

## Poster Abstract

# Monitoring fish spawning migrations via visual observations and eDNA in rivers around lake “Mondsee” after dam removal

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Around lake “Mondsee” (Upper Austria), pearlfish *Rutilus meidingeri*, Danube bleak *Alburnus mento* and vimba bream *Vimba vimba* are known to undertake spawning migrations into the lakes tributary “Zeller Ache” and from the neighboring lake “Attersee” into the connecting river, the “Seeache”. However, new constructional measures such as dam removals or stone build riverbeds are suspected to positively and/or negatively influence these upstream spawning migrations. To investigate the extent of these influences, daily observations and measurements of physicochemical parameters were carried out from April to July 2017. Furthermore, water samples were taken throughout this period at different locations within the rivers in order to estimate fish densities via environmental DNA (eDNA) analysis.

Here, we present the results of this combined visual and molecular approach and confirm the potential of DNA-based methods to estimate fish dispersal and density. On the one hand, visual observations showed different influence of construction measures on the three species. *Vimba vimba* and *A. mento* could successfully use the newly reachable areas of the Zeller Ache after dam removal, whereas *R. meidingeri* seemed to be already strongly affected by the stone build riverbed and only a few could be observed further upstream in the new section. On the other hand, estimates of fish densities based on eDNA measurements correlated with the number of migrating fish in different river sections. This highlights the applicability of DNA-based methods to investigate fish densities in different river sections and the influence of construction measures on fish dispersal in future studies.

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