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Executive Summary

The Danube – a lifeline or just a navigation corridor?

WWF Position Paper on inland navigation on the Danube

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and WWF Austria

Executive Summary

The Danube is the world's most international river and the second longest river in Europe at 2,780 km. Its entire catchment includes 18 states[1], covering 801,463 sq. km[2]. The Danube River itself travels through ten states. Four of Europe's capital cities are situated on its banks and millions of people rely directly on the Danube for their livelihood, e.g. drinking water, fisheries, and tourism. It is the very lifeline of Europe.

Current situation

Despite many man-made changes and technological impacts, the Danube still retains much of its outstanding ecological quality today. WWF considers the Danube as one of the Earth's 200 most valuable ecoregions[3] with unique biodiversity, a great potential for ecological improvements and additional socio-economic benefits.

At the same time, the Danube is a major waterway in Europe with a large potential for transporting goods. In its efforts to promote this potential, the shipping industry is focusing on further development of the Danube navigation channel through new dams and regulation projects, as well as construction of new artificial waterways. The European Union (EU) plans to support these developments, providing substantial co-funding to inland navigation within the framework of the Trans-European Transport Networks (TEN-T). Up to and including 2004, a total of almost EUR 5 billion has gone into TEN-T projects from the dedicated TEN-T budget. In the years from 2007 to 2013, the European Commission (EC) has proposed to increase support from this budget significantly, to a total of EUR 20.35 billion.[4] The budget has not been finalised, and the European Council may not agree to such a budget increase.

TEN-T revised guidelines promote the Danube, "Pan-European Transport Corridor VII", as the "backbone of the east-west waterway connection" providing, together with the Rhine River, a link between the North Sea and Black Sea.

The Danube River is affected by many legislative frameworks, including the EU Water Framework Directive (WFD), depth recommendations from International Conventions, EU TEN-T guidelines, and pending Natura 2000 sites, to name a few. Organizations, such as the International Commission for the Protection of the Danube River and the Danube Commission, have a main interest in the river and its surroundings.

WWF sees a positive effect in the proposed promotion of inland navigation on the Danube. WWF believes, in principle, that it is possible to establish inland navigation that, at the same time, helps improve the ecology and socio-economics along the river. We are at a crossroads: inland navigation and European transport policy could follow the old strategy of canalizing rivers, or a new strategy could be developed which also includes other needs of the Danube with its "multi-use" services. It's a decision between "friend or foe".

Impacts of inland navigation on the Danube region

According to the Roof Report[5] of the International Commission for the Protection of the Danube River, large parts of the Danube (86%) are "at risk" or "possibly at risk" to fail the objectives of the EU WFD,

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[1] Albania, Austria, Bosnia & Herzegovina, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Italy, Macedonia, Moldova, Poland, Romania, Serbia & Montenegro, Slovak Republic, Slovenia, Switzerland, and Ukraine.

[2] This is the area of the Danube River Basin determined digitally with GIS, according to the International Commission for the Protection of the Danube River (ICPDR). If other sources are consulted this value may vary slightly, because other methods of calculation have been used.

[3] WWF. Global 200: Most Valuable Ecoregions, October 2000.

[4] TEN-T priority axes & projects 2005, http://europa.eu.int/comm/ten/transport/projects/doc/2005_ten_t_en.pdf

[5] ICPDR. Danube Basin Analysis (WFD Roof Report 2004): This report responds to reporting obligations of the Water Framework Directive 2000/60/EC regarding the first characterization and analysis of the Danube River Basin District.
http://www.icpdr.org/pls/danubis/docs/FOLDER/HOME/ICPDR/EXPERT_GROUPS/RBMEG/ROOF_REP_2004/FINAL_DOCUMENT/COMPLETE+ROOF+REPORT+-+FINAL+DOCUMENT+-+MINIMUM.PDF

especially due to hydromorphological alterations. The three main hydromorphological driving forces behind these alterations are: hydropower generation, flood protection and navigation. Of these three activities, navigation has the highest impact on the Danube River.

Dams, flood protection structures, river regulation, dredging and other river maintenance activities have led to increased sediment deficit and to ongoing riverbed erosion, which has had negative effects on the water table in the alluvial floodplains, on biodiversity, and, therefore, on fish production. Sidearm cut-off and dredging carried out to improve the navigation route has also resulted in progressive silting of side channels and oxbows, with significant losses of indigenous species.

