News from the Water Front*

Water Framework Directive

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DOI: http://dx.doi.org/10.1065/jss2007.03.217

State of Implementation. An updated scoreboard on the legal transposition and implementation of the Water Framework Directive (WFD) is available under: http://ec.europa.eu/comm/environment/water/water-framework/scoreboard.html

The Commission is currently drafting the WFD implementation report according to Article 18(3) of the Directive, which is due for publication on 22 March 2007. The early results on key issues and performance show some achievements but also highlight gaps in the current implementation. The Commission intends to present some recommendations to Member States for improvements until 2009, supporting them in the finalisation of the river basin management plans. Recognising that this is an important milestone for judging the success of implementation, the Commission is committed to closely working with Member States on this issue.

1 Common Implementation Strategy

WFD Common Implementation Strategy – Sediments on the Way
In 2007, CMA-1 'Monitoring Best Practices' of the Chemical Monitoring Activity under WFD-CIS is planning a new activity 'Recommendations on Sediment and Biota Monitoring in the Light of Requirements of Article 16 of the WFD (Focus on Priority Substances)'. A work programme will be designed for discussion/approval at the CMA plenary meeting of 2nd of May 2007. Identified tasks will be scheduled to start after summer 2007.

In the future, the sediment issue will go beyond the monitoring aspects. Article 16 of WFD "measures against pollution ... to result in the achievement of good chemical status of surface waters" has to consider large-scale historical pollution from sediments. The establishment of a program of measures until 2009, therefore, should include development-specific techniques for a basin-wide mitigation of particle-bound pollutants and permanent storage of contaminated sediments.

CMA: Chemical Monitoring Activity
CIS: Common Implementation Strategy for the Water Framework Directive

1.1 Meeting of Water Directors of the European Union, Candidate and EFTA Countries

The Water Directors of the European Union[1] (EU), Candidate Countries[2] and EFTA Countries[3] met on 30 November and 1 December 2006 in Inari (Finland) to discuss, in particular:

- the progress of the Common Implementation Strategy for the Water Framework Directive;
- the future Work Programme for the Common Implementation Strategy for the years 2007–2009;
- the developments on reporting and the Water Information System for Europe (WISE);
- the integration of water policy in other policy areas, in particular agriculture policy and hydromorphology;
- aspects of water scarcity and climate change in relation to water policy.

In addition, the Water Directors were informed of the progress made in a number of areas, namely:

- the EU Marine Strategy;
- the EU Flood Action Programme;
- the reporting aspects regarding other water directives, in particular the Urban Waste Water Treatment Directive;
- the new Daughter Directive on groundwater protection and the proposal for a Directive on priority substances; and
- the progress on the EU Water Initiative, in particular the components for the ECCAA and MED regions.

1.2 WFD and Agriculture

A declaration was adopted by the Water Directors (excepted DK) as well as a synthesis report of the activity. The intention is to put forward the declaration to the Member States Ministries. For its part, DG Environment will forward it to DG Agriculture. The Commission stressed the importance of cross-compliance for the long-term. In particular, practical (feasible and controlled) measures will have to be designed.

1.3 Future Activities under the CIS Work

The Water Directors endorsed the future Work Programme for the Common Implementation Strategy, albeit with some amendments which concern, in particular, the mandate on water scarcity and droughts (aiming to complement the Stakeholder Forum established by the Commission). The main activities for the period 2007–2009 are depicted in **Fig. 1**. The final CIS work programme will be made publicly available in January.

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* The views expressed in this paper are purely those of the author and may not in any circumstances be regarded as stating an official position of the European Commission.

