

Description for the general public (in english)

Suspended solids (i.e. fine organic or mineral material transported in water without any contact with the river bed) are generally believed to contaminate flowing waters. Excessive amounts of suspended solids in rivers cause: silting of valleys, hydraulics structures and reservoirs, as well as an increased flood risk at river mouths, lower water quality and higher water purification costs. Furthermore, particles of suspended solids can also transport other contaminants, e.g. pharmaceuticals, which might pose a threat to both humans and the water environment.

As a result, it is the objective of this project to assess possibilities of removal of suspended solids in a small urban retention pond on the example of the Wyścigi Pond of the Służew Creek catchment. The following activities will be undertaken as part of project implementation: (i) field measurements aimed at measuring the amount of suspended solids in Służew Creek, both up- and downstream of the Wyścigi Pond, and (ii) model studies targeted at developing a mathematical description of the process of removal of suspended solids in a pond.

The intended research is of great importance, as it will allow for gaining more thorough knowledge of the process of removal of suspended solids in urban catchments, and will enable preventing the deterioration of surface waters due to intensifying anthropogenic impact on the environment. Increasing and maintaining good quality of surface waters is prerequisite to ensuring that future generations will have the possibility of benefiting from their environment at least to the extent to which it is possible now. The results of conducted research will contribute to such areas as urban planning, landscape design, decision-making processes and hydrology, as it will enhance flood protection and ecohydrology, as well as protect the water environment in urban areas.