

Notiz

für: ICPDR
von: Simoner
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betrifft: Statement hydromorphological changes

General introduction

Growth in traffic, in particular due to the growing share of heavy goods vehicles, has resulted in increased congestion and bottlenecks on international transport corridors. In order to ensure international mobility of goods and passengers, it is therefore necessary to optimise the capacity of the trans-European transport network. The enlargement of the European Union and the objective of shifting the balance between transport modes and achieving an infrastructure network capable of meeting growing needs has led to a revision of the trans-European transport network in 2004 (DECISION No 884/2004/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2004). The European Parliament and the Council laid down new Community guidelines for the trans-European transport network, identifying 30 projects of common interest intended to contribute to the development of that network.

The dynamic economic development and integration of the south-east European countries leads to a considerable transport increase in the Danube corridor. For this reason the European Union has defined The “Rhine/Meuse-Main-Danube inland waterway axis” as priority project No. 18, including following infrastructure bottlenecks on the Danube:

- Vilshofen-Straubing (2013);
- Wien-Bratislava (2015) cross-border section;
- Palkovicovo-Mohács (2014);
- Bottlenecks in Romania and Bulgaria (2011).

Accompanying the improvement of the infrastructure the environmental protection is addressed in the same decision in the revised Article 8: All priority projects must be subject to an Environmental Impact Assessment. Furthermore the Commission shall, in agreement with Member States, develop suitable methods for implementing the **strategic environmental assessment** with the objective of ensuring, inter alia, appropriate coordination, avoiding duplication of effort, and achieving simplification and acceleration of planning processes for **cross-border projects** and **corridors**.

Hydromorphological alterations – Impacts from inland navigation

The Danube Basin Analysis - Roof Report 2004 gives an overview on the impacts caused by hydromorphological alterations. Without doubt inland navigation has a certain impact on these

hydromorphological alterations, but a comprehensive assessment on the direct and indirect effects of hydromorphological alterations in the Danube River Basin countries does not yet exist. Furthermore the report states that impacts from navigation often overlap with those of hydropower generation and flood defence, which also reflects the different user claims. Our understanding is that an improvement of waterway infrastructure should always go hand in hand with ecological considerations / measures.

As an example for such an integrative approach I want to refer to the project east of Vienna, which aims at improving at the same time the ship traffic conditions and the ecological conditions within the Danube Floodplain National Park.

Austrian approach: Integrated River Engineering Project on the Danube to the east of Vienna

Abstract ICDPR "Stakeholder Conference" 28. / 29.06.2005

The free-flowing section to the east of Vienna creates problems not just for navigation. There the riverbed is affected by a continual erosion of up to 3.5 cm annually. This means that less and less water is able to flow into the adjoining floodplains of the National Park Donau-Auen (Danube Floodplain National Park) and in the long-term the floodplains will threaten to dry out. For that reason the so called "Integrated River Engineering Project" aims at striking a balance between economical and ecological interests.

The integrative approach is expressed by an interdisciplinary steering committee consisting of well-known experts from the fields of hydro-engineering, ecology, inland navigation and regional economy, which accompanies the development and realisation of the project.

The elaborated planning guidelines for example stipulate:

- the so called granulometric riverbed improvement is used to halt the riverbed erosion (by adding coarse gravel four to seven cm in diameter to the river basin)
- the dredged material for improving the shallow sections is reintegrated in deeper areas to maintain the morphological dynamics
- novel structures of groynes are integratively designed, i.e. taking into account hydraulic, morphological and ecological criteria (e.g. bended groynes)
- riverbank renaturation and waterway linkage, is to be exploited as much as possible in order to ensure the sustainability of the National Park Donau-Auen

By following the principles of the **Integrated River Engineering Project on the Danube to the east of Vienna** the free-flowing section and the wetlands of the National Park Donau-Auen can be conserved as well as the fairway conditions during low water periods improved. The **Integrated River Engineering Project's** interdisciplinary and integrative approach, conjoining both economic and environmental interests, therefore sets a prime example for future projects to emulate.
