CORRIDOR VII OR BLUE DANUBE?**

Presentation for Green Week's session "Die schöne blaue Donau"  
Friday 4 June 2004

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### **PREFACE**

At the time of preparing this presentation, the destruction of the Ukrainian Danube Delta (part of the UNESCO's Biosphere Reserve) by the Ukrainian Government and Moebius (a German based company) began on May 16. The first step of this destruction is the construction of the Bystroye navigation canal from the Danube to the Black Sea. Despite the fact that this action breaks international laws and agreements, despite pressure from the EU and Danube Governments, despite the knowledge that other options provide sustainable and more economic alternatives and despite the knowledge that one of Europe's (and in fact one of the world's) greatest natural treasures is threatened by this action, the dredging goes on and is going on as you listen to this presentation.

### **Abstract**

The Danube or pan-European Corridor VII, as it is referred to in the context of the EU Trans-European Networks for Transport, is perceived, within the expanding EU, as the ideal medium to improve the market connectivity between Western and Eastern Europe. The use of inland waterways for shipping is favoured by the EU as the sustainable transport option for Europe, based on the presumption that shipping is ecologically benign. But is it really sustainable if all we are doing is transferring negative environmental (or social or economic) impacts from one sector or medium (i.e. land or air) to another (e.g. water and wetlands)? And is it really sustainable to use a key part of the environment (i.e. rivers) for one economic use (transport); while ignoring the myriad other economically useful functions that they supply?

Traditional methods for improving the navigability of rivers and existing inland waterways for shipping have led to significant negative ecological impacts. Most of the rivers in western Europe have already been heavily dredged, canalised, dammed and reinforced and lined with concrete. This has meant a huge loss of river and floodplain habitat of both high economic and ecological importance. Emissions and water pollutants from ships have furthered the ecological problems of water transport. If traditional techniques are applied to recreate the Danube River as transport Corridor VII, one of Europe's truly great ecological (and indeed cultural) treasures will be transformed into a lifeless, sterile, utilitarian canal unable to provide vital environmental services valuable to the European economy.

EU environmental legislation such as the Habitat and Bird's Directives, the Environmental Impact Assessment Directive and the progressive Water Framework Directive demand that future plans for improving the navigability of Europe's rivers and inland waterways take full account of potential ecological impacts and that everything is done to prevent them from happening in the first place. The lower stretches of the Danube have remained relatively free from alteration and the natural systems that still remain offer Europe a second chance of wild, natural river systems that provide services to the local communities as well as national economies, a dream long lost until now. Fortunately, it is possible to both meet the new environmental standards and maintain effective shipping networks. The use of technological solutions (such as redesign of ships to suit the river and not the other way around, use of new roll on roll off port facilities and 'intelligent' shipping) together with effective participatory planning processes can be applied to establish sustainable water transport in Europe, as demonstrated to some extent already on rivers such as the Rhine, and prevent the loss of immeasurable European richness such as *Die schöne blaue Donau*.

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## Introduction

The Trans-European Networks for Transport (TENs-T) is a programme of the European Union (EU) to significantly improve the connectivity between the markets of the “old” (Western) and the “new” (Central and Eastern European) EU Member States markets, and in fact further still into Western Asia. The EU enlargement into Central and Eastern European Countries offers new market opportunities that are presently considered to be constrained by gaps in the transport networks. The extended TENs-T will comprise a series of pan-European transportation corridors – made up of roads, rail, inland waterways, etc. - to connect the enlarged EU from the Black Sea coast to the Cliffs of Moher. The initial guidelines for the development of the TENs-T from the mid-1990s (Decision No. 1692/96/EC and the Regulation 2236/95 on the Trans-European Transport Networks) were revised in 2003-2004 and completely overhauled last month. The revision includes a number of important developments, including integration of the new Member States and Accession Countries into the pan-European network, greater emphasis on waterways and so-called “highways of the sea”, as well as greater focus on cross-border stretches and removing “bottlenecks” at natural barriers and borders. Another new development is the introduction of 30 priority projects of so-called “European importance”. The total costs for the extended TENs-T is estimated at some 820 billion EUR.

Inland waterways feature strongly in this ambitious and far reaching plan. There is strong support for a prominence of this type of transport within the TENs-T, as water transport is considered to be the most ecologically benign of all transport systems. Inland waterways are perceived as “sustainable” transport as was clearly expressed in the Gothenburg European Council Conclusions<sup>2</sup> (2001).