[1] Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, Germany, Greece, France, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, United Kingdom, the European Commission and the European Environment Agency

[2] Bulgaria and Croatia. Absent: Romania, Turkey and Former Yugoslav Republic of Macedonia

[3] Iceland, Norway and Switzerland. Absent: Liechtenstein

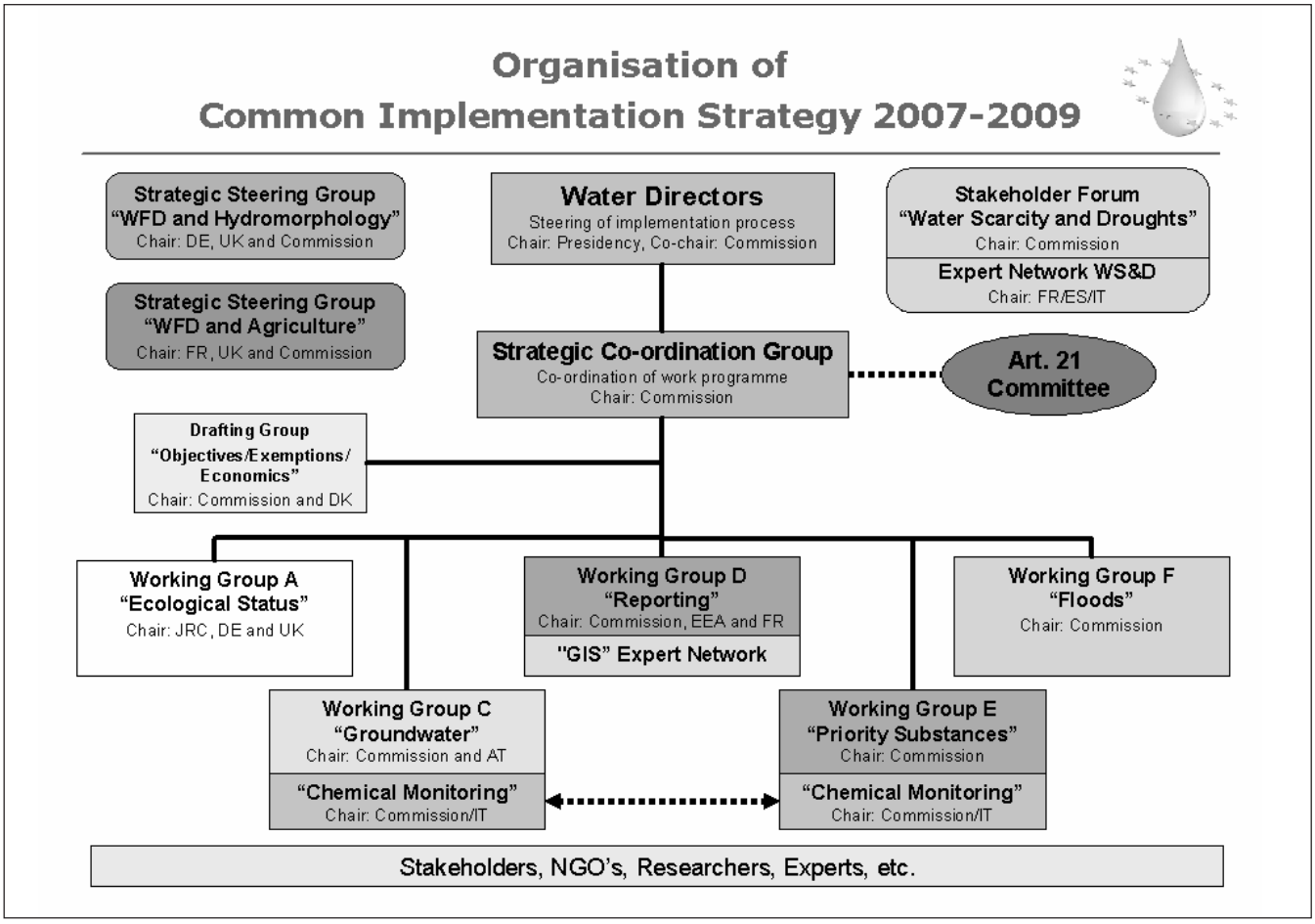

Fig. 1

2 Reporting and WISE

2.1 Overview of Recent Developments

The progress and next steps on compliance reporting Water Information System for Europe (WISE) was presented to the Water Directors. The CIS Working Group D (Reporting) is actively preparing the 2010 RBMP Reporting Guidance which will be presented to the next meeting of the Water Directors for endorsement. Regarding WISE, the Article 3 and 5 reports are progressing and the Commission has thanked the Member States for their contribution and support. Those Member States which did not submit or re-submit their reports electronically to WISE are still welcome to do so. The tools for the electronic submission of Article 8 Reports will become available in January 2007 and were presented at the WISE workshop which was held on 9/10 January. Finally, the proposal to prepare a new WISE GIS guidance was presented. It will become part of the new work programme.

