

# Feedback on the revision of the TEN-T regulations

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## **Introduction, background and focus**

The Leibniz Institute of Freshwater Ecology and Inland Fisheries (IGB) is Germany's largest research centre for freshwaters. Our research findings help to tackle global environmental changes and to develop strategies fostering sustainable water management – true to our guiding principle “Research for the future of our freshwaters”. Based on our research and expertise, we comment on the planned revision of the TEN-T regulations, especially focusing on the potential environmental impacts of policies and measures regarding freshwater ecosystems, their functioning and provided ecosystem services.

## **Analysis: target conflicts in EU policies**

The IGB scientists underline that improved EU policies to increase the sustainability of traffic and the respective infrastructure are urgently required, especially with perspective to the climate- and biodiversity-related goals of the EU. It is therefore considered of utmost importance to reduce the overall environmental footprint of transport activities. In the concrete case of TEN-T, increased precaution should be taken not to consider inland navigation and its infrastructure as a sustainable solution in general, but to take into account the adverse impacts on freshwater ecosystems and the ecosystem services they provide to society. As such the harmonisation of the TEN-T plans with the environmental targets of the EU's Water Framework and Habitats Directives is critical to prevent massive adverse impacts upon ecology and hydrology in favour of rather moderate climate impact mitigation. Strong target conflicts between inland waterway transport on one hand and both river rehabilitation and biodiversity conservation on the other hand (foreseen e.g. in the EU's biodiversity strategy for 2030) have to be mitigated before implementing TEN-T measures. Harmonisation is needed in order to avoid situations where measures implemented under TEN-T prevent achieving the good ecological potential as required by the EU Water Framework Directive (WFD).

From a research-based perspective, the IGB scientists emphasize inland waters such as rivers should not merely be seen as existing or potential traffic corridors, since they also provide multiple provisioning, regulating and cultural ecosystem services, including flood retention. First and foremost, they represent highly threatened habitats for aquatic biodiversity, protected by European laws and regulations. This water-dependent biodiversity has a value in itself, and also forms the basis for functioning and resilient ecosystems. Thus, there exist severe target conflicts in the legal and political sphere between the TEN-T programme on one side, and the WFD, Natura 2000, and the recent EU Biodiversity Strategy on the other. Waterway development in rivers puts the aquatic ecosystems and its services at risk, with a high probability of destroying irreplaceable habitats and species communities, and as a result adversely affecting biodiversity.

In terms of (fossil) energy consumption per ton and kilometre transported goods inland navigation appears “greener” than other means of transport. However, inland navigation on rivers is associated with the irreplaceable loss of riverine and floodplain habitats, which represent the areas of highest biodiversity in Europe. Maintaining and enlarging waterways for still larger vessels as foreseen in the TEN-T programme will further aggravate those environmental impacts. When comparing the environmental impact of different transport modes, the whole set of environmental impacts by transport modes and their respective infrastructure must be taken into account.

The above-mentioned conflicts of political and legal targets between the EU transport policy and the European environmental policy (which aims to restore 25,000 kilometres of free-flowing rivers as stated by the EU Biodiversity Strategy) are obvious and have not been solved. According to the EU Green Deal plan, climate and environmental policies have to be integrated and not set against each other. The current TEN-T regulations and plans neither reflect this integrative approach, nor do they include suggestions to mitigate those target conflicts.

In Europe, 60% of all surface water bodies, among them all larger navigable rivers, failed good ecological status or potential – the environmental targets of the WFD – by spring 2018 (EEA 2018). Just 16% of protected habitats and 23% of endangered species were in a reportedly favourable state (EEA 2019). Considering the challenges of ongoing biodiversity loss and the Green Deal objectives, environmental targets of European directives have to become cross-cutting obligations for all other sectors operating in or utilizing European environments. Correspondingly, the TEN-T regulations and activities need to be subjected to pan-sectoral environmental impact assessment, cost-benefit check and prioritisation rather than counteract with the objectives of the Green Deal.

### **Inland navigation in Europe: cost-benefit analyses, environmental impact assessments and climate change adaptation**

Regarding the transport of goods in Europe, concrete demand exists primarily in the hinterland of seaports, much less for own inland navigation ship across the European continent (EU 2020). The total annual volume of inland navigation remained rather unchanged at about 540,000 mt in the last decade or even slightly decreased (EUROSTAT 2021); this is accelerated by climate change (see below). Also, bulk goods decrease (i.e. intensified by the closure of thermal power plants), and containers are not transported efficiently. Transport costs (system costs including construction and maintenance) are higher compared to those for the rail if channel infrastructures have to be built or maintained large-scale.

The desired sustainable economic increase and the possibly resulting increased demand in transport cannot be generated by building a huge infrastructure in advance. The inland waterway infrastructure is no bottleneck for Europe’s economic development. In general, inland navigation development is very costly and, since it depends upon year-round precipitation, highly affected by climate change. The example of the River Elbe can be taken as a wakeup call: there, massive investments into river training have not led to reliable navigability during major parts of the year, but adversely affected groundwater levels and valuable ecosystems depending on it. This is also the case at the River Oder where planned river training will destroy habitats and lower the groundwater level, but will not improve navigability (IGB 2020). Therefore, synergies and risk potentials, efficiency and sustainability of

inland navigation projects should be carefully analysed early in the strategic planning phase, including stakeholder consultation and involvement from the very beginning.

Development plans in the inland navigation sector are often several decades old. This is why inland navigation infrastructure should be carefully evaluated, and subsidies must only be granted if the measures are fully in line with and supporting the EU environmental policies, especially the WFD that has proven its efficiency in securing biodiversity and sustainable management (IGB 2019). Therefore, inland waterway development or maintenance projects under the TENT-T initiative cannot unconditionally be awarded the status of an “overriding public interest” according to respective exemption regulations in the WFD and Natura 2000, but should rather be evaluated on a case by case basis. An external, independent and objective environmental impact assessment should be mandatory, as should be a strategic environmental assessment before including a cost-benefit analysis also comparing inland navigation with alternative transport modes such as the railway sector.

In summary, sustainable and integrative adaptation strategies are clearly needed for the transport sector. This is especially the case for natural rivers, but also for artificial waterways like canals that need significant water supply for operation due to continuous inevitable water losses. Water supply and the sustainable distribution of this limited resource among societal sectors represent major issues in European policymaking in the 21st century and become more and more critical. Research knowledge and practical water management experience show that especially under climate change conditions, the potential of technical solutions is very limited and cause a high environmental impact. Nature-based solutions should be prioritised to allow sustainable water management as well as catchment management for all sectors. Sustainable, climate-resilient inland navigation infrastructure should be designed to cope with the actual conditions of the dynamic natural aquatic ecosystems in a flexible way, in contrast to the current non-sustainable system of adapting rivers to a certain, ever larger navigation class. Ecosystems cannot be heavily manipulated to meet the current, often already outdated technology of inland navigation without massive impact upon its ecological and hydrological functions. Additionally, rivers have a negative greenhouse gas emission balance if dammed, because of resulting increased eutrophication and methane production, and also the evaporation of the limited water resources increases. If inland navigation infrastructure is further developed with the outdated approaches of the past, it will never become the environmentally and climate-friendly mode of transport that EU policy desires and plans it to be.

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