



## **Integrated Hydrogeological Investigation on the Vulnerability of a Pumping Station at a Losing Stream**

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River restoration usually includes alteration of the river channel morphology. Thereby the interaction between river and groundwater can be modified. For the design of a river restoration project - especially in the vicinity of a groundwater pumping well for drinking water production - this impact must be predicted. But a good prediction requires a proper understanding of the existing situation. Numerical models help to improve the strategy of a successful river restoration project.

The main objective of this study was to investigate the vulnerability of a pumping station located at losing river in northeast Switzerland. Besides the effect that river restoration could create, a particular attention was placed on the effect of a beaver dam in a side channel close to the pumping station. Analysis of field measurements coupled with numerical modeling of the pumping station area improved the understanding of the interactions in the river corridor between the river, side channels and the alluvial aquifer.