2.2 SoE Reporting and WISE Public Launch

The European Environment Agency (EEA) presented the current prototype for the WISE public viewer which will be launched on 22 March 2007. The EEA also informed the Water Directors on the current discussion on the preparation of the State-of-Environment (SoE) Reporting guidance document.

2.3 State of Progress of Priority Substances Directive

In July 2006 the Commission adopted a proposal for a Directive on environmental quality standards in the field of water policy[4] (which would become a 'daughter' Directive of the Water Framework Directive). It also adopted a Communication on integrated prevention and control of chemical pollution of surface waters in the EU[5] and a related Impact Assessment[6] working document. The directive proposal sets environmental quality standards for 41 types of pesticides, heavy metals and other dangerous chemical substances that have been identified as posing a particular risk to animal and plant life in the aquatic environment and to human health. The proposal is part of the Commission's initiative to simplify legislation in the European Union (the Better Regulation initiative). The proposed directive will replace/repeal five current directives (listed in Annex IX of the Water Framework Directive) which deal with water chemical pollution. More information on the content of the proposal can be found on the Commission's website or in the June 2006 edition of the WISE newsletter.

[4] COM (2006) 397 final
[5] COM (2006) 398 final
[6] SEC (2006) 947

Co-decision negotiations on the proposal are currently taking place within the Council and Parliament. The Environment Working Party of the Council discussed the proposal in October. The Finnish Presidency presented a progress report to the Environment Council in December highlighting the key issues that were brought up during the discussions. The Parliament Environment Committee is due to vote on the proposal in February 2007. The first reading by the full European Parliament is expected in the spring of 2007. The German Presidency aims to have political agreement in Council by June 2007.

The Water Directors agreed in December 2006 to convert the Expert Advisory Forum – which provided support in the development of the priority substances proposal – into Working Group E on Priority Substances. It would then become part of the Common Implementation Strategy of the Water Framework Directive. The working group mandate would cover several areas, including the development of a prioritisation methodology for reviewing the present priority substances list; a data collection and processing exercise; further developing the methodology for setting environmental quality standards for priority substances; chemical monitoring; and drawing-up guidance documents on WFD implementation in relation to dangerous substances and on additional elements which may be required following approval of the priority substances proposal by Council and Parliament.

3 Groundwater Directive

3.1 Adoption of the New Groundwater Directive

Following the agreement reached by the European Parliament and the Council at the 17 October Conciliation meeting, the new Groundwater Directive (as per Article 17 of the WFD) was adopted by the European Parliament on the 12 December (Directive 2006/118/EC). This directive will ensure a high level of protection from pollution and deterioration based on a common European approach. It will leave a considerable degree of flexibility to the Member States on achieving the WFD environmental objectives. Member States will be required to monitor and assess groundwater quality on the basis of common criteria and to identify and reverse trends in groundwater pollution.

The Directive is based on a mixed regime. On the one hand, it establishes quality standards that must be met and, on the other hand, it introduces measures to prevent or limit inputs of pollutants into groundwater. Member States will have to establish some of the standards (threshold values) themselves at the most appropriate level, taking into account local or regional conditions. In addition to the Water Framework Directive, the groundwater directive is closely linked to the Nitrates Directive, the Landfill Directive and the future Soil Framework Directive. Together, these directives make up a framework which paves the way for improved evaluation of groundwater environmental quality in Europe.

Detailed information on the directive and related implementation activities (in particular the CIS Working Group C) and research-related activities are available at the following address: http://ec.europa.eu/environment/water/index_en.htm

3.2 Groundwater Monitoring Guidance

The Working Group C on Groundwater (WG C) of the WFD Common Implementation Strategy (CIS) drew up a guidance document on groundwater monitoring. The document is now publicly available as an Internet publication (CIS Guidance N°15) on the europa water site. The guidance document is one of the outputs of the WG C mandate for the period 2005–2006. The drafting stage involved 28 experts from 12 Member and Associate States, 6 stakeholder organisations and the European Commission. The drafts were discussed and approved by the 80 members of the working group. The guidance document was drawn up at the request of Member States that wanted to complement the CIS Guidance N°7 on monitoring under the WFD. The drafting is based on a technical workshop held in 2005, which was followed-up by a series of expert meetings. It focuses primarily on requirements of Article 8 and Annex V of the WFD, and covers both chemical and quantitative status monitoring issues.

