Ecological effects of rehabilitation measures at the Austrian Danube: a meta-analysis of fish assemblages (Schmutz et al. 2014) [1]

Large rivers are worldwide under severe pressure and there is a lack of information on large river restoration. The present paper represents a meta-analysis of available data on river rehabilitation projects performed at the Austrian Danube River consisting of six rehabilitation projects addressing 19 sites.

The overall goal was to analyse the response of fish assemblages to different rehabilitation types based on (1) morphological type ("Instream Habitat Enhancement", "backwater Enhancement", "extended Enhancement"), (2) length of rehabilitation measure (3) time after construction (4) applied monitoring design. Biological metrics evaluated included number of fish species and relative density, habitat guilds and Leitbild species. In total, number of species increases by 55% comparing rehabilitated with unrestored sites. The number of species of all habitat guilds is higher after rehabilitation. The proportion of rheophilic species increased and the community evolved toward a more type-specific community, according to the Leitbild. Significant differences between measure types were not detected. The rehabilitation success depends mainly on its spatial extent. Highest positive response of number of rheophilic species is achieved by a length >3.9 km. The results show that habitat rehabilitation of large rivers is effective if the spatial extent of the measure is in accordance with river size.

Keywords: Rehabilitation, Habitat, Large rivers, Fish, Monitoring, WFD, Austria Danube

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http://dx.doi.org/10.1007/s10750-013-1511-z [2]

Links
[1] https://reformrivers.eu/ecological-effects-rehabilitation-measures-austrian-danube-meta-analysis-fish-assemblages-schmutz-et
[2] http://dx.doi.org/10.1007/s10750-013-1511-z

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