

A water quality change in the small streams caused by the sewage water treatment plant (SWTP) is a quite undescribed situation. This study is focused on the water quality change and its influencing factors. Five small, mostly agricultural watersheds with average area of 6 km² (one of the watersheds 16 km²) were chosen. There was one village on every first-order stream area with 640 – 2 500 inhabitants. During 7-16 years of monitoring these indicators were monthly measured: dissolved oxygen, BOD₅, COD, TOC, conductivity, N-NH₄, N-NO₂, N-NO₃, PT, P-PO₄. During the monitoring SWTPs have been built in the experimental watersheds. Some of water quality changes were identified with SWTP effectiveness data.

The described changes could outline the future water quality trends and they could also indicate a possible need of further improving steps. The quick and obvious pollution reduction was observed. Among other noticed change belongs: slower and small reduction, stagnation and even the increase of some indicators. The other typical effect is a short increase before building SWTP as well as a delayed nitrification in stream caused by the incorrect SWTP operation.

The most relevant factors which influences these recognized changes are: SWTP operation, recipient stream flow rate, agricultural land use, sewage water handling before building SWTP, water reservoir or pond presence, livestock quantity and riparian buffer zones with tree canopy.