



## MANAGEMENT RESPONSES

The DPSIR framework also considers responses in the context of management measures already being applied or required in the future. The emerging preliminary evaluation of management responses appears to be realistic, and broadly reflects modest rather than unduly optimistic views of the current situation in the region. Few responses considered management measures to be already implemented and effective, some were reported as used but needing improvement and many more as needing to be introduced.

In the management of groundwater resources, some of the Bulgarian responses considered groundwater abstraction management by licensing to be effective, but for most countries such measures need to be introduced, or implemented better where they were being used. Similarly, increased efficiency of groundwater usage as a management measure was occasionally reported as being used but needing improvement, and more often not yet used but recognised as necessary. In almost all cases where existing groundwater quantity monitoring is undertaken, it was recognised as inadequate and in need of improvement, and many transboundary groundwaters were reported as needing monitoring to be introduced.

For groundwater quality, the most widely reported tasks needed or needing improvement were the treatment of urban and industrial wastewaters, and in several instances these were currently planned. Protection zones for public water supplies were reported as being used, but needing improvement, or needing to be introduced, along with groundwater vulnerability mapping to assist in land use planning. Delineation of protection zones is, however, particularly problematic for karstic groundwaters. As for groundwater quantity, monitoring of groundwater quality was widely recognised as needing improvement, and occasionally not yet implemented at all.

The Water Framework Directive and Groundwater Directive will require EU member States (and their neighbours who also decide to do so) to integrate

groundwater into river basin management; and this is reflected in the response that such integration is recognised as being needed and is planned. While the long-established ICPDR is the dominant water management institution in the SEE region, and is recognized in the responses as contributing to the management of water resources, it is generally reported as used but needing improvement. More recently, the Framework Agreement on the Sava River Basin, signed in 2002 and ratified in

2004, has led to the establishment of the Sava River Basin Commission.<sup>1</sup> Specific bilateral agreements on cooperation in the field of water management include those between Croatia and Hungary and between Croatia and Bosnia and Herzegovina. Most responses, however, refer to the need for transboundary agreements to facilitate the process of managing of transboundary groundwaters, initially with the establishment of formal data exchange between countries.

<sup>1</sup> Source: International Sava River Basin Commission.