

[The River Gelså restoration revisited: Habitat specific assemblages and persistence of the macroinvertebrate community over an 11-year period \(Friberg et al 2014\) \[1\]](#)

The study was undertaken on the River Gelså, Denmark, where a 1.8 km meandering course was established in 1989 to replace a channelized river reach. This restoration project was the first of its kind in Denmark and has the longest time-series of post-intervention data of any restoration project conducted world-wide.

Additionally, a 0.5 km upstream (control) reach that remained channelized has been sampled since 1989. In this paper, we examined macroinvertebrate assemblages in distinct habitats in 2008, 19 years after the restoration, and community persistence between two years, 1997 and 2008, to investigate the longer-term effects of restoration on the biota. We found that habitat type influenced macroinvertebrate community composition to some degree, while there were no clear effects on α - and β -diversity of habitat or reach type. Stony substrate habitats introduced as part of the restoration could, however, still be separated from other habitat types and were much more frequent in the restored reach. Furthermore, very little change had occurred over the 11-year period from 1997 to 2008, suggesting a high degree of community persistence. Our results suggest that the local species pool was already close to saturation in 1997 and that only limited immigration of new species occurred in the intervening period until 2008. The lack of long term benefits could be attributed to the simultaneous cessation of weed cutting (which had almost as big a positive impact as restoration), other types of stress on the river (eutrophication) and dispersal limitations. However, it might also reflect that River Gelså is still functionally channelized and is far from exhibiting a dynamic river morphology governed by natural processes that create a range of habitats for the biota and this might explain why there has not been a more pronounced increase in macroinvertebrate diversity in River Gelså.

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Friberg, N., A. Baattrup-Pedersen , E.A. Kristensen , B. Kronvang , S.E. Larsen , M.L. Pedersen , J. Skriver , H. Thodsen , P. Wiberg-Larsen (2014) The Gelså River restoration revisited: community persistence of the macroinvertebrate community over an 11-year period. *Ecological Engineering* 66: 150-157.

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