

## Wetland restoration for the future - ALFAwetlands

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The global goal to mitigate climate change (CC) is to achieve net zero greenhouse gas emissions (GHGE) by 2050; the European Union (EU) aim is to cut GHGE at least by 55% already by 2030. These ambition targets require new GHGE mitigation measures across all land use sectors (LULUCF), where wetlands, as carbon (C) rich ecosystem, can effectively contribute to climate targets, biodiversity, and water-related ecosystem services. Natural peatlands accumulate C effectively due to water-logged conditions. However, they can turn into high GHG sources if they are drained, therefore there is still need to enhance knowledge regarding how and/or how much C is sequestered or released by peatlands after their restoration, as well as the socioeconomic effects.

“ALFAwetlands - Restoration for the future” ([www.alfawetlands.eu](http://www.alfawetlands.eu)) is a Horizon Europe funded project (2022-2026), which is coordinated by Luke and carried out at local to EU levels with 15 partners across Europe. It’s main goal, in short, is to mitigate CC while supporting biodiversity and ecosystem services (BES) and being socially just and rewarding. This includes, e.g., increasing the knowledge about C storage and release in peatlands, specifically after restoration. While, in terms of C fluxes, focussing on peatlands, the project scope is larger and includes additionally floodplains, coastal wetlands and few artificial wetlands. ALFAwetlands will develop and indicate management alternatives for wetlands including such that have been or will be restored during this project. Measures under this project are not restricted to ecological restoration but include rehabilitation and re-vegetation action to improve ecosystem conditions (e.g., peatland forest: continuous-cover-forestry, cultivated peatlands: paludiculture). Studies are conducted in 9 Living Labs (LL’s) including 30 sites, which are located in wetlands in different parts of Europe (north-south gradient). At the local level, LL’s support and integrate interdisciplinary and multi-actor research on ecological, environmental, economic, and social issues. Experimental data from local sites are scaled-up and will be utilized e.g., by models to gain and understanding the potential impacts of upscaled wetland restoration measures. To achieve ALFAwetlands goals, 5 research workpackages are being implemented, namely: 1)improve geospatial knowledge base of wetlands, 2)co-create socially fair

and rewarding pathways for wetland restoration, 3) estimate effects of restoration on GHGE and BES, with the data achieved from field experiments, 4) develop policy relevant scenarios for CC and BES, and 5) study societal impacts of wetland restoration. The project will also encourage stakeholders to utilise outputs and support their active participation in wetland management.