

Mainstreaming Ecological Restoration in Freshwater Ecosystems

In recent decades, ecological restoration has emerged as a key solution to halt degradation and accelerate the recovery of ecosystems' physical, chemical, and biological integrity to ensure their functionality over time. On 23 March 2024, nearly 200 people from more than 35 countries gathered (in a hybrid virtual/in person discussion) for a half day discussion about integrating science, policy, and law to mainstream ecological restoration in freshwater ecosystems.

This side event of the UN 2023 Water Conference was hosted by University of Évora, Society for Ecological Restoration, Water 4 All, and Pan African Vision for the Environment (PAVE), and it was held at the European Union Permanent Delegation to the UN offices. It included three panel discussions focused on a diversity of challenges, opportunities, and case studies.

Key themes from the discussions included:

- Legal frameworks are currently insufficient and ineffective; they are largely reactive, with few pro-active legal mechanisms for obligating ecological restoration in freshwater or other ecosystems outside of the mitigation and compensation context.
 - The lack of a common and commonly understood legal definition for ecological restoration is resulting in broadly varied applications of restoration that result in inconsistent and potentially ineffective outcomes. Adoption of a legal definition of ecological restoration can help address this.
 - As frameworks are developed, they should be based on, and incorporate generally accepted standards, evidence-based decision making, and the need for trained and skilled restorationists.
 - Frameworks should effectively balance ecological, social, and economic considerations.
- Legal, regulatory, and policy frameworks are needed to drive transformational change at the governmental, society, and personal levels.
- Effective and proactive management of aquatic resources must be part of any holistic approach to addressing the climate change, biodiversity, desertification, and pollution crises.
- Aquatic ecosystem restoration must be approached holistically as well.
- While gaps persist, progress is happening across the world, including:
 - Pending adoption of a new European Union Nature Restoration law – potentially a global first of its kind that has the opportunity to create models for other parts of the world.
 - Proposal of a new legal principle for ecological restoration, based on ecological restoration principles and standards, and intended to create a pro-active legal approach to driving restoration.
 - Expanding uptake and use of global ecological restoration principles and standards.
 - Programs to link restoration to climate action, including, e.g. ReWet, MERLIN, and others.
 - Expanding efforts to address microplastic pollution in freshwater ecosystems.

Participants agreed and recognized that, while more research is always needed, we have ample knowledge to develop and implement effective legal, regulatory, and policy frameworks to expand and enhance freshwater restoration. Climate change, water management, and restoration are connected, but water management is too infrequently recognized in climate discussions. This gap must be

addressed through any developing frameworks. One important opportunity could be to amend the UN Water Convention and other related conventions to better define and address these issues.

As the Secretary General of the United Nations stated at the open ceremony of the UN 2023 Water Conference, it is time for game-changing commitments. In this context, three of the co-hosts, University of Évora, Water 4 All, and Society for Ecological Restoration signed a commitment to support this work. They were enthusiastically joined by an emerging professional who participated in the session and requested to also sign on behalf of the next generation.

The commitment promotes the adoption and use of standards-based ecological restoration of inland and coastal aquatic systems in order to achieve the objectives of the UN Decade on Ecosystem Restoration, and to deliver ecological and social net gain by restoring these systems. Signatories will commit to carry out individual and joint actions to promote, assess and demonstrate restoration standards in different societal dimensions, in line with the SDGs 6 and 15.