Preface: Effects of hydromorphological river restoration—a comprehensive field investigation of 20 European projects (Kail et al. 2016) [1]

All over Europe, river stretches are being restored to achieve “good ecological status” or “good ecological potential,” the targets of the EU Water Framework Directive. Hydromorphological restoration is one of the most frequently applied methods, including re-meandering, widening, and the re-connection of river and floodplain. Within the EU-funded project Restoring rivers FOR effective catchment Management (REFORM), an international team of scientists has addressed this question, by studying twenty restored river stretches in ten European catchments, always in comparison to a nearby non-restored stretch of the same river. Ten of the restored river sections represented a major restoration effort and a comparatively long restored river stretch, while the other ten restored sections were shorter. The special issue gives insight in the details of the study.

While there is a multitude of individual studies on the effects of hydromorphological restoration on individual species or taxa, comprehensive investigations comparing the effects of restoration on different organism groups are scarce. The available studies, however, imply that restoration often has little effects, in particular on benthic invertebrates, fish, and aquatic macrophytes. The reasons are obscure; one possible cause is that predominantly very short river stretches are being restored, which might not be sufficient to initiate geomorphic processes and support populations of aquatic species.

An overview was published by Hering et al., (2015 [2]). Muhar et al. (2016 [3]) provide background information on the study’s setup and the individual restoration measures and transfers the overall results into recommendations for water management. The other papers report on the detailed results for the individual parameters and organism groups studied: Hydromorphology (Poppe et al., 2016 [4]), aquatic macrophytes (Ecke et al., 2016 [5]), benthic invertebrates (Verdonschot et al., 2016 [6]), fish (Schmutz et al., 2016 [7]), floodplain vegetation (Göthe et al., 2016 [8]), riparian ground beetles (Januschke & Verdonschot, 2016 [9]), food webs (Kupilas et al., 2016 [10]), and ecosystem services (Vermaat et al., 2016 [11]).

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Links
[1] https://reformrivers.eu/preface-effects-hydromorphological-river-restoration%E2%80%94-compre

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[2] http://link.springer.com/article/10.1007/s10750-016-2659-0#CR3
[3] http://link.springer.com/article/10.1007/s10750-016-2659-0#CR6
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