Ten years ago the European Water Framework Directive (WFD) introduced a shift in water management, placing ecology at the centre of decision-making. A new review of its implementation identifies both the achievements of the WFD and its ongoing challenges, providing recommendations on how to overcome these.

The WFD has called for EU Member States to achieve good ecological status of their surface waters by 2015. This review, conducted as part of the EU-funded WISER project¹, considered three areas:

1. Development of Assessment Methods. The requirements of the WFD for ecological assessment are both specific and general. It sets out the five Biological Quality Elements (BQEs) to be assessed, i.e. organism groups such as phytoplankton or fish, but does not specify the method. This has resulted in a range of assessments between countries, BQEs and water types. Some have suggested that more simplistic measurements, such as water transparency may be better indicators of ecological status. The complexity is enhanced by the lack of a specific water typology which has meant some assessments have used broadly defined water types, such as lakes and rivers, whilst others have more detailed categories. While assessment methods have been greatly improved, challenges remain in combining assessment results and estimating their uncertainty.

2. Monitoring Systems. The design of programmes to monitor ecological status varies. A huge amount of data have been collected which could potentially be useful to other areas, such as knowledge of species distribution and species invasions. This could feed into European legislation such as the Habitats Directive and the Marine Strategy Framework Directive. As yet, WFD monitoring data are not stored centrally but there are steps to compile the data, for example, the WISE (Water Information System for Europe)² project produces European-wide maps of water quality. The Shared Environmental Information System³ will also help advance this.

3. River Basin Management Plans (RBMPs). These aim to translate the assessment and monitoring of water quality into restoration measures. So far many restoration measures have targeted relatively short river stretches. In the second cycle of RBMPs it is necessary to consider the larger scale and for managers to have a good understanding of the relationships between environmental stressors and ecological status, as well as guidance on restoration measures. RBMPs also need flexibility to include emerging stressors, such as climate change, new toxic stressors and alien species.

The current timescale of the WFD’s targets are ambitious: by 2015 all water bodies (with the exception of those that are heavily modified, such as reservoirs) need to reach good status with a possible extension of 12 years. Much has been achieved by the WFD but a number of challenges still need to be overcome to optimise the monitoring data and ensure restoration.

1. WISER (Water bodies in Europe: Integrative Systems to assess Ecological status and Recovery) is supported by the European Commission under the Seventh Framework Programme. See: www.wiser.eu
2. See: http://water.europa.eu


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