The Danube River plays a significant role in the TENs-T inland waterway component. According to plans, the Danube must achieve its role as pan-European Corridor VII, linking the North Sea with the Black Sea, for which a number of existing “bottlenecks” need to be eliminated. Indeed the Danube after all does link Western with Central and Eastern Europe, but besides its potential value as a transport route, the Danube is above all of remarkable cultural, social, ecological and economic value to millions of people. The Danube is the world’s most international river and the second longest river in Europe. Its entire catchment includes 17 countries, covering 817,000 sq.km. The Danube River itself travels through 10 countries. Four of Europe’s capital cities are situated on its banks and 83 million people depend on it. 20 Million people rely on directly on the Danube for its drinking water. It is the very lifeline of Europe. However, plans for the *Die schöne blaue Donau* - affecting/destroying the many remaining wild stretches along the River - may turn it into the bleak, utilitarian *pan-European Corridor VII*.

Other projects for inland navigation in the Danube River do not necessarily arise from the TENs-T but, for example, from EU neighbours wanting to “benefit” from pan-European Corridor VII as is the case of the Bystroye canal currently being dug in Ukraine.

Inland waterways are not necessarily the simple sustainable option for transport in Europe as they are commonly portrayed to be. Research in the United States demonstrates, for instance, that emissions from road transport can be lower than those from inland waterways. The negative social, economic and ecological impacts from water transport can be significant and therefore the sustainability of this type of transport needs to be evaluated not only against other transport media in an isolated context, but rather against the impacts (environmental, social and economic) of each one of them in a specific context and against the possible alternatives. Furthermore, other questions will also need to be put into this equation: Do the plans for inland water transport meet the requirements of EU legislation on water and nature protection? How will EU regulation on environmental impact and strategic environmental assessments be applied to the TENs-T? Can inland navigation be sustainable if all we are doing is transferring negative environmental (or social or economic) impacts from one sector or medium (i.e. land or air) to another (e.g. water and wetlands)? And is it

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<sup>2</sup> Statement from the Gothenburg Conclusions (2001): “The European council .. invites the European Parliament and the Council to adopt by 2003 revised guidelines for trans-European transport networks on ...with a view to giving priority, where appropriate, to infrastructure investment for public transport and for railways, inland waterways, short sea shipping, intermodal operations and effective interconnection”

really sustainable to use a key part of the environment (i.e. rivers) for one economic use (transport) while ignoring the myriad of other economically useful functions that they supply?

### **Impacts from “traditional” inland navigation**

In order to “improve” rivers and inland waterways for navigation, substantial engineering works aimed at adapting the river to the needs of the ships are traditionally the chosen/adopted solution. The methods often used are based on the need to “tame” the dynamic nature of the rivers: By straightening the channel to reduce the distance travelled, dredging to deepen the canal to allow for larger ships, reinforcing the banks in order to halt erosion and maintain water levels (also often aimed to reduce flooding), and by removing vegetation and other natural “obstructions” and the construction of riverside port facilities.

Although natural waterways are highly dynamic, they can sustain some disturbance through their natural resilience. Thus, under normal conditions, they are able to cope with natural variations such as seasonal discharge fluctuations changes. Fluctuations beyond these natural margins, induced by disturbances that ignore the prerequisites for recovery such a dynamics, space, networks, spatial differentiation and ecological gradients endanger this resilience and lead to spiralling negative impacts on the natural functions.

Impacts from inland navigation are most often associated with the following pressures:

