



Retention of contaminants in constructed and semi-natural wetland soils in urban river systems

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The retention of floods is one of the most relevant ecosystem function of urban floodplains, which is often improved by the construction of retention ponds and other water management measures. Retention ponds are connected to the river in a direct or a parallel arrangement and can be constructed as dry or wet retention pond under normal run-off conditions. Further important ecosystem functions provided by the floodplains soils are carbon sequestration, nutrient and contaminant regulation and recreation. However, with ongoing urbanization these ecosystem functions are significantly endangered. In our study we analyze the soil-based ecosystem functions of two river catchments in the City of Hamburg.

The presentation will focus on the retention of contaminants in soils and sediments of eleven retention ponds within one catchment. The amount and concentrations of contaminants will be analyzed for controlling factors like grain size distribution, land-use within the headwaters and others.