Guidance and decision support for cost-effective river restoration

Much of the knowledge developed in REFORM has found its way to over 50 peer-reviewed papers in scientific journals. But how can we make this knowledge available for practitioners? That was the challenge for REFORM Work Package 6 “Applications and tools”. The work package team developed a web-based information system, or wiki, along with a separate document for guidance. This document, deliverable D6.3 of the project, provides guidelines and decision support for cost-effective river restoration and its benefits. It summarizes the contents of the wiki and serves as a portal to the system.

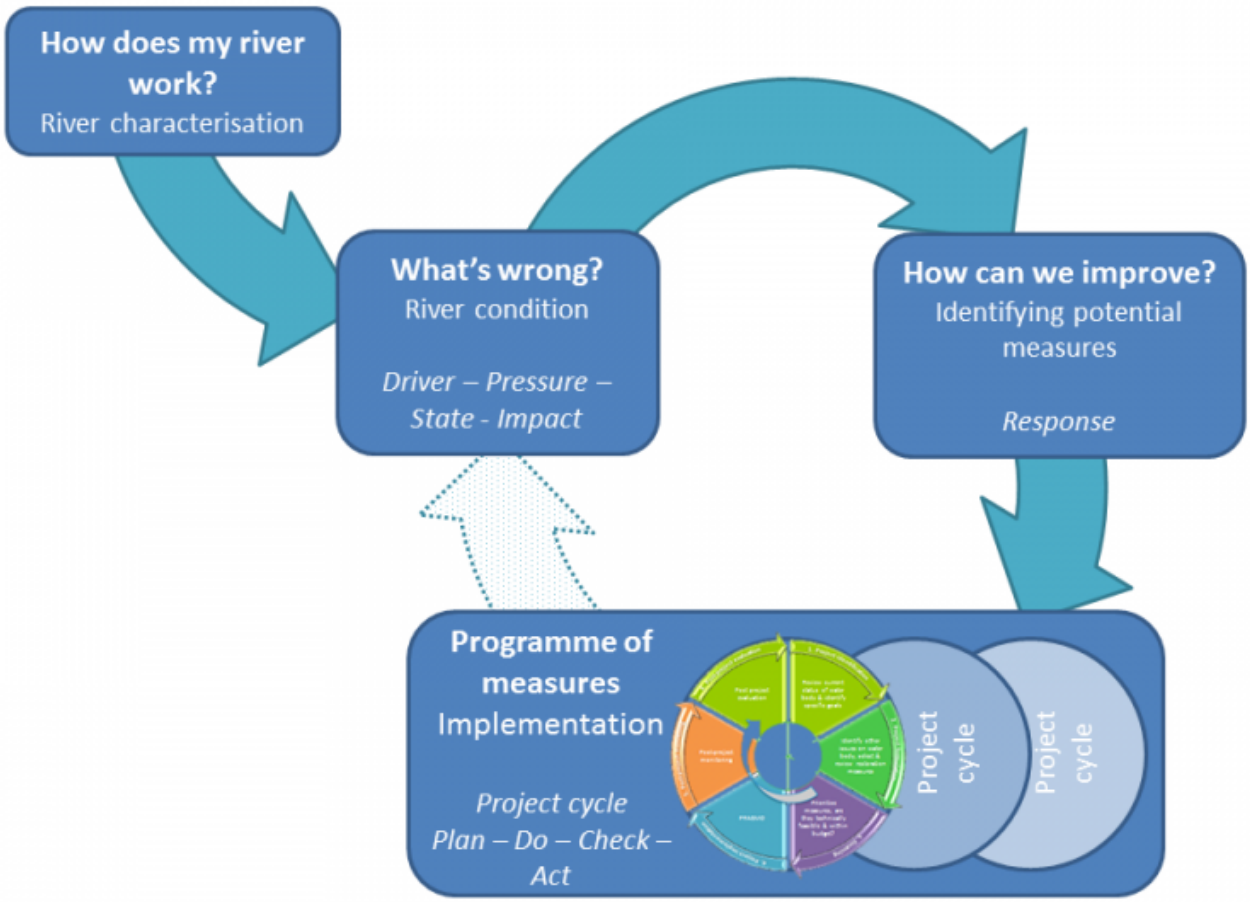

Figure 1: “What’s in this wiki?” (source: REFORM Wiki web page)

Structure along the planning process for river restoration

The REFORM guidance and decision support document and the wiki have been structured along the planning process for river restoration. This process is cyclic, but requires understanding of the river first. The guidance thus starts with the question: **How does my river work?** A key step for this is hydromorphological characterization, looking at rivers from a perspective that discloses the relevant processes and forms. Hydromorphology is a matter of water and sediment, but also of riparian and aquatic vegetation interacting with water and sediment. This makes both geomorphological and ecological processes relevant. REFORM developed a multiscale hierarchical framework for this hydromorphological river characterization.

REFORM has received funding from the European Union’s Seventh Programme for Research, Technological Development and Demonstration under Grant Agreement no. 282656.

The next question is: **What's wrong?** Here REFORM developed a coherent set of methods and tools for practical assessment and monitoring of hydromorphological conditions, building on understanding the river in the multiscale hierarchical framework (see article on methods and tools in this REFORM newsletter). The assessment comprises four stages: (1) delineation and characterization of the river system; (2) assessment of past temporal changes and current river conditions; (3) assessment of future trends; and (4) identification of management actions.

Figure 2: "What's wrong?" (photo: Erik Mosselman)

This leads to the final question in the planning cycle: **How can we improve?** According to the conclusions of REFORM scientists, there is no single "best measure" for river restoration, but the measure of river widening generally has a high effect. Restoring specific habitats appears more important than merely increasing habitat diversity. It is also worth noting that small restoration projects do work, although we recommend larger projects with a long-term plan.

Wiki

The web-based information system remains our main vehicle for making knowledge available to practitioners and scientists alike. Key information is placed at the highest level. Clickable hyperlinks give access to deeper levels of more detailed information, including REFORM deliverables, scientific publications, and information on existing tools that are relevant for river restoration.

For further information:

REFORM has received funding from the European Union's Seventh Programme for Research, Technological Development and Demonstration under Grant Agreement no. 282656.

Erik Mosselman, Deltares

- Home
- Imprint

Source URL: https://reformrivers.eu/news/365

REFORM has received funding from the European Union's Seventh Programme for Research, Technological