EEB Handbook
on
EU Water Policy
under the
Water Framework Directive

By

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The European Environmental Bureau (EEB)

The EEB is a federation of 140 environmental citizens organisations based in all EU Member States and most Accession countries, as well as a few neighbouring countries. They range from local and national to European and international. The aim of the EEB is to protect and improve the environment of Europe and to enable the citizens of Europe to play their part in achieving that goal The EEB office in Brussels was established in 1974 to provide as a focal point for its members to monitor and respond to the emerging EU environmental policy. It has an information service, it runs nine working groups of EEB-members, it produces position papers on topics that are, or should be, on the EU agenda and it represents the Membership in discussions with the Commission, European Parliament and the Council. It closely co-ordinates EU-oriented activities with its Members on the National levels. Furthermore it follows closely the EU enlargement process as well as some pan-european issues like the follow up of the Aarhus Convention.

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Content

1 Introduction

From its very beginnings, the European Environmental Bureau (EEB) has regarded European water policy as one of its important issues. A water campaign kicked off four years ago in order to focus Europe's environmental NGO activities and contribute to and influence the developments of the new EU water policy.

The EEB Water Campaign formed a coalition of a number of environmental NGOs and experts. The campaign could draw its strength from a network of devoted and committed people, who enabled NGOs to follow a legislative process more closely than ever before. This coalition already gave input at the early drafting stages of the first Commission proposal for a Water Framework Directive and followed closely and critically the development of the Directive within the European Parliament, the Council and the Commission. It consistently came forward with constructive and qualified demands as well as clear wordings in order to improve the text of the Water Framework Directive.

From the early beginnings of the legislative process, the Water Framework Directive developed into a compromise of numerous particular interests and most demanding technical expertise. As a result, the current legal text is unusually complex and virtually incomprehensible for a wider public. "The wording of the Directive is a poor reflection of the hard work to date", as Paul Sheridan from Cameron McKenna Law Group recently stated.

Due to the complexity and also ambiguity of the Water Framework Directive, the EEB feels there is a need to make the directive transparent and understandable for the general public as well as for environmental NGOs throughout Europe. This Handbook is intended to fulfil this important task. The aim of the Handbook is to give an overview of existing EU water laws and to explain the new EU water policy in detail by analysing and assessing its key issues. Special importance has been given to political options for future activities because the EU Water Framework Directive is only a *framework* for future water protection in the EU and accession countries, with many steps being left to subsequent political and technical processes. However, this Handbook does not attempt to cover all issues in depth, it is a first though detailed introduction to the EU water policy under the Water Framework Directive. A number of further manuals, seminars and conferences will be necessary to make the new EU water policy deliverable and understandable for a wider public and finally to make the Water Framework Directive into a successful legal instrumental with positive environmental outcomes.

2 State of the aquatic environment in Europe and CEECs: Challenges for the future

Water is valuable, an irreplaceable and life-supporting element of all life, not only human, but plant and animal life as well, and of ecosystems as a whole. Undeveloped and unpolluted wetlands, in turn, are the single most important precondition for the protection of biodiversity.

Water is also valued as a resource. Surface and groundwaters have manifold economic uses, be it for industry, agriculture, shipping, mining and many others, and of course as a source of drinking water.

However, each water use leaves its mark on nature's aquatic systems. Either water is taken from the system or it is charged with pollutants. Water stress is caused by pressures on water quality and the quantity of water resources. Surface waters further suffer from the morphological changes which human activities bring about: Rivers have been straightened and widened to accommodate larger vessels. Seasonally flooded lands along rivers have been drained for housing, agriculture or industry. Dams and weirs divert water to generate electricity, embankments attempt to protect human assets from flooding.

This multitude of uses deeply affects the natural water cycle in Europe. Since the different activities, which cause pressures, are mostly uncoordinated, their combined impact on water bodies is hardly ever assessed in its entirety, and excessive demands have gone unchecked. As a result, natural rivers with intact riparian land have become a true rarity in Europe, North and South. Anadromous fish species, i.e. those which migrate between rivers and oceans, are all but extinct. A quarter of all EU rivers is so contaminated that no or hardly any fish are able to survive.