The guidance document is composed of 8 main parts, which cover (1) general principles on conceptual modelling, aquifer typologies, grouping of groundwater bodies, integrated monitoring; (2) chemical status and trend monitoring, in particular design of surveillance and operational programmes, site and parameter selection, frequency; (3) quantity monitoring; (4) specific protected area monitoring; (5) monitoring linked to prevent or limit measures; (6) monitoring data quality; (7) recommendations on methods for sampling and analysis; and finally (8) reporting. Annexes provide additional elements on aquifer types, requirements for monitoring points, selection of determinands etc. Eight case studies from different countries complement this guidance document, illustrating various groundwater typologies. The document was endorsed by the EU Water Directors at their meeting in Inari (Finland) on 30 November–1 December 2006.

4 Other Water & Marine Policy Developments

4.1 Marine Strategy Directive

The European Parliament concluded its first reading of the Marine Strategy Directive on 14 November 2006: http://www.europarl.europa.eu/sidesSearch/sipadeMapUrl.do?PROG=TA&L=EN&REF_P=P6_TA-2006-0482.

The Environment Council reached a political agreement under the Finnish Presidency at the Environment Council on 18 December 2006. The Commission is hopeful that the momentum will be maintained and that the directive will soon be adopted. Commissioner Dimas welcomed the political agreement reached by Council on the framework directive for an EU marine environment policy. The Council's position takes onboard several of the points raised by the European Parliament (the importance of co-operation and coordination between Member States and non-EU countries, the ecosystem approach, etc.). However, the Commission regrets that the Council's position is not as ambitious as the Commission's initial proposal, especially as regards the binding nature of the "good environmental status" objective. Commissioner Dimas said: "Today's political agreement is

a major step towards a better protection of our oceans and seas through the adoption of the Marine Strategy Directive. While I regret that the Council has not been more ambitious, I am pleased that the Council fully recognises the strong need for a European integrated approach to protect our oceans and seas more effectively. Swift adoption of the Marine Strategy Directive is a priority if we are to ensure that European citizens benefit from seas and oceans that are safe, clean, healthy and rich in nature. This is also a pre-condition for the maritime economy to thrive".

The Strategy combines a European with a regional approach. It balances the need for common approaches across Europe on similar issues with the need to devote more attention to regional issues based on Member States' experiences in the regional seas conventions.

Preparations for the implementation of the Marine Strategy in the field of monitoring and assessment are being informally tackled in the European Marine Monitoring and Assessment (EMMA) working group. For its part, the European Environment Agency (EEA) organised two thematic workshops on the role of operational oceanography and biological and ecological elements: http://forum.europa.eu.int/Members/irc/env/marine/library?l=/workingsgroups/europeansmarinesmonitori/eea-led_2006-2007&vm=detailed&sb=Title

The Agency will also host a third workshop in April 2007 on marine chemical loads and burdens. A further stakeholder meeting was held on 29 November 2006 to update interested international organisations on current developments and to foster an open discussion on the elements that will be crucial to successfully implement the future directive, such as the concept of 'good environmental status': http://forum.europa.eu.int/Members/irc/env/marine/library?l=/stakeholdersmeetings/stakeholder_meetings&vm=detailed&sb=Title

With respect to the role of the Marine Strategy as the environmental pillar of the future maritime policy, an extensive stakeholder consultation is taking place until 30 June 2007: http://ec.europa.eu/maritimeaffairs/policy_en.html

The Commission intends to reach a wide range of stakeholders. The Commission hopes that the Green Paper will spark a broad public debate on the European Union's overall approach to maritime policy and bring forth ideas for measures required to put the policy into action. The Commission wishes to base its work in this area on the views of stakeholders.

