MACROPLASTICS MOBILITY INTO HYPORHEIC ZONE: PRELIMINARY LABORATORY EXPERIMENTS

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In recent years, an increasing amount of sampling of fluvial sediment has been carried out to identify microplastics. However, very little is known about the ability of microplastics to infiltrate into the hyporheic zone. Here we show an experimental activity to investigate the influence of hyporheic exchange on microplastic fate in aquatic environments under different hydraulic head conditions. Both sand and gravel were used to simulate 50 cm of streambed sediments layer. Polyamide spheres and polyethylene terephthalate fragments and fibres in a size range between 50- and 250 μm were selected. The aim is to understand how deep microplastics can infiltrate in sediments. This information is a fundamental issue for predicting potential pollution of MPs into groundwater and aquifers. Moreover, the experimental results can be useful to establish the sampling depth to be carried out in the field for representative purpose.