

The Water Framework Directive and Estuarine Monitoring

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ABSTRACT

According to the European Commission, water is not a common commercial product but a 'heritage'. Based on this starting point it was decided to arrive at sustainable management and protection of freshwater resources by creating legislation to avoid the long-term deterioration of freshwater quality and quantity. A transparent, effective and coherent legislative framework was found in the Water Framework Directive (WFD) which was adopted in December 2000.

To properly evaluate qualitatively and quantitatively the developments, monitoring has been proposed. Of particular importance is to reverse any significant trend in concentrations of any pollutant. The EU required appropriate, evident and transparent as well as justifiable criteria in the river management plans to meet the goals. The ultimate goal is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater. Protection of the waters may also result in the protection of the 'ecological status' of these bodies of water. The problem, however, is how to monitor these systems so, that both the water quantity and quality as well as the ecological quality are guaranteed. In the present contribution some suggestions will be done to meet the ecological requirements with those of the water quality requirements. Apart from chemical standards, also important functional links by specific biological species have to play a crucial role in the monitoring program. The intrinsic biological values of the marine areas under consideration has to be described quantified and judged, habitats defined and mapped, its use regulated and its integral (socio-economic and ecological) management defined. As long as we do not know the local ecological role of already adopted 'indicator species', the monitoring has to be based on all the species available and their activities within the different communities. Ecological network Analysis may be a challenging approach to meet the above EU requirements.