



Reporting Sheet

European River Symposium 2021

EU Biodiversity Strategy 2030 and EU Green Deal shaping Europe's Water Management.

Strengthening the efforts to protect, restore and better manage rivers in Europe

Session name/number: Restoring wetlands to improve river status (8)

Name and organisation of reporter: Tobias Salathé, Convention on Wetlands

Date: 26 May 2021

Time: 16:00 – 16:45

European initiatives such as the Water Framework Directive and the newly released Green Deal and Biodiversity Strategy offer new hope that with the right use of legal and legislative tools together with dialogue and cooperation between sectors using and affecting rivers that their condition and health can be improved. This challenge is to be addressed at the local, regional and national levels. Promotion of healthy ecosystems, green infrastructure and nature-based solutions should therefore be systematically integrated in policies and planning, specifically in urban areas.

The symposium will discuss, explore, and propose new institutional cooperation, integrative approaches, various innovations, guidance, education, training, financing, and funding mechanisms therefore needed. The symposium will seek how to include, by developing nature-based solutions in combination with suitable financing and funding mechanisms, the Climate Pact actions into the Integrated River Basin Management Plans and implementation.

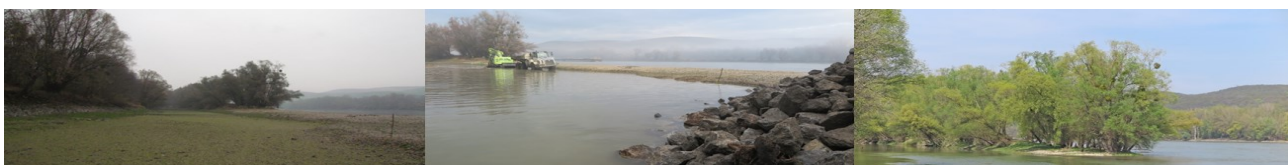
Session 8 took as a starting point the operational tools elaborated for floodplain managers by the Convention on Wetlands, summarized in the Ramsar Handbook 9 on [River basin management](#). This how-to-do guidance was tested with several floodplain wetland restoration projects and their lessons learnt on the ground.

The ERS will focus on being:

- Dynamic and interactive with Policy Briefs setting the stage and discussions and panels that ensure dialogue and interaction among participants
- Ensure active involvement of sector impacting on rivers (i.e. agriculture, producing industry, water utilities, energy, navigation, tourism)
- Provide an integrated perspective on ecological river restoration to implement the Water Framework Directive and related Directives.

The ERS will achieve the following deliverables:

1. Narrative conference report



2. *Renewed / extended (symposium) partnership*
3. *Demonstrative case studies*
4. *Conference statements*
5. *Concrete proposals on specific subjects*
6. *Combined action plans of conference partners*
7. *Conference conclusions and recommendations*
8. *Thematic policy briefs*
9. *Guidance documents*

1. What are the key questions should be answered in your session in relation to the conference statements? (See above; At least three key questions to be formulated before the conference)

These three key question apply to all 3 panelists.

Elaborated key question 1

Which multiple-benefits creates the wetlands-based solution that you are presenting? Please specify how it contributes to environmental (biodiversity), societal (well-being, disaster risk reduction) and economic (livelihoods, sustainable business) improvements?

Elaborated key question 2

What are your arguments in favour of the wetlands-based solution you are presenting? Why are these **wetlands-based solutions better** than more traditional solutions (in economic, societal, environmental terms)?

Elaborated key question 3

What is different with the wetlands-based solutions that you are presenting compared to earlier interventions, restoration and managing activities?

2. What were the answers from the sessions to the key questions.

The panelists presented three complementary aspects as a response to the key questions formulated before the session. Providing in-depth responses to the questions would have been possible only for a very few advanced floodplain restoration projects. Aiming to use the limited time of the session most efficiently, the panelists presented three different aspects of complementary nature. By doing so, they hope to encourage wetland restoration projects to become more inter-disciplinary and to include cooperation among different professional sectors.