4.2 Flood Risk Management

The Council's Common position on the directive relating to the assessment and management of floods was finalised late in 2006. The Commission's Communication was adopted on 6.12.2006. At the time of this newsletter's publication the timetable for the second reading was not known. The Water Directors meeting, at their meeting on 30 November–1 December 2006, adopted a mandate for a new Floods Working Group, which now will replace the Floods stakeholder forum. Dates for the 2007 meetings will be presented once the timetable for the second reading of the Directive is known.

In the framework of the European Flood Action Programme, work is continuing in the two exchange networks on flood forecasting (on how to communicate risks to the public) and flood mapping (guide on current practices in the Member States), where two key documents are close to being finalised and are expected to be published in the first half of 2007. A workshop will be held in Oslo (Norway) from 31 January to 2 February 2007 on land use management and integrated water management, with a special focus on flood risk protection. The aim is to develop a possible exchange network on this topic, depending on the views expressed at the workshop.

4.3 Water Scarcity & Drought

Concerns about droughts and water scarcity have come about in Member States due to an increasing frequency of droughts in recent years. This led in 2003 to the very first technical work to be carried out in this area within the framework of the CIS. At the request of a number of Member states, the Commission presented a study on water scarcity and droughts at the Environment Council in June 2006. Recognising the severity of the challenge brought about by water scarcity and droughts in Europe, the Commission is conducting an in-depth assessment of the situation in the European Union. A first Interim report of this in-depth assessment was discussed by the Water Directors in December in Inari, Finland.

The Information Note and the Interim Report are available at: http://forum.europa.eu.int/Members/irc/env/wfd/library?l=/framework_directive/scarcity_droughts

5 Other Related Policies

5.1 Progress of the Thematic Strategy for Soil Protection

On 22 September 2006, the Commission adopted a comprehensive strategy to ensure that Europe's soils remain healthy and capable of supporting human activities and ecosystems. The strategy sets a common EU framework for action to preserve, protect and restore soil, but leaves Member States some flexibility to implement it in a way which best fits the local context. Member States must tackle threats such as landslides, contamination, soil erosion, the loss of soil organic matter, compaction, salinisation and sealing wherever they occur, or threaten to occur, on their national territories. The proposal for a Soil Framework Directive will require Member States to draw up an inventory of contaminated sites within 25 years of it coming into force.

Contamination is defined as the presence of dangerous substances in such levels that present a significant risk to human health or the environment, account being taken of the soil use. More information at: http://ec.europa.eu/environment/soil/index.htm.

5.2 Climate Changes & Water Policy

Science-policy workshop on Climate Change Impacts on the Water Cycle, Brussels (25–26 September 2006). Climate change, its impacts and links with natural hazards is becoming one of the key international problems of the 21st century. There is increasing evidence that human induced climate change has already started with potential negative impacts on society with a variety of consequences for air quality, water cycle, human and ecosystem, productivity and stratospheric ozone. Research from recent decades has been instrumental in clarifying and quantifying climate mechanisms and strengthening political and regulatory measures. International research assessments have provided the basis for global initiatives – such as the Kyoto and Montreal Protocols – as a means to protect the climate and our planet.

Within the Seventh Research Framework Programme (FP7), research on the environment, and especially climate change, will involve:

- analysing climate change, pollution and risks,
  - Pressures on environment and climate,
  - Environment and health
  - Natural hazards (such as volcanoes, droughts and floods, earthquakes, storms, etc)
- the sustainable management of resources,
- environmental technologies, and
- Earth observation and assessment tools.

The above environmental research conducted at EU level will help to implement the Union's international commitments. It will also contribute to the Inter-governmental Panel on Climate Change (IPCC) and serve to fulfil the research needs of existing and upcoming EU policies such as the EU's Second Climate Change Programme, WFD, Sixth Environmental Action Plan, etc.

Within such a context, scientists, water managers and policy-makers gathered in Brussels on 25–26 September 2006 to discuss the impact of climate change on water. They also analysed the results of EU-funded research projects conducted in this area. The discussions yielded plenty of interesting ideas for experts drawing up new environmental legislation. The need to hold such a workshop stems from the recommendations made by the Water Directors at their December 2005 meeting in London where they expressed the need for greater scientific background knowledge, especially when drawing up policies.

