



Freshwater Biodiversity – a Significant Water Management Issue in the Danube River Basin

In a healthy status, aquatic ecosystems provide multiple services to human society, such as provisioning of oxygen, food, drinking water, genetic resources, recreational areas, regulation of humidity and climate, water purification, mitigation of floods/droughts, etc. In other words, our life and well-being depend on the well-functioning of the aquatic ecosystems. However, freshwater ecosystems are the most affected by unsustainable human activities worldwide, with a biodiversity decline of 83% recorded between 1970 – 2014¹.

For the first time, stakeholders perception on global risks has shown high environmental concern: the assessment conducted by the World Economic Forum, ranked the impact of climate action failure, biodiversity loss and water crisis among the top 5 risks over the next decade².

Aquatic ecosystems are of particular importance, considering that they are essential for life and they provide high incomes: e.g. the EU's water-dependent economic sectors generate €3.4 trillion, or 26% of the EU's annual gross value added, and employ around 44 million people³. Moreover, ecosystem restoration is expected to bring additional benefits, both for biodiversity and human communities: studies on ecosystem services provided by restored rivers indicate that the benefits outweigh the costs³. However, a report of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) highlights that biodiversity, including in aquatic ecosystems, is under serious threat in Europe⁴

The European Union places an increasing focus on environmental protection as a way to ensure sustainability and to increase ecosystem resilience to global environmental challenges. The EU Water Framework Directive (WFD) requires the monitoring of biological quality elements (BQE: fish, invertebrates, macrophytes, phyto-benthos, phytoplankton). In order to assess the ecological status of water bodies. The same directive requires also to fully take into account the objectives of the Nature Directives^{3,5}. However, the implementation of integrated measures of water and nature directives still lags behind, affecting severely aquatic biodiversity. Nearly 20 years after the adoption of WFD, the fitness check performed by the European Commission³ highlights that the lack of political will from governments to deal with the main pressures on freshwater ecosystems, lack of funding and lack of integration with sectorial policies are the main challenges to sustainable water management in Europe.

The introduction of Invasive Alien Species (IAS) contributes to the deterioration of native biodiversity, affecting the status of the aquatic ecosystems. Compliance with the IAS Regulation⁶ can therefore support the achievement of good ecological status in water bodies as more diverse systems are

¹ WWF, 2018. Living Planet Report. 2018: Aiming higher. Gland, Switzerland, 144 pp (p. 75 and 54).

² World Economic Forum, 2020. The global risks report 2020. Geneva, Switzerland, 96 pp (Fig.II and p. 31)..

³ SWD 439. 2019. Commission Staff Working Document. Fitness Check of the Water Framework Directive, Groundwater Directive, Environmental Quality Standards Directive and Floods Directive. Brussels, 10.12.2019.

⁴ IPBES, 2018. The IPBES regional assessment report on biodiversity and ecosystem services for Europe and Central Asia. Rounsevell, M., Fischer, M., Torre-Marín Rando, A. and Mader, A. (eds.). Secretariat of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

⁵ WFD Art. 6, Art. 8.1 ii), Art. 11, An. IV, VI and VII detail the elements addressing nature protection to be included in the river basin management plans.

⁶ Regulation No 1143/2014 of the European Parliament and of the Council on the prevention and management of the introduction and spread of invasive alien species. 22.10.2014.

more resilient and less prone to invasion. Additionally, climate change is of particular concern, as it accelerates ecosystems degradation and the loss of biodiversity and services they provide. In Europe, the costs for not adapting to climate change were estimated at €100 billion per year in 2020 and €250 billion in 2050⁷.

The recent EU documents on Green Deal⁸, Biodiversity 2030 Strategy⁹ and the Farm to Fork Strategy¹⁰ present a complex set of initiatives to restore and integrate biodiversity into our lives, aiming, among others, to curb the CO₂ emissions and become climate neutral by 2050, reduce the use of pesticides and nutrients in agriculture, and restore at least 25 000 km of EU rivers to a free-flowing state.

Taking into account that:

- The climate change already affects freshwater habitats and species, in particular alpine and lowland ecosystems, which consequently affects BQEs and ecological status of the water bodies,
- Recent EU documents aim to enhance biodiversity conservation,
- For the implementation of the Water Framework Directive, a better integration with the Nature Directives and Invasive Alien Species Regulation is needed, thus requiring ample knowledge of aquatic biodiversity/ecology,
- Most EU member states are signatories of the Convention on Biological Diversity, Bern Convention, Bonn Convention, all supporting wildlife conservation, including aquatic biodiversity,
- UN Member States have committed to implement the Sustainable Development Goals (SDGs), where SDG 14 specifically addresses “Life under water”, aiming to enhance aquatic biodiversity,
- For 2021, the EU aims to propose a new UN Global Biodiversity Framework and a new Climate Change Adaptation Strategy, both relevant for aquatic biodiversity,

In the light of the recent EU legislation, supporting aquatic biodiversity conservation and the implementation of the Water Framework Directive,

We urge policy makers to strengthen cooperation with relevant environmental stakeholders and launch concerted actions to reduce the current impacts on freshwater biodiversity, thus preventing to lose more aquatic habitats, species and the services they provide,

We therefore propose:

- to foster the integration of the measures proposed by the recent EU Green Deal, EU Biodiversity Strategy 2030 and Farm to Fork Strategy in the Danube and national River Basin Management Plans,
 - to declare freshwater biodiversity a Significant Water Management Issue in the Danube Basin,
 - to establish a dedicated **Freshwater Biodiversity Task Group** within the ICPDR, in order to work further on the integration of water and nature measures with the requirements of IAS Regulation, Biodiversity 2030 Strategy, Green Deal, Farm to Fork Strategy, and the upcoming EU Climate Change Adaptation Strategy and Global Biodiversity Framework, to enhance aquatic biodiversity status in the Danube Region and its integration into WFD measures and the sectorial policies.
- a) The **Freshwater Biodiversity Task Group** can then support the Danube countries in the implementation of **legally binding tasks** related to aquatic biodiversity, such as a) elaboration of special WFD monitoring programs in protected areas, as required by EU WFD Art. 8 1. ii) mentioning that "for protected areas the above [monitoring] programs shall be supplemented by

⁷ The EU Strategy on Adaptation to Climate change. Factsheet.

⁸ COM 640, 2019. Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. The European Green Deal. Brussels, 11.12.2019.

⁹ COM 380, 2020. Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions EU Biodiversity Strategy for 2030 Bringing nature back into our lives. Brussels, 20.05.2020

¹⁰ COM 381, 2020. Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system. Brussels, 20.05.2020

those specifications contained in Community legislation under which the individual protected areas have been established.", b) contribution of measures required under the Birds and the Habitats Directive to the Program of Measures (PoM) according to WFD Art. 11 and An. VI Part A c) the map of the results of the monitoring programs for protected areas established under Birds and Habitats Directives, to be included in the river basin management plan as requested under WFD An. VII; d) elaborating measures to control invasive species, which are an explicit element of WFD reporting in the 3rd planning cycle for all member states under "5.1 Introduced species and diseases" and as one of the Key Types of Measures KTM "18 Measures to prevent or control the adverse impacts of invasive alien species and introduced diseases"¹¹

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¹¹ AQUACROSS project. WFD Policy review. <https://aquacross.eu/sites/default/files/5-Water%20Framework%20Directive.pdf>