Water Quality Challenges in Managed Aquifer Recharge

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Managed Aquifer Recharge (MAR) is known as a reliable technique to face water scarcity because of it leads to an effective increase of available resources and the recovery of ecosystem services of connected water bodies. Yet, numerous hurdles hinder its broad application. These include administrative and economic difficulties (who pays, how is it managed, etc.). But, perhaps the most insidious hurdle is the fear for loosing the the good qualitative status of aquifers by the entrance of poor quality water or pathogens. We contend that, contrary to these fears, MAR may coontribute to improve the aquifer water quality. Here we review water quality improvement processes that occur during soil and aquifer passage and describe our efforts to enhance these processes by laying a reactive layer at the bottom of the infiltration basin.