The workshop represented a milestone in defining key elements on the assessment of climate change impact on the water cycle, quality and resources and on creating the link between science and policy. The event provided a unique opportunity for experts to assess whether there is sufficient sound scientific evidence on which to base new policies. Specialist workshops focused not only on the environmental challenges that scientists and policy-makers face, but also on the socio-economic repercussions that rising temperatures will inevitably have. Conference delegates discussed the outcome of recent research on climate change and water, and outlined new priorities for more research funded under the Seventh Framework Programme (FP7).

Crucial issues discussed during the workshop were:

- the impact of Climate Change on future fresh water availability,
- the need to investigate the impact of climate change on specific regions,
- future changes in climate, society and economy will increase flood risks in large parts of Europe,
- that developing countries are very vulnerable to climate change due to the tropical climate and their strong dependence on environmental conditions.
- Interdisciplinary research is needed to offer knowledge and strategies for a sustainable development in a changing climate. It also needed to provide results to be taken aboard in the policy development.
- the link between research results and policy making but also between water and climate policies has been posed and discussed during the Workshop.
- In addition, climate Change should be part of the proposed directive on flood risk management.
- that climate change has an impact on water balance and drought however are not emphasised enough in water policy (the Water Framework Directive, WFD) despite the fact that the WFD – through the River Basin Management Plans – establishes a framework for possible adaptive measures linked to climate change.

The workshop underlined the need to create a permanent platform to exchange information among scientists and policy-makers. Finally, it demonstrated that the interaction between science and policy is essential to tackle such a challenging issue. The event was also an intermediate step in organising an International Conference on Climate Change and the European Water Dimension which will be held under the auspices of the German Presidency in Berlin on 12–14 February 2007 (see separate article). A European Commission publication gathering abstracts on the presentations from all speakers will be issued and presented at the Symposium in Berlin.

6 Science-Policy Integration

6.1 Framework Programme for Research and Technological Development

Research within the European Commission. The Treaty establishing the European Union indicates that Research Framework Programmes have to serve two main strategic objectives. First, it provides a scientific and technological basis for industry and encourages its international competitiveness. And second, it promotes research activities in support of other EU policies. To this end, Framework Programmes are designed to help solving problems and responding to major socio-economic challenges faced by society. The Research Framework Programme (FP) is the European Union's main instrument for funding research and development. The Sixth FP is now about to be terminated, and will be continued by the Seventh FP which began on 1 January 2007 and will run until the end of 2013.

The FP6 was the Commission's response to the requirements of the Lisbon Summit in March 2000. The summit called for a better use of European research by creating an internal market for science and technology (the European Research area). The seventh Research Framework Programme is designed to build on the achievements of its predecessor and mover forward in the creation of a European knowledge economy and society. FP7 is to respond to Europe's employment needs, competitiveness and quality of life.

Within the Seventh Framework Programme (formally adopted by the European Parliament and the Council on the 18 December 2006), the Environment (including climate change) theme has a budget of 1890 millions euros for the period 2007–2013 (on a total budget of 50 521 millions euros). It should also be noted that the Commission has published calls for proposals addressed to individuals to establish expert databases. Registration can be done online under: http://cordis.europa.eu/research_openings/home.html.

An example of successful research in support of water policy implementation – BRIDGE. The BRIDGE project (standing for 'Background Criteria for the Identification of Groundwater Thresholds') was designed to develop a common methodology intended to be used by Member States for establishing groundwater threshold values. The project has been developed in 2004–2006 and recently came to a close (final meeting held in Paris on 15 December 2006). It was carried out at European level and involved a range of stakeholders, including the scientific and policy-making communities. The different objectives were:

- To evaluate and gather scientific results to set criteria for the assessment of the chemical status of groundwater. These criteria will be translated into data used for the characterisation of natural and anthropogenic pollutants, parameters indicative for pollution, and data used for the hydrologic and hydrogeological characterisation of groundwater bodies;
- To draw up criteria for setting scientifically sound groundwater threshold values for national river basin districts or groundwater bodies;
- To check the suitability and validity of the approach through European-wide case studies which would assess its environmental, economic and social impact.