Negative impacts from traditional inland navigation threaten the Danube River and its floodplains, which can be valued in monetary units (Euros) based on the ecosystem services they offer[6]:

- Intact river stretches provide great potential for recreation and tourism worth 189 million Euro/year.
- Nutrient retention of Danube floodplains (i.e. water purification) is worth 368 million Euro/year.
- The estimated current and future value of benefits from the Danube floodplains is 7,660 Euro/ha.

Conflicts

In 2003, the EU and the navigation lobby of the Danube countries defined river stretches as 'bottlenecks' - shallow river stretches - with a combined length of about 1,000 km where river engineering measures are to be carried out over the next 15 years. However, these bottlenecks also happen to be places with some of the highest ecological value along the Danube – so-called ecological "hot spots". It is planned to eliminate these bottlenecks by artificial deepening or other hydraulic measures to reach a minimum draught[7] of 2.5 metres during all seasons along the entire length of the waterway from the North Sea to the Black Sea.

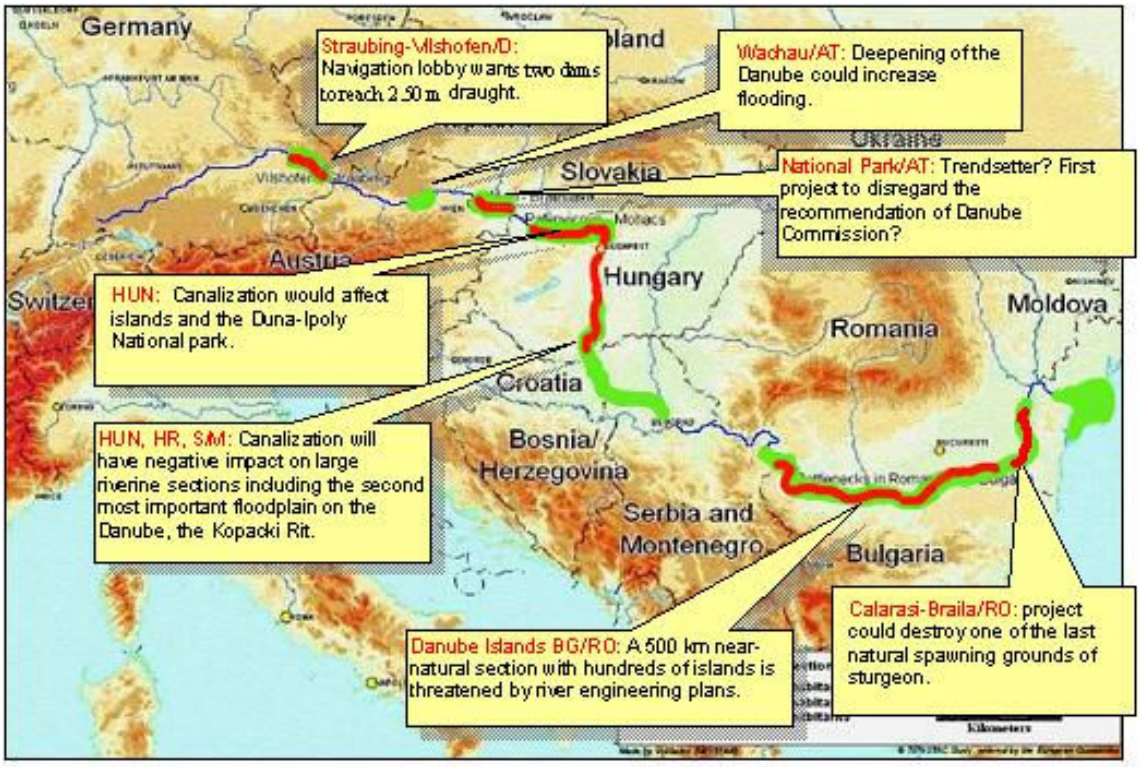

Figure 1: TEN-T navigation versus ecological hot spots. Green stretches show ecological hot spots, whereas red stretches TEN-T priority project sections. (Source: WWF Austria)

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[6] WWF. Economic Evaluation of Danube Floodplains, March 1995.

[7] Draught is the depth of the loaded ship beneath the water level without dynamic effects (surge or squat). The total depth of the canal therefore needs to exceed the draught to ensure safe navigation.

