

CAN WETLANDS REDUCE HUMIC SUBSTANCES IN FORESTED STREAMS - COMBINING TWO APPROACHES TO CHARACTERIZE EFFICIENCY

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Abstract

Establishing statistical significance in assessing wetland performance can be quite challenging when reduction in the monitored substance is very small and temporarily variable. Assessing colour changes associated with humic substances is such a situation. One of the most important parameters of any evaluation of wetland treatment performances is the retention time of the water before it exit the wetland. This can be theoretically estimated, but even better measured directly with the help of a tracing agent. In this research, the approach is based on the simultaneously assessment of hydraulic retention time using conservative tracing (Rhodamine WT) and a mass balance based removal efficiency assessment (regression slope of the summation mass-in vs. summation mass-out).

Keywords: Trace, retention time, wetland