

Freshwater Restoration under the Nature Restoration Regulation

This Policy Brief is part of a series aiming to inform policymakers involved in the implementation of the EU Nature Restoration Regulation (NRR) with policy recommendations based on the results of the BiodivRestore funded projects.

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The key research results presented were co-drafted and validated by coordinators from the BiodivRestore funded projects [COSAR](#), [FreshRestore](#), [ForestFisher](#) and [RESTOLINK](#).

The BiodivRestore Cofund Action

BiodivERsA and Water JPI launched in October 2020 a joint call to support research on “Conservation and restoration of degraded ecosystems and their biodiversity, including a focus on aquatic systems”. The call was co-funded by the European Commission.

22 research projects were funded through this joint call for 21.3 million euros.

References and Resources

COSAR

- [COSAR project page](#)
- [COSAR webpage](#)
- Website [project overview](#)
- End report

FreshRestore

- [FreshRestore project page](#)
- [FreshRestore website](#)
- Kangosjärvi H., Amundsen P.-A., Byström P., Finstad A.G., Power M., Sánchez-Hernández J. & Eloranta A.P. 2024. Environmental drivers of food webs in charr and trout-dominated cold-water lakes. *Fish and Fisheries* 25: 858–875. Available from: <https://onlinelibrary.wiley.com/doi/10.1111/faf.12851>
- End [presentation](#) Biodiversa conference
- End report

ForestFisher

- [ForestFisher project page](#),
- [ForestFisher website](#),
- [ICTIO fish tracking tool](#)
- Project publication: Caldas B, Thieme ML, Shahbol N, Coelho ME, Grill G, Van Damme PA, Aranha R, Cañas C, Fagundes CK, Franco-Leon N, Herrera-Collazos EE, Jézéquel C, Montoya M, Mosquera-Guerra F, Oliveira-da-Costa M, Paschoalini M, Petry P, Oberdorff T, Trujillo F, Tedesco PA, De Brito Ribeiro MCL (2022). Identifying the current and future status of freshwater connectivity corridors in the Amazon Basin. Conservation Science and Practice e12853, 1-21. Available from: <https://www.documentation.ird.fr/hor/fdi:010086760>
- End [presentation](#) Biodiversa conference
- End report (info on stakeholder engagement, species distribution modeling, connectivity assessment, scenario modelling)

RESTOLINK

- [RESTOLINK project page](#)
- [RESTOLINK website](#)
- Bega et al. 2024. Dam removal effects on carbon processing in a mountainous Mediterranean stream. Science of the Total Environment 954:176672. Available from: <https://www.sciencedirect.com/science/article/abs/pii/S0048969724068281>
- End [presentation](#) Biodiversa conference
- End report

Other

- The [EU Nature Restoration Regulation](#)

Table 1: Overview of recommendation linkages to NRR Articles and key supporting evidence and tools

| NRR Article | Recommendation | Evidence base |
|--------------------|--|--|
| Articles 4, 9 & 15 | Identify and prioritise freshwater restoration opportunities using catchment-scale environmental assessments | COSAR (analysis of 226 European river restoration projects) |
| Articles 20 & 21 | Establish a restoration monitoring protocol that considers biodiversity and ecosystem functioning indicators | RESTOLINK (hydromorphology–biodiversity–ecosystem functioning framework) |

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| Articles 4 & 9 | Design restoration measures to address multiple interacting pressures | FreshRestore (ecological modelling, stable-isotope analysis, and multi-stressor assessments) |
| Articles 4, 14, 15, 20 & 21 | Embed participatory monitoring and knowledge exchange in freshwater restoration programmes | ForestFisher (ICTIO platform) and FreshRestore (stakeholder engagement activities) |
| Articles 4 & 9 | Improve freshwater connectivity through network-scale restoration planning | ForestFisher (species distribution modelling, riparian connectivity assessments, and climate-land use scenarios) |
| Articles 15, 20 & 21 | Develop shared technical guidance and data standards for freshwater restoration | RESTOLINK (harmonised monitoring protocols and transferable assessment frameworks) |