One of the root causes of this conflict is not only the sectoral thinking of the individual countries, but also at the EU level. A holistic view/approach for multi-modal transport on the Danube has not yet been developed. Decisions on navigation strategies and actions are taken without due consideration of the subsequent impacts on the natural environment. Impacts on the natural environment are dealt with in a piece-by-piece fashion, based on local projects. This 'salami tactic' approach runs counter to the spirit of the protection of freshwater ecosystems enshrined in the WFD and may result in serious ecological losses.

WWF's Position

WWF supports inland navigation on the Danube as long as plans and projects:

- Have clear positive effects on river ecosystems, basin-wide and locally,
- Are environmentally sustainable, e.g. help reduce climate-relevant transport emissions by using techniques that do not negatively impact the ecology of the river,
- Respect socio-economic needs, and
- Meet all legal requirements.

These goals can be achieved by following these six principles:

1. Basin-wide 'Sustainable Navigation Plan' for the entire Danube

To establish an ecologically sound and sustainable navigation system, an overarching 'Sustainable Navigation Plan' for transport along Corridor VII, including inter-modal aspects, is essential. This plan has to strike a fair balance between ecological, transport, and socio-economic needs. This holistic approach has to be applied before individual projects are planned locally. The tool to reach the Sustainable Navigation Plan is an international Strategic Environmental Assessment (SEA) process. Individual projects can then be developed afterwards based on the Sustainable Navigation Plan.

2. Connect TEN-T Guidelines with the WFD

So far the TEN-T Guidelines and the WFD have been considered separately. In order to establish a Sustainable Navigation Plan and real 'win-win', these both have to be combined leading to sustainable navigation. This includes respect of transport projects to the WFD requirements: no deterioration, improvement of the ecological status, and genuine public participation.

3. Ecological compensation measures

Sometimes new innovation technologies can compensate for existing hydraulic river constructions through restoration and compensation measures for river morphology and ecology. Such measures aim to reactivate natural dynamic processes of the river in a controlled manner. Some examples are reverse engineering of obsolete or superfluous constructions, opening of side channels, removing shore reinforcements and obsolete dams, and restoring river sections that are not problematic for inland navigation. Such compensation measures should be explored, and implemented alongside navigation projects where suitable.

4. Promoting sustainable innovations

The fleet of the Danube countries needs a modernization push. The necessary upgrade of the fleet offers a chance to introduce state-of-the-art technology, e.g. shallow draught inland vessels, reduced emissions, less wastewater produced. Improved methodologies for forecasting water levels should also be explored, along with river information systems, i.e. radar/GPS guidance and traffic control, regular and good soundings of changing navigation channels, adequate and up-to-date marking of the navigation channel (radar reflectors and buoys). In addition, development and improvement of multi-modal logistical infrastructure should be promoted. Adequate harbour centres to transfer goods from ships to other modes of transport (preferably rail) are required for efficient freight transport.

5. Promote goods transport on the Danube to compete with transport on roads

To achieve a genuine reduction of road traffic (a goal of the EU), one option is to promote container transport on the Danube. Container transport could be the essential transport component for successful inland navigation that may also lead to competition with road transport.

6. No new depth requirements to those of existing conventions

No new depth requirements to those of existing conventions should be introduced unless they are based on ecological assessment and prove that they do not have a negative impact on the ecosystem across the whole river basin. Greater riverbed depth means more aggressive intervention in the ecosystem and less room for ecological improvement. In addition, the implementation of the existing depth recommendations in local projects has to be assessed in terms of ecological needs. In regards to the existing recommendations, their ecological impacts have hardly been discussed until now, and it is not clear whether they would meet the WFD objectives.

Concluding Remarks

The Danube has the potential to become one of the main waterways and transport axes of Europe, as is the intention of TEN-T. This could bring prosperity to the people that live in the river basin. Prosperity, however, is more than earning capacity and money alone. People still want to live in a clean and healthy environment.

At the same time, numerous man-made changes, regulation structures, dams and dredging activities, outstanding river habitats along the Danube still remain today that have long disappeared elsewhere in Europe.

WWF believes, in principle, that it is possible to establish inland navigation that, at the same time, helps improve the ecology and socio-economics along the river. We are at a crossroads: inland navigation and European transport policy could follow the old strategy of canalising rivers, or a new strategy could be developed that also includes other needs of the Danube with its “multi-use” services. It’s a decision between “friend or foe”.

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- conserving the world's biological diversity
- ensuring that the use of renewable natural resources is sustainable
- promoting the reduction of pollution and wasteful consumption

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