

EUROPEAN UNION EXPERIENCE DEVELOPING NATIONWIDE GROUNDWATER MONITORING NETWORKS

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The Water Framework Directive (WFD) of the European Union (EU) is a comprehensive piece of legislation that sets out “good status” objectives for all waters in Europe. In order to address the WFD challenges, the first phase included development of a number of guidance documents that were tested in Pilot River Basins across Europe, followed by implementation, including development of final guidance for groundwater monitoring.

This documentation provides practical guidance and technical specifications for groundwater monitoring that builds on, and complements existing WFD guidance. The documentation also provides guidance on establishing groundwater monitoring programs that include both quantitative and chemical (quality) monitoring for status and trend assessment, monitoring to support groundwater body characterization and drinking water protected area objectives.

The establishment of high quality long-term monitoring programs is essential if the implementation of the WFD is to be effective. It is recognized that monitoring can be very expensive and so the guidance aims to establish cost-effective, risk-based and targeted groundwater monitoring across Europe that enables WFD objectives to be met.

Recommendations are provided for helping other countries implement consistent monitoring across jurisdictions. The EU experience gained in developing the guidance documents provides useful “models” for the development and maintenance of a national network for the USA. The EU-developed process helps to assess groundwater status, identify trends in pollutant concentrations, support establishment and assessment of programs of measures and the effective targeting of economic resources.

KEYWORDS

Network, national, ground water, monitoring, European Union (EU), Water Framework Directives (WFD)