The first panelist focused on the need to obtain an overview of the wetland ecosystems in the river catchment, by assessing their degradation, prioritize those to be restored and estimating the restoration costs and the economic benefits thus created. The second panelist focused on the need for a circular approach when restoring vegetated wetland buffer zones along river stretches with re-naturalized shores. Such restoration efforts should take any wetland type into account and focus on the most effective areas rather than trying to establishing buffer zones along all river stretches. This will substantially reduce restoration costs, which are likely covered within 4-5 years already through restoration benefits created. The third panelists developed this restoration concept one step further by promoting paludicultural activities to be undertaken to produce sustainable crops on rewetted soils that harbour at the same time typical and rare peatland species.

3. What are the deliverables of the session? (See above; The deliverables should be defined before the conference)



Short summary deliverable 1.

Assessment and spatial planning for peatland conservation and restoration in the Neman river basin (Michael Manton, Lithuania)

The catchment basin of this lowland river is shared between Lithuania and Belarus, with small additional parts in Poland and Russia (Kaliningrad). It is one of the few basins with an exhaustive wetland inventory and a recent analysis available. Most of the wetlands form peat soils, mainly fens, with some additional transition mires and raised bogs. As in many catchments, individual wetlands are often disintegrated and patchily distributed. Land-use patterns differ between the catchment countries: They left larger wetland sites in Belarus, but only small patches in Lithuania. All Lithuanian wetlands are impacted by drainage. In Belarus, only the wetlands along the Berezina river are not impacted. The remaining wetlands in Poland are all protected (including by EU Directives) and cover areas in their respective catchment basins, that are much larger than the 17% Aichi target for Protected Areas established by the Biodiversity Convention, or the more ambitious 30% goal of the recent EU Green Deal. Gap analyses of the wetland inventories in the four countries allow to identify the restoration priorities for specific wetland ecosystems (overall 35,000 ha). They are completed by an economic analysis showing the costs of the restoration measures (overall 70 million EUR) and the benefits that will likely be created for water purification, nitrogen and phosphorus removal and long-term carbon storage (20 million EUR/year). Even without accounting for additional biodiversity benefits, the estimations show, that the costs of restoration would be entirely covered by their benefits already after 3.5 years.

Short summary deliverable 2.

Circular economy approach to river pollution from agricultural nutrients using carbon-storing ecosystems

(Wiktor Kotowski, Poland)

The main source of lowland river water pollution are agricultural runoffs. To prevent polluted water to enter the river, restoring vegetated wetland buffer zones along re-established natural river banks in the floodplain is a cost-effective means to reduce non-point nutrient loads in river water. The upper Narew river catchment in Poland (covering 5% of the country's surface) was used to calculate the costs of upscaling local wetland restoration efforts to the entire river catchment. Creating wetland buffer zones along the upper Narew and along all its tributaries would significantly reduce nitrogen and phosphorus loads in the river water and cost about 170 million EUR. However, this programme could be improved by targeting the restoration efforts to the most relevant floodplain wetlands on mineral soils and oxbows only, and by rewetting specifically selected riverine fens (covering together about 90,000 ha). Such a targeted programme would reduce N and P about half as much as the larger programme covering all river stretches, but would cost only 5% (9 million EUR) of the comprehensive programme. Public authorities and private investors are much more likely to support such targeted restoration programmes with limited costs and assured benefits.

Short summary deliverable 3.

Paludiculture and rivers

(Wendelin Wichtmann, Germany)

In lowland river floodplains, peat accumulating fens do not only remove nutrients and pollutants from the river water, but produce also significant amounts of biomass. Such fens can be protected and left to evolve according to natural patterns, providing habitat for biodiversity. However, in many areas formerly used for agriculture or forestry, rewetting drained fens can create new ecosystem services and assures renewed accumulation of dead plant material as peat, i.e. providing a long-term carbon sink. Agriculture on drained floodplain peatlands requires a paradigm shift from drained to managed wet lands. Different commercially exploitable plants grow well in rewetted floodplains, such as reed, cattail, canary grass, sedges, alder trees and peat mosses can be cultivated in formerly degraded bogs. Such paludiculture plots on peatlands in northern Germany showed nitrogen emission reduced by a factor of 12 compared to drained, intensively used grasslands. Nowadays the technical machineries exist to harvest paludicultural crops from rewetted plots for roofing, constructions, mats, information material, fodder, biogas production, food, medicinal use.



