

Background information for

Special Session S-WFD “Upscaling from individual ecosystems to groundwater bodies in the light of the Water Framework Directive implementation”

Special Session S-WFD to be held at HydroEco2011 conference, 2-5 May 2011, Vienna.

Introduction

In 2000, the Water Framework Directive (WFD) became into force in the European Union. One of the aspects related to the ‘good groundwater status’ is the interaction of groundwater with surface water and groundwater dependent terrestrial ecosystems. Since ‘good groundwater status’ refers to groundwater bodies, these interactions have to be known at groundwater body level. Many EU-member states have encountered difficulties in implementing these provisions in the full extent, mainly because, at present, knowledge is often available at scale of individual ecosystems.

Provisions from the Water Framework Directive

Article 4 of the WFD contains the environmental objectives for groundwater. Groundwater bodies shall achieve good groundwater status in 2015. It refers to Annex V for details.

Annex V contains detailed provisions for good groundwater status. The *quantitative status* should be such that surface waters and terrestrial ecosystems that are groundwater dependent, are not significantly damaged by too little groundwater flow. Similarly, for the chemical status, the WFD requires that the concentration of pollutants are not so high that:

- environmental objectives for associated surface waters can not be achieved;
- significant diminution of the ecological or chemical quality of such surface water bodies occurs;
- significant damage to terrestrial ecosystems takes place.

The interaction of groundwater with terrestrial ecosystems and surface waters is not only found in the objectives, but also in the provisions about characterization and status assessment.

Annex II of the WFD states that during the *characterization* (risk assessment) of groundwater bodies, member states have to collect information about interaction of groundwater with terrestrial ecosystems and surface waters. This information, together with other factors, determines whether the groundwater body is at risk and determines for which substances threshold values should be derived.

When the chemical and quantitative *status* of a groundwater body is determined, several tests have to be carried out, including tests to determine the impact of the groundwater (both chemical and quantitative) on groundwater dependent terrestrial ecosystems and surface waters.

Objective of session

It is clear from the information above that interaction of groundwater with ecosystems is considered an important factor in the assessment of groundwater status. However, the Water Framework Directive does not specify *how* the interactions should be determined and, even less, how this could be done at groundwater body scale. Member states are struggling with this topic. The majority of the scientific community may tend to focus on individual ecosystems but, of course, may be a valuable source of suggestion how to scale up. This session will focus on harvesting ideas for scaling-up knowledge of individual ecosystems to groundwater body scale.

The Special Session S-WFD will be chaired by:

- **Philippe Quevauviller**, Scientific Officer at European Commission and Associate Professor at Vrije Universiteit Brussel, Brussels, Belgium, and
- **Michiel Zijp**, National Institute of Public Health and the Environment (RIVM), the Netherlands.

For questions about this Special Session S-WFD please contact Mr Michiel Zijp (michiel.zijp@rivm.nl). **This regards also abstract submission, by 14 September 2010.**