

[Development and Application of a Multi-scale Process-based Framework for the Hydromorphological Assessment of European Rivers \(Gurnell et al. 2014\) \[1\]](#)

Many current river assessment methods emphasise the river 'reach' scale (a fixed length of river of the order of a few hundred meters) and provide a wealth of useful information that characterises the river corridor at the time of survey. However, they also have several limitations when they are used for understanding physical processes and causes of river alteration. A multi-scale, process-based framework is needed, which incorporates reach scale information into a larger spatial and temporal assessment of the controls on reach dynamics, and a process-based interpretation of the contemporary status of reaches, their historical dynamics and their likely future trajectories of adjustment.

This paper reports on the early development and application of a multi-scale framework that is applicable to European rivers and is aimed at improving understanding of hydromorphological and ecological processes and their interactions. This ongoing research is part of the EU-funded project REFORM (REstoring rivers FOR effective catchment Management) which has the overall aim to provide a framework for improving the success of hydromorphological restoration measures in a cost-effective manner, targeting the ecological status or potential of rivers.

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Gurnell A.M., Gonzalez del Tanago M., Rinaldi M., Grabowski R., Henshaw A., O'Hare M., Belletti B., Buijse A.D. (2014) - Development and Application of a Multi-scale Process-based Framework for the Hydromorphological Assessment of European Rivers. In: Lollino G., Arattano M., Rinaldi M., Giustolisi O., Marechal J.C., Grant G. (Eds), Engineering Geology for Society and Territory, Volume 3, Proceedings IAEG XII Congress, Springer International Publishing Switzerland, p. 339-342.

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