- **Modification of the fairway.** The “best” inland waterways for navigation are the deepest, straightest and with the strongest banks to reduce erosion and, therefore, the need for dredging. Unfortunately, these are almost the opposite optimum conditions for aquatic biodiversity. Aquatic flora and fauna favour rivers with a variety of depths, vegetation and high habitat heterogeneity. Natural river systems are very dynamic and self-regulating. Rapids, sandbanks and sandbars; floodplains and reed-beds; and meanders and ox-bow lakes provide the habitats for the greatest diversity of aquatic life and thus the valuable social, economic and environmental natural functions of rivers. Rivers are responsible for the transferral of sediment throughout river basins, providing constant replenishment of nutrients and minerals. Sedimentation, however, is a problem for navigation and in rivers with high sedimentation rates, dredging may be a serious maintenance cost (particularly when shipping intensifies the rate of erosion). Rivers have been severely modified in Europe for many centuries to make inland navigation safer and cheaper. Europe has lost over 80% of its floodplains due to river alterations for navigation, flood control and other purposes. Many of the remaining floodplain areas are still found in the Danube, particularly in its lower reaches coinciding with areas identified as “bottlenecks” under the extended TENs-T. Future navigation plans for the Danube River could lead to the significant loss of the last remaining floodplains in Europe.
- **Vessel operations.** The design, management and operational practice of the vessels using inland waterways and rivers may have detrimental social, environmental and economic impacts. For instance, the design and speed that a vessel travels can determine the intensity of wave action and, therefore, the extent of disturbance to other users and the erosion of banks (leading to landslides, increased sedimentation and loss of flood defences and the disturbance of habitats and flora and fauna). Rivers have traditionally been adapted to the navigational needs of the ships, often because of ignorance about the negative impacts of doing so. Air, noise and water pollution can be reduced through improved design of ships. Significant improvements in sustainability can be made cheaply by simply improving vessel design and operations.
- **Collisions and spills.** Pollution and damage to habitats resulting from ship collisions and spills happen on both an acute basis (dramatic accidents, which result in major pollution incidents leading to substantial environmental, economic and social costs) or on a more chronic, daily basis such as the constant release of oils into the waterway and the continual disturbance of the river bed and banks.

These main sources of pressures from inland navigation have had and can still have significant negative socio-economic and environmental impacts:

- I. Socio-economic impacts. Humans have generally chosen to settle near to rivers because of the multiple benefits that the access to the water and the aquatic habitats provide. One of these reasons is, of course, the transport and navigational opportunities. However, there are many others. On a single river, thousands of communities, companies and individuals may depend on it for their business, food, drinking water and recreation. Over 20 million people, for instance, rely on the Danube for their drinking water.

The negative impacts of traditional inland navigation as listed above have led to increased pollution and ecological disturbance, which compromises other uses of the river particularly activities such as fishing, tourism, sailing, swimming and the simple enjoyment of nature. Pollution associated with spills, discharges and waste disposal have led to pollution of drinking water, disrupted the use of water for industries such as bottling plants and reduced water volumes available for irrigation. To prevent loss of water from the fairway, dams are built to separate the river from the aquifer, which halts the exchange between surface and groundwater. The surface water loses the ability for self-purification leading to increases in pollution and increases of nitrates and phosphates in groundwater supplies, often the source of drinking water. An example of this is the Upper Danube; where water quality worsened after the impounding of the Straubing and Geisling dams from class II in 1995 to class II/III in 1999<sup>3</sup>. The loss of habitat and natural ecosystem functions have led to the local loss of whole industries such as fishing. The construction of embankments to reduce erosion and to maintain the high water levels has increased the incidence of flooding downstream as natural sink (sponge) functions of floodplains and wetlands have been lost.

- II. Environmental damage. Inland navigation has led to very severe ecological and environmental costs throughout Europe. While purpose built canals have been constructed since Roman times to aid inland navigation, the majority of inland navigation has used natural waterways, mainly rivers. The construction of canals has had negative impacts such as creation of water barriers for animals; depletion of natural water sources (mainly floodplains); facilitation of the introduction of non-native and invasive species; pollution (water, noise and air); and the destruction of landscape values. Canals form a rigid and linear element in a landscape, often accentuated by planting trees along the canal. However, the greatest impact has been on rivers and these impacts are mainly related to the regulation and canalisation of rivers. Regulation is most frequent in the lower and middle reaches of the river to reduce erosion of the banks and reduce sedimentation. Banks are normally reinforced or protected with stones and stone groynes are constructed to control the processes of meandering and braiding. To overpass the fall of the river for ships and to reduce navigation distances, rivers are canalised. Meanders and side channels are cut off. Rivers are deepened and widened and forested islands removed entirely. Beautiful meandering rivers are transformed into canals.

All these modifications have had a severe impact on the biodiversity by reducing the amount and diversity of habitats available for a wide spectrum of aquatic species. Furthermore, disturbance by increased traffic on the waterway reduces the populations of those species requiring more stable conditions, particularly animals that breed in the waterway or the floodplains connected to the waterway. Simple changes to the hydrology of the waterway such as speed of flow can mean the loss of certain species. The construction of dams and locks as navigation aides act as barriers for migrating aquatic species. Pollution is another direct cause of biodiversity loss. There are too many examples of spillages poisoning the fish for large sections of rivers.