4. What were the answers / contributions of the sessions to the ultimate goal of increased uptake of partnerships and cooperation between sectors leading to better outcomes?

The panelists stressed the need for increased cooperation between professionals of different sectors, disciplines and faculties, i.e. scientific studies need to analyse agricultural practices and their effects on local economies and the environment. Ultimately, such inter-sectoral cooperation will lead to sustainable development that provides benefits for specific floodplain and river biodiversity, allows nutrient and pollutant removal from groundwater and river surface waters, improves water retention capacities in floodplain wetlands which are relevant for the entire water catchment basin, and allows different stakeholders to develop a true ownership of common sustainability projects.

5. What were the answers / contributions of the session to the needed capacities, resources and (political) support?

Estimating the financial needs for restoration programmes and assessing alternative methods that could substantially reduce costs, notably when providing nature-based solutions, is becoming a priority need to convince investors, that wetland-based solutions are better in the long term. The acknowledgment of the need to restore wetlands to improve the quality of river water and floodplains is just at its beginning and needs to be brought to other audiences beyond the usual dedicated environmental specialists. This requires increased communication and outreach that creates more political support. Producing paludiculture crops will support local economies and consumer demand for specific, locally produced sustainable products.

6. What were the answers / contributions of the session to (institutional) capacity development: e.g. management, stakeholder involvement, acquiring funds, skills needed?

We need to make more efforts to understand other stakeholders' problems and to take them into account when proposing solutions to be accepted by all.

7. What were the key gaps in knowledge defined by the session?

A remaining shortcoming is the fact that environmental specialists largely communicate among themselves.

8. What were the specific Issues raised in the session by the audience?

Issue 1.

A good way of promoting good river floodplain restoration tools is to invite stakeholders to field-days on-site in the floodplain to show the concrete problems on site, necessary activities and results.

Issue 2.

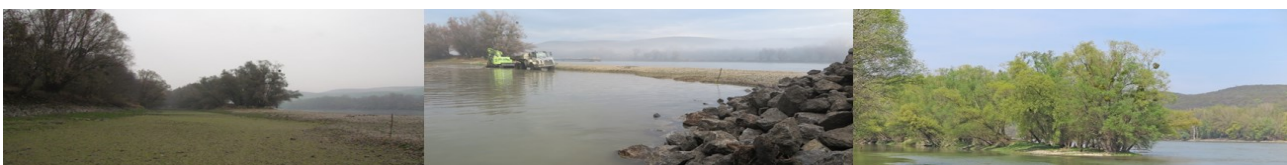
During the last 200 years, we have lost an enormous amount of wet floodplain grasslands in Europe. With this habitat loss, much biodiversity, freshwater mussels, invertebrates as a fundamental part of the food-chain and many typical wet grassland birds have disappeared as well.

Issue 3.

9. Please write down some inspiring remarks by presenter or audience literally, quotes!

Quote 1.

Floodplain peatland restoration is a low-hanging fruit and should be inspired by experiences gained from forest restoration activities aiming for multiple benefits for societies, the environment and the economy.



Quote 2.

We need to go wider for river floodplain restoration and push the nature-based solution agenda into different sectors.

Quote 3.

The paludiculture approach is a concession to farmers with which a greater acceptance for rewetting of peatlands and wetlands can be achieved.

10. Any other comments: think about best practices, lessons learned, etc. that you have not mentioned above.

The American 'WetlaCulture' approach to deal with wetlands (Ohio University) was mentioned, but generally considered not comprehensive enough. It must be assumed that this will increase the dynamics in wetlands, combined with an increase in material emissions (GHG and nutrients), but generally considered not to be inclusive enough. It must be assumed that the dynamics in the wetlands are increased and thus causes material emissions (GHGs and nutrients).

