

Abstract Title:

WEQUAL: A Research Project to Support Green Infrastructures

Relevant track:

Erosion and Sediment Control (including Stream Restoration & Natural Channel Design)

Description (max 1500 characters, incl. spaces)

Recently environmental regulations have been growing worldwide, showing a need of biodiversity, health and sustainability. Due to this trend, the ecological role of river stabilization structures has become a priority. Depending on many complex factors, river engineering solutions can support or hinder the development of ecosystems. Understanding and managing these factors are not necessarily straightforward. In this context, the WEQUAL research project creates a simple methodology and a user-friendly tool supported by a web-platform. The main purpose is to support designers and technicians in developing solutions that are not only technically effective but also able to enhance ecosystems. The WEQUAL project, currently under development and funded by the South-Tyrol ERDF (European Regional Development Fund), is proposing a practical tool to assess the current level of environmental quality of rivers and to forecast the long-term status of different design alternatives. The methodology has a quantitative approach and is based on 15 indicators and a large database of river stabilization and restoration solutions. North American and European case studies where the methodology was applied will be presented. Aspects that distance rivers from their natural condition will be discussed together with possible ways to bridge the gap and support the diffusion of green infrastructures.

Learning objectives (max 250 characters each, incl. spaces)

Learning objective 1: Understand how river stabilization structures influence ecosystem quality based on North American and European case studies.

Learning objective 2: Use a simple approach to assess the environmental quality of watercourses and understand the features and the advantages of a user-friendly tool that implements this methodology.

Learning objective 3: Learn the use of a web-platform to compare different river stabilization design scenarios and support the decision-making process.