In addition, regulation and canalisation reduces the natural landscape beauty of the river, which often has significant cultural impacts. Would the pan-European Corridor VII ever have inspired Strauss?

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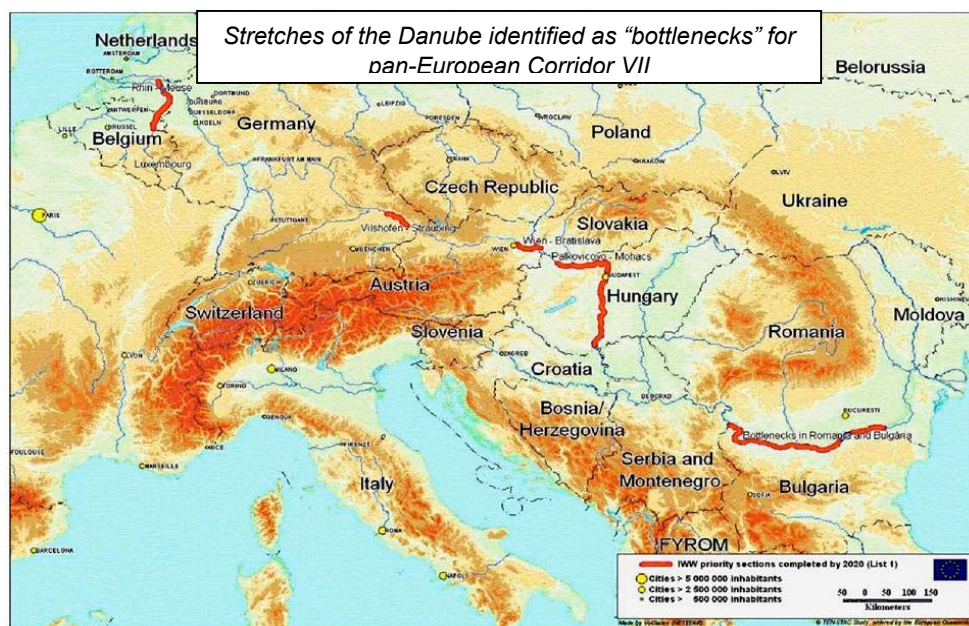
<sup>3</sup> Waterway transport on Europe's Lifeline, the Danube. Impacts, Threats and Opportunities. WWF. Vienna. January 2002

## What could current navigation plans mean for the Danube?

I. The agreed TENs-T Rhine/Meuse-Main-Danube inland waterway axis projects: The Danube bears the main responsibility for the pan-European Corridor VII. This corridor will link the North Sea with the Black Sea. Apart from the severe environmental impacts this construction may cause, the romantic and inspirational Danube will lose its identity to more utilitarian Corridor VII. In order to realise the “dream” of Corridor VII, a set of bottlenecks must be removed. The latest bottlenecks were identified in the so-called Van Miert report<sup>4</sup> and have now been further “crystallised” in Annex III (entry number 18) of the final version of the revised TENs-T guidelines.

- Bottlenecks in Romania and Bulgaria (2011)
- Danube river improvement between Vilshofen and Straubing (2013)
- Palkovicovo-Mohács (2014)
- Wien-Bratislava (2015), cross-border section
- (Rhine-Meuse (2019) with the lock of Lanaye as cross-border section), *which does not affect the Danube River directly*

These “bottlenecks” are planned to be eliminated by artificial deepening (dredging) to reach a minimum *draught*<sup>5</sup> of 2.5 metres during all seasons along the entire length of the waterway from the North Sea to the Black Sea. This is despite the fact that the Danube Commission (1988) recommends a minimum *total depth*<sup>6</sup> of 2.5m for free flowing conditions over gravel ground on 350 days per year. The planned minimum *draught* of 2.5 metres would mean substantial modifications to artificially deepen stretches of 1000 km or more. The Van Miert report already considers the 70 km stretch between Vilshofen and Straubing in Germany as “the major bottleneck” to “improve”, probably because the German government is reluctant to ensure this level of navigability throughout the year. Costs for “improving” this stretch were estimated back in 2002 at 700 million Euro.



