Enhancing aquatic biodiversity of the Danube River Basin

IAD recommendations

Dr. Cristina Sandu – International Association for Danube Research
cristina.sandu@danube-iad.eu
Current conservation status – EU freshwater habitats and fish species (HD)

Most of freshwater habitats and fish species - unfavourable status (red, yellow dots)
Ecosystems need long time to recover

Not likely to achieve WFD/HD goals without significant improvements
Environmental friendlier detection methods available – eDNA

Detects DNA traces left in the environment by aquatic organisms

Water filtration required, no capture/trauma of target organisms

One sample – detection of numerous species

Particularly effective in case of endangered species (rare) and benthic fish species (e.g. sturgeons), difficult to capture

Assessment of ecological status based on eDNA (e.g. presence-absence of MZB species) congruent to traditional methods

Useful to compile invasive alien species taxa lists in the Danube Basin

No need to further remove rare individuals from the environment and jeopardize species conservation
Projections of climate change impacts in the Danube River basin

If climate targets are not met, dramatic changes will occur in summer by the end of the century:

- Decrease of precipitation – up to 30%
- Increase of temperatures – up to 7°C
- Decrease of Danube discharge – up to 75%

Nature based solutions for adaptation to climate change – to be urgently implemented

(Ionita et al, 2021)
Climate related events, biodiversity loss and water crisis rated among the top five global risks (WEF, 2020).

Ecosystem preservation/restoration - enhance resilience and mitigation of climate change impacts.

Working with nature and enhancing ecosystem services is at the centre of nature-based solutions to climate change adaptation and disaster risk reduction

Participatory approach and inclusion of stakeholders perspectives – fundamental for ensuring effectiveness and public acceptance

Nature based solutions – a key element of EU climate adaptation policy

Implementing nature-based solutions on large scale - increase climate resilience and contribute to multiple Green Deal objectives.

Nature-based solutions are essential for sustaining healthy water, oceans and soils.

Europe needs to leverage more investments in nature-based solutions to generate gains for adaptation, mitigation, disaster risk reduction, biodiversity, and health

Ensuring freshwater availability in a sustainable manner is fundamental for climate resilience.
IAD recommendations

- Use the financial and legal tools provided under the EU Green Deal and the new MFF to implement more nature restoration solutions and increase resilience to climate change (adequate funding in the JPM).
- Establish a **Freshwater Biodiversity Task Group** within the ICPDR - integration of water and nature directives.
- Assess **aquatic biodiversity status** in the Danube River Basin and identify key actions to improve the conservation status of species/habitats.
- **Adaptive management** - gradually include the identified measures addressing biodiversity integration in the DRBMP.
- Maintain the hydromorphological integrity of freshwater habitats and establish ecological corridors.
- Explore the possibility to **declare freshwater biodiversity a Significant Water Management Issue (SWMI)** in the Danube Basin.