The methodology that transpired from this process was drawn up in consultation with representatives from Member State's environment ministries and agencies, and from stakeholders of the CIS Working Group on Groundwater (WG C). It took into account the negotiations of the new Groundwater Directive which was taking place at the time. This presented an additional challenge above and beyond the scientific one.

The final meeting has been held in Paris on 15 December 2006. The proposed method for deriving groundwater threshold values will now be directly communicated to Member States experts for policy discussions. The proposal is expected to be adopted before the summer of 2007. The research will therefore have fulfilled one of the requirements of the new Groundwater Directive, namely by supporting the obligation of Member States to establish groundwater threshold values by the end of 2008 according to a common methodological approach.

6.2 WISE-RTD Development

The development of the WISE-RTD webportal is in full swing. As described in the last issue of the WISE Newsletter, the aim of this portal is to provide access to scientific information in order to support implementation of water policies. It will be part of the official launch of WISE planned for the end of March 2007.

The WISE-RTD portal will provide intelligent search functions on tools and experiences from RTD projects. It will also include guidance documents to support the implementation of the Water Framework Directive.

The search function will be based on WFD-specific issues (e.g. WFD milestones, WFD-terminology) and issues covered by other water policies, and will cater to various users such as policy-makers, water managers, stakeholders, model specialists, etc.

The system is currently at a prototype stage and will be continually developed over the next few years. It will be tested by end-users and will be regularly updated with information from international and national scientific projects and initiatives. Such updating will be facilitated thanks to a new project designed to provide scientific support to water policies (SPI-Water) whose task is to analyse current and past RTD and LIFE projects and their actual impacts on water policies. Representatives of river basin networks (e.g; Pilot River Basin Network and International Basin Organisation) will be able to validate the information in the WISE-RTD portal. More detail about this project will be provided in the next WISE Newsletter.

Relevant Literature

Brils J (2004): Sediment monitoring under the EU Water Framework Directive. J Soils Sediments 4, 72–73

den Besten PJ, de Deckere E, Babut MP, Power B, Angel DelValls T, Zago C, Oen AMP, Heise S (2003): Biological effects-based sediment quality in ecological risk assessment for European waters. J Soils Sediments 3, 144–162

Keiter S, Kosmehl T, Rastall A, Erdinger L, Wurm K, Braunbeck T, Hollert H (2006): Ecotoxicological assessment of sediment-, suspended matter and water samples – In search for the causes for the decline of fish catches in the upper Danube river. Env Sci Pollut Res 13 (5) 308–319

Quevauviller P (2006a): Chemical monitoring activity under the common implementation strategy of the WFD. J Soils Sediments 6 (1) 2–3

Quevauviller P (2006b): News from the Water Front. J Soils Sediments 6 (4) 255–258

Quevauviller P (2006c): Science-Policy Interfacing in the Context of the WFD Implementation. J Soils Sediments 6 (4) 259–261

Quevauviller P (2006d): Agreement on New EU Groundwater Directive. J Soils Sediments 6 (4) 254

Quevauviller P, Olazabal C (2003): Links between the water framework directive, the Thematic Strategy on Soil protection and research trends with focus on pollution issues. J Soils Sediments 3, 243–244

Quevauviller P (2001a): Harmonisation, Standardisation for Soil and Sediment Fractionation Studies, and Usefulness in Assessment and Risk Management. J Soils Sediments 1 (3) 175–180

Quevauviller P (2001b): Accuracy and Traceability Concepts Applied to Environmental Speciation Analysis. Env Sci Pollut Res 8 (4) 251–255

Schwartz R, Gerth J, Neumann-Hensel H, Bley S, Forstner U (2006): Assessment of highly polluted fluvisol in the Spittelwasser floodplain – Based on national guideline values and MNA-Criteria. J Soils Sediments 6, 145–155

Vighi M, Finizio A, Villa S (2006): The Evolution of the Environmental Quality Concept: From the US EPA Red Book to the European Water Framework Directive. Env Sci Pollut Res 13 (1) 9–14