Significant permanent negative impacts from removing these bottlenecks are expected on, among others, valuable wetland areas between Vienna and Bratislava, including the Danube National Park in Austria; large sections of the Danube in Hungary, including the Danube-Drava National Park; and the most valuable intact stretches along the lower Danube between Bulgaria and Romania. These sites host several habitats and

<sup>4</sup> “High level group on the Trans-European Transport Network” Report, 27 June 2003

<sup>5</sup> Draught is the total depth of the loaded ship plus dynamic effects of surge. The total depth of the canal therefore needs to exceed the draught to ensure safe navigation.

<sup>6</sup> Defined as “available water depth in the fairway”, i.e. draught plus keel clearance plus squat

species of EU importance (including globally threatened species as the Dalmatian Pelican) and are therefore candidate Natura 2000 sites.

## II. Other threats for the Danube that are not part of the TENs-T:

- The Danube-Oder-Elbe-Canal Plan will enable ships to travel from the Baltic and North Seas southwards to the Black Sea. The plan consists of two enormous stretches of new canal spanning approximately from the Danube river near Vienna to the Oder river in southern Poland, with another branch splitting off in the Czech Republic towards the Elbe River in the direction of Dresden, Germany. If it goes ahead, this plan will directly or indirectly affect 38 protected areas of a 460,000 hectares total area in five countries – Austria, Slovakia, the Czech Republic, Poland and Germany. This includes 2 national parks, 6 Ramsar sites 2 biosphere reserves. Numerous parts of these areas are included or being nominated as part of the Natura 2000 Network of sites to be protected under EU's Birds and Habitats Directives.
- Byestroye canal across the Ukrainian part of the Danube Biosphere Reserve - The construction of this canal started on 16 May 2004, 7 km downstream from the city of Vilkovo. The Government has chosen a route called the Bystroye Canal that will cut through the heart of the Ukrainian Danube Delta Biosphere reserve. This part of the Delta is regarded as the most ecologically valuable part of the internationally renowned Delta, where the Danube finally meets the Black Sea. This remarkable natural landscape will be highly degraded if not destroyed. It is presently protected by RAMSAR, UNESCO, Bonn, Bern, and Bucharest Conventions plus the Lower Danube Green Corridor agreement signed by Ukraine together with Romania, Bulgaria and Moldova. The most natural and dynamic part of the Delta will be destroyed - the unique sample of natural, continuously growing delta with evolution and formation of new habitats for a lot of species characteristic to these type of biotopes. Internationally important bird populations will be threatened by the direct removal and disturbance of their habitat and food supplies. There will also be a loss of these habitats and spawning grounds for a number of threatened and commercial fish species. Those activities of Ukraine will not only affect the water resources of Romania, but will also cause negative consequences for flora and fauna biodiversity depending on these wetlands.

As there has been no Strategic Environmental Assessment or any public consultation process within the TENs-T programme, the true costs compared to the benefits of these plans have never been compared. Thousands of river communities rely on the river for a myriad of different economic ventures varying from fishing to sailing for recreation. These activities will be severely compromised by plans that have been developed with navigation as the primary use of the Danube River. There is a strong assumption in the plans that an economic boom will follow the simple creation of a navigation link that will accommodate larger ships. Given a more careful planning and design phases involving the full set of stakeholders, the final design may well increase the economic value of the waterways while still catering for the navigation needs. Without careful planning, the value of the natural systems will be lost forever. This includes flooding regimes and sedimentation processes that are vital for the fishing and agricultural industries. It is unlikely that the small increase in the number of jobs created through minor port facilities will be any sort of compensation for the loss of economic activity that an impoverished Danube River will present. A thorough analysis of many of the economic arguments against the present plans for pan-European Corridor VII needs to be developed if its impacts are to be limited.

A good example of what might happen is provided by the present construction of the Bystroye Canal to allow larger ships to enter the Danube via the Danube Delta in the Ukraine rather than through the Sulina canal in Romania. The Ukrainian government presumes that the number of ships will increase, bringing greater revenue in taxes, improving the local economy through increased use of the ports and reducing the costs that the Ukrainian ships have to pay to take the longer route via Romania. These economic assumptions are not agreed by all economists. The costs of constructing and maintaining the canal (the sedimentation rate in the Delta is very high) may never be met by the envisaged economic benefits that the canal might bring. The canal will also reduce the substantial fishing industry and many other industries tied to a functioning wetland ecosystem. The Romanian government is very aware of these problems as they are facing the negative economic impacts of the Sulina Canal, the first major negative infrastructure development in the Delta. The

costs of maintaining the canal and the loss of valuable land for tourism and health resorts - because of dramatically increased erosion rates (up to 20m per year) not to mention the significant impacts on the biodiversity - are found to be no compensation for the increased river transport and related revenues.

