



HAL
open science

Identifying ten critical points when implementing projects for restoration of ecological river connectivity: An interdisciplinary perspective

Maria Alp, Fanny Arnaud, Carole Barthélémy, Ivan I. Bernez, Anne Clemens, Marylise Cottet, Simon Dufour, Marie-Anne Germaine, Christelle Gramaglia, Stéphane Grivel, et al.

► To cite this version:

Maria Alp, Fanny Arnaud, Carole Barthélémy, Ivan I. Bernez, Anne Clemens, et al.. Identifying ten critical points when implementing projects for restoration of ecological river connectivity: An interdisciplinary perspective. 14th European Conference on Ecological Restoration, Society for Ecological Restoration, Aug 2024, Tartu, Estonia. hal-04804308

HAL Id: hal-04804308

<https://hal.inrae.fr/hal-04804308v1>

Submitted on 26 Nov 2024

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Distributed under a Creative Commons Attribution 4.0 International License

IDENTIFYING TEN CRITICAL POINTS WHEN IMPLEMENTING PROJECTS FOR RESTORATION OF ECOLOGICAL RIVER CONNECTIVITY: AN INTERDISCIPLINARY PERSPECTIVE

Maria Alp¹, Fanny Arnaud², Carole Barthélemy³, Ivan Bernez⁴, Anne Clemens⁵, Marylise Cottet², Simon Dufour⁶, Marie-Anne Germaine⁷, Christelle Gramaglia⁸, Stéphane Grivel⁹, Céline Le Pichon¹⁰, Laurent Lespez¹¹, Marie Luson⁸, Oldrich Navratil¹², Hervé Piégay², Jérôme G. Prunier¹³, Anne-Julia Rollet⁶, Evelyne Tales¹⁰, Nicolas Lamouroux¹

¹UR RiverLy, INRAE, France

²UMR 5600 EVS, CNRS, ENS de Lyon, France

³Laboratoire Population Environnement Développement, UMR 151, Aix-Marseille Université, France

⁴UMR DECOD, Institut Agro, France

⁵GRAIE, France

⁶UMR 6554 LETG, Université Rennes 2, France

⁷UMR LAVUE 7218, CNRS, Université Paris Nanterre - Mosaïques, France

⁸UMR G-EAU, INRAE, France

⁹AgroParisTech, France

¹⁰UR HYCAR, INRAE, France

¹¹UMR 8591 LGP, CNRS, Université de Paris-Est Créteil, France

¹²UMR 5600 EVS, Université Lumière Lyon 2, France

¹³Station d'Ecologie Théorique et Expérimentale, UAR 2029, CNRS, France

Abstract

Projects aiming at restoration of ecological river connectivity are at the centre of an important controversy taking place in the French public arena for several years. The implementation of the national restoration policy is being put into question by several actors. Basing upon the work of an interdisciplinary group of researchers of the French Long-Term Socio-Ecological Research Network (Réseau des Zones Ateliers, CNRS), we first synthesize currently known biophysical and socio-economic effects of connectivity interruption in its longitudinal, lateral and vertical dimensions. Spotlighting the multitude of pressures riverine ecosystems are exposed to, the variability of territorial contexts and the associated uncertainties, we insist that the decision to restore or not to restore connectivity cannot be based exclusively on science and technical expertise. The (co-)construction of a restoration project should always be inscribed within a project of water resource management at the scale of a territory and accompanied by a democratic decision-making process. We identify ten critical points to take into account at different stages of restoration project implementation in order to collectively define ecological and societal objectives, choose most appropriate restoration measures, evaluate their effects in a robust way, and importantly, achieve projects that would be supported by the stakeholders and local population in spite of the associated uncertainties. We underline the importance of considering several spatio-temporal scales within restoration projects: historical versus future perspective, local versus regional, national or international scale.