

Developments in Environmental Quality Standards: bridging the gap between science and practical regulatory implementation



CHAIRS: Adam Peters

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Regulatory frameworks like the Water Framework Directive and Marine Strategy Framework Directive focus attention on chemical pressures in the environment. Environmental Quality Standards (EQSs) play a key role in addressing these concerns. At the same time, there have been numerous developments in both the derivation and application of EQSs in recent years. However, such advances are insufficient to deliver real environmental benefits unless they are coupled with practical solutions to the challenges of implementation. This session aims to highlight these challenges and potential solutions which can help ensure the protection goals of these regulatory frameworks are met. Particular implementation difficulties include the setting of quality standards beyond the sensitivity of existing analytical methods, implementing standards for metals that are expressed as bioavailable concentrations, or which aim to provide protection in one media by extrapolation from another using partitioning assumptions (e.g. in biota or sediments). Bridging the gap between research and regulatory implementation to deliver environmental improvement is not always straight-forward. Often the focus of attention is the derivation of the standard. Problems of implementation are often overlooked by academics and researchers since it has not prevented the setting of the standard, and the scientific questions around implementation of a standard can be underestimated, or missed completely. At the same time, without good scientific support, regulators may be forced to make serious compromises or assumptions that could be avoided with better engagement by scientists. The delivery of evidence-based, practical and proportionate quality standards can only be achieved through high quality collaboration between regulators, industry and scientists. For example, field validation of standards which are derived predominantly, or in some cases entirely, from laboratory testing is rare, but is clearly critical in demonstrating the degree of protection afforded by a standard. Studies that question whether or not environmental quality standards are actually achieve their protection goals are also rare, with the introduction of biota standards for lipophilic substances under the Water Framework Directive being recent examples. Of critical importance to all stakeholders is the level of confidence about whether or not a standard has been failed, and the identification of appropriate risk management measures when that can be demonstrated. Very little has been done to assess how often we take steps when we should not (false positives) and fail to take steps when we should (false negatives). Such questions require the co-ordinated attention of regulators and scientists in academia and industry. Confidence in the actions taken (or not taken) is also important to the public as the financial burdens associated with programmes of measures to fund environmental improvements increasingly fall on the taxpayer.

SESSION TYPE: Platform and Poster