### **How can the environmental damage from inland navigation be avoided?**

A new approach to inland navigation – and indeed to transport overall<sup>7</sup> - needs to be developed. One that takes full account not only of the present but, most importantly, of future needs as well as of the overall impacts of developing these projects. In the case of inland waterways, we need to define what “ecologically sustainable” navigation is.

Sustainability is defined by the International Navigation Association (PIANC) and many other organisations as “meeting the needs of the present without compromising the ability of future generations to meet their own needs”. Therefore, to achieve sustainability, navigation development and operations must consider long-term impacts to the ecosystems. Navigation could be considered to be “ecologically sustainable”<sup>8 9</sup> when it:

- Does not entail permanent loss of biodiversity
- Avoids compromising future uses of the river system
- Allows continuation of ecological processes:
  - Provision of habitat (ecological continuum)
  - Morphological processes (erosion, transport and sedimentation)
  - Maintenance of sediment balance
  - Maintenance of hydrological balance (e.g. floodpulse)
  - Maintenance of biological and chemical processes (nutrient cycles)

The International Navigation Association provides useful guidelines for achieving sustainable inland navigation<sup>6</sup>. The recommendations are based firstly on a strong argument for thorough multi-stakeholder consultation design process. Discussions that facilitate awareness raising, information sharing and negotiation on compromises will ensure the most cost-effective and the less ecologically damaging solution allowing for multiple uses of the river/waterway. Many of the negative impacts can be reduced simply and often cheaper through a good design process. The design of the navigation scheme should find methods to reduce the amount and impact of fairway modifications, consider the design of the vessel operations and its impacts on the functions and processes of the natural river/waterway, and reduce the probability of spills and collisions.

Some key technical tools and operations that will help to achieve “ecologically sustainable navigation” include:

- Simple measures based on improving the standards and behaviour of the shipping will reduce the long term costs, reduce the likelihood of accidents and the need for modifications to river/waterway. These include traffic rules (speed limits), wave restrictions, improve the skills of the crew, good equipment (particularly navigational tools), pollution controls, special night regulations, effective river patrolling and river marking (buoys etc). More investment in improving standards of design,

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<sup>7</sup> The debate around the TEN-T and their development normally starts from the assumption that in the future transport volumes will grow, thus investments are needed - meaning more infrastructure - to solve problems of congestion, bottlenecks and to provide better connections for peripheral areas. Such an approach is flawed, as the real need – as emphasized by the Gothenburg Council of 2001- lies in de-coupling transport growth from economic growth, rather than reinforcing that link, for the sake of a sustainable future.

<sup>8</sup> PIANC (2003) Guidelines for Sustainable Inland Waterways and Navigation. International Navigation Association. Brussels, Belgium

<sup>9</sup> RECOMMENDATIONS ON SUSTAINABLE USE OF RIVERS FOR NAVIGATION AND TRANSPORTATION. On 14th June, 2000, over 50 participants (representatives of governments, international river commissions, river engineers, navigation companies, indigenous people, NGOs) held an International Conference and adopted recommendations for the sustainable use of rivers for navigation and transport.

management and enforcement will reduce the level of investment required in the more capital-intensive river/waterway modifications.

- Where there is a need for modifications to the fairway, ensure that critical natural features, processes and habitats are maintained (or if appropriate compensated) through careful, consultative design procedures. Maintain floodplains and riparian corridors to provide habitats and limit the damage to the navigation channel during floods
- Always use native vegetation and bio-engineering techniques to stabilise banks
- Ensure that locks and dams allow for migration of aquatic organisms
- Do not allow the direct or indirect introduction of invasive species
- Promote and invest in improved vessel design (ensure that vessels have the most shallow draught as possible such as the use of dumb barges<sup>10</sup>, self-propelled vessels and specialised tankers for hazardous cargoes
- Minimise maintenance requirements – low maintenance schemes tend to be more ecologically sustainable than those that need significant interventions

The ecological costs need to be balanced carefully with the navigation costs and benefits together with the myriad of other uses of the river/waterway. In some cases, compromises will not be sufficient to reduce the ecological impacts and, in these cases, freight transport may be unacceptable.

