



HAL
open science

Toward more effective stream restoration: a demonstration sites network to assess efficiency

Evelyne Tales, Anne Vivier

► **To cite this version:**

Evelyne Tales, Anne Vivier. Toward more effective stream restoration: a demonstration sites network to assess efficiency. Society of Ecological Restoration Europe conference, Sep 2021, on line, France. ⟨hal-03613515⟩

HAL Id: hal-03613515

<https://hal.inrae.fr/hal-03613515v1>

Submitted on 18 Mar 2022

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.



HAL Authorization

Toward more effective stream restoration: a demonstration sites network to assess efficiency.

Author(s): Tales, Evelyne¹; Vivier Anne²

Affiliation(s):

¹*University Paris Saclay, INRAE, Research Unit Hydrosystems under changes, France*

²*OFB, Office for Biodiversity, France*

E-mail: evelyne.tales@inrae.fr

Abstract: Hydromorphological river restoration has been encouraged since the publication of the Water Framework Directive all over Europe in 2000, in order to improve the ecological status of running waters. Thus, numerous restoration operations have been conducted with various objectives: restoring ecological continuity, increasing river habitat heterogeneity, etc. However, it is often impossible to conclude on their efficiency as many of these operations lacked suitable monitoring or had flaws in their design.

European projects concerning water bodies (e.g. Reform ERC, Walphy Life Environment) attempted to resolve this matter by analysing restoration outcomes of selected case studies. They provided a set of good practices to ensure more effective restoration. At the same time, it is also necessary to better plan restoration projects from conception to implementation, to improve monitoring and thus understanding of the processes sustaining successful restoration.

Since 2010 in France, such an approach is realised as part of the Demonstration Sites Network. Coordinated by the French Office for Biodiversity (OFB), it results from a collaboration involving practitioners, stakeholders and researchers. It currently includes about 40 sites, which are subject to restoration works. The methodological framework developed for this network comprises several key elements to allow for a robust assessment of restoration efficiency. On these sites, a scientific long-term monitoring is conducted following a BACI (Before After Control Impact) design and using standardised protocols for data collection. Guidance documents concerning monitoring have been published to support restoration approach at a site scale. A guiding procedure for the restoration project evaluation is currently being developed. Finally, this network is also a tool to promote adaptative management.

Keywords: Rivers, restoration strategy/planning, evaluation and monitoring