

# Verifying GREAT-ER 1.0 calculations by monitoring - The Rur catchment

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**Abstract:** The Geography-referenced Regional Exposure Assessment Tool for European Rivers (GREAT-ER) 1.0 was developed in the context of environmental risk assessment of chemicals to calculate the aquatic fate of ‘down-the-drain’ chemicals in surface waters due to point releases. The Rur catchment in Germany was integrated after the first GREAT-ER development phase using catchment data from the years 1993 and 2000. In order to verify the data from 2000, a monitoring campaign for the surfactants linear alkylbenzene sulphonate (LAS), secondary alkane sulphonate (SAS), alkyl sulphate (AS), alcohol ether sulphate (AES), alcohol ethoxylate (AE), the complexing agents nitrilotriacetate (NTA) and ethylenediaminetetraacetate (EDTA), boron, and finally caffeine was conducted, the results of which are compared to simulation results. It is shown that in the cases of the surfactants and boron the deviations between observed and simulated concentrations were in general smaller than a factor of three, whereas this was not achieved for NTA and EDTA. It is concluded that riverine NTA and EDTA concentrations are above all from industrial inputs rather than from households.

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