### **How can the EU Water Framework Directive help?**

In 2000, the EU issued one of the most progressive pieces of environmental legislation today. This is the Water Framework Directive (WFD), which “puts” freshwater ecology into law. The WFD provides, therefore, a clear test case for coherence between EU environmental legislation and other EU policies and funding mechanisms. The inland navigation component of the TENs-T must meet the requirements of this Directive if there is to be any meaning to any piece of EU legislation.

- The first Article of the WFD states that the purpose of the Directive is to prevent further deterioration of the current status of aquatic systems. The final goal of the Directive is for all waters to reach “good ecological and chemical status” by 2015 (Article 4).
- Article 6 requires that a register of protected areas within the river basin district (RBD) be established. This includes Natura 2000 sites. The Danube River is considered to be a single RBD and, therefore, a single international river basin management plan that identifies and ensures the protection any sites qualifying under the Birds or Habitat Directives (that are directly dependent on water) is required.
- Article 14 requires EU countries “to encourage the active involvement of all interested parties in the implementation of this Directive”. The plans for the TENs-T, despite the fact they would at present far from meet the requirements of the WFD, have not been developed through any level of public consultation or environmental impact assessment.
- New “inland waterway” construction will require a derogation from the Directive’s “no deterioration of current status” and achieving “good ecological and chemical status” objectives. Strict tests are detailed in the Directive and some relevant guidance is given in the 13 guidance documents from the European WFD Common Implementation Strategy. However, some criteria have not been defined such as of “overriding public interest”.

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<sup>10</sup> A series of barges with a single push boat

- Existing “inland waterways” could be designated as “heavily modified water bodies” (relevant stretches) and have to achieve “good ecological potential” and “good chemical status”. However, some of the Directive’s derogations may still apply.

### **The way forward: Principles for “ecologically sustainable” navigation in the Danube river<sup>11</sup>**

With careful and dedicated consideration of a number of key factors, the TENs-T and other inland navigation plans for the Danube River could be realised without the foreseen significant negative social, economic and ecological impacts.

- **Be sustainable! Do not allow a type of inland navigation that compromises other development:** Do not destroy a rich natural legacy for “traditional” inland waterway transport’s sake. BE INNOVATIVE! The message is simple. *“Adapt the ships to the river, not the river to the ships”*. In order for inland navigation to meet the challenges and become the sustainable transport in the future, “traditional” navigation methods (based on taming and controlling the natural self-regulating systems) must be changed to “ecologically sustainable” navigation, in line with the above-mentioned criteria and technical specifications.
- **No single country/project should dominate navigation strategies in the Danube basin:** An effective transboundary approach has to be applied. The WFD requires a single River Basin Management Plan (RBMP) for the entire Danube. Significant plans such as those under the TENs-T would need to be taken into account in the preparation of this RBMP and, therefore, navigation plans that affect multiple countries should be assessed, planned and implemented jointly across the basin. The International Commission for the Protection of Danube River (ICPDR) is the perfect mechanism to achieve effective transboundary cooperation at both the technical and political levels.
- **No single use (navigation) dominance for the river:** A single sector must not dominate the “use” of the river. This is economically, socially and ecologically foolhardy as the myriad of examples from around the world over the last 100 years will bear witness. Effective integrated river basin management must be achieved to not only comply with existing EU legislation, but also, and most importantly, to reap the greatest benefits and ensure that sustainability will be best achieved. This requires planning and implementation processes based on good integration, transparency, information, participation and consensus at the basin wide scale including the setting up of the relevant underlying mechanism to make them possible. The ICPDR would again be the best mechanism to ensure this.
- **Prevent damage at source:** Detailed environmental and socio-economic analyses (including alternative options assessment involving all those “affected”) via a strategic environmental assessment for all the planned waterway stretches for the whole Danube River Basin District (transboundary), including key environmental and social costs of altering rivers in the cost-benefit analysis, are urgently needed before further navigation plans are implemented.
- **Respect for legislation:** Current EU legislation on water and nature protection and environmental impact assessment must be respected; both in terms of “processes” (e.g. WFD derogation tests) and “objectives” (e.g. WFD no deterioration of current ecological status)

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<sup>11</sup> Adapted from the above-mentioned Recommendations