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MONITOOL: NEW TOOLS FOR MONITORING THE CHEMICAL STATUS IN TRANSITIONAL AND COASTAL WATERS UNDER THE WATER FRAMEWORK DIRECTIVE

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Abstract: MONITOOLⁱ is a European project formed by 17 Partners covering the Atlantic region from the Canary Islands to the Scottish Highlands and Islands. The main driver of this project is to respond to European Directiveⁱⁱ demands for the assessment of the chemical status of transitional and coastal waters. Passive sampler (PS) like Diffusive Gradient in Thin Films (DGT) are already widely used in investigative monitoring and there is an increasing interest in their use for the environmental assessment of water bodies, within European policies requirements. The main barrier hindering the regulatory acceptance of PS

for compliance checking is the lack of appropriate Environmental Quality Standards (EQS). EQSs for metals are defined in the dissolved fraction, preventing the use of DGT-labile concentrations for the assessment of the chemical status of water bodies. Thus, the main objective of MONITOOL is to adapt the already existing EQSs for DGTs, enabling their use for regulatory monitoring. Two field campaigns were performed at 4 selected sites (transitional and coastal sites) in each consortium region (8 regions), in winter and in summer 2018, deploying DGTs and collecting high-frequency spot water samples simultaneously. All partners followed the same protocol for sampling and analysis to minimize the operational variability. Priority metals (Cd, Ni, Pb) and other specific metals were analysed in waters and in DGT resins. Obtained results were collected in a common database. Preliminary statistical analysis were applied to first results to study relationships between metal concentrations in DGT and in spot water samples. In a final step, suitable EQS for DGTs will be calculated on basis the statistical relations obtained previously. This will permit a better implementation of the Water Framework Directive in variable systems.

ⁱ <https://www.monitoolproject.eu/>

ⁱⁱ Directive 2000/60/EC of the European Parliament