While the more obvious signs of river pollution, fish kills and foam floating on the surface, are fortunately seldom encountered in Europe today, more subtle biological effects have been detected. Trace quantities of endocrine disrupting chemicals, for instance, have been shown to interfere with the hormone regulation of fish, leaving them infertile. Hazardous chemicals such as these may be made responsible for declining fish catches in several European countries, yet the exact mechanisms of action are extremely difficult to identify. Only a precautionary approach preventing the continued release of potentially hazardous substances into the environment can solve this problem.

As far as the scarce publicly available monitoring data reveal, groundwater in Europe seems to be even worse off than rivers. According to the European Environment Agency's assessment, the situation is alarming. The groundwater lying under 87 per cent of the agricultural area in the EU contains more than 25 milligrams of nitrates per litre. For a quarter of the agricultural land, the level has even risen above the drinking water limit for nitrate of 50 milligrams per litre. Nitrate pollution is worst in the heavily farmed regions of North-western Europe where groundwater quality is also damaged by high pesticide inputs. Nitrate and pesticide levels are also rapidly rising in Southern Member States and accession states.

At least two thirds of all drinking water in the EU depend on groundwater reserves. These valuable underground resources are not only jeopardised by pollutants, but also by excessive abstraction.

60% of European cities overexploit their groundwater resources[1]. Along the coastlines in Southern Europe and on many islands, seawater is already intruding into the depleted underground aquifers, making them unusable as drinking water. The main causes of this unsustainable use, apart from city supply, are irrigation and tourism. The water exploitation index in Southern Europe has not improved since 1980 and the irrigated area has increased by 20% since 1985.[2] This leads to the promotion of unsustainable water management solutions, like big inter-basin water transfers and dam constructions, as in the Spanish National Hydrological Plan published in 2000.

Agricultural systems play a large part in creating water stress situations. It will be crucial to ensure that the Common Agricultural Policy, especially for accession countries, does not intensify these problems but integrates environmental concerns in an appropriate manner.

Alarming conclusions must be drawn from the European Environment Agency's reports[3]. Despite an improvement in some seriously polluted rivers and lakes, the general pollution situation of European waters has not markedly improved since the 1980s and groundwater as well as smaller water resources are specially threatened by further deterioration.

However, the true state of European water resources and aquatic ecosystems is unknown. Monitoring programmes are inadequate or non-existent in many Member States, and where they are in place, their results often remain inaccessible to the public. There are no dependable assessments of the ecological status of rivers, lakes and wetlands. The WFD will require an assessment system for the first time, delivering reliable and comparable ecological status data for all waters, regardless of the European region concerned. It may be astonishing in a rich continent like Europe to note that the EU is currently unable to indicate the extent of pollution and disruption of their aquatic resources with any sort of confidence.

Clearly, an assessment and reporting system alone will not be enough to protect European water systems. The WFD may prove to produce no more than pretty water status maps of all of Europe, but little of the protection that is urgently needed. It will take every possible input and pressure from NGOs and the general public to develop the Water Framework Directive into its utmost potential.

[1] Stanners, D. and Bourdeau, P.: *Europe's Environment - The Dobris Assessment*, European Environment Agency, Copenhagen 1995.

[2] EEA (2000): *Environmental Signals 2000*.

[3] *Europe's Environment: The Second Assessment*, European Environment Agency, Copenhagen 1998 and Stanners, D. and Bourdeau, P.: *Europe's Environment - The Dobris Assessment*, European Environment Agency, Copenhagen 1995.

3 EU water policy from the 1970s to the WFD

3.1 General Introduction

Water legislation was one of the first sectors to be covered by the EU environmental policy and comprises more than 25 water-related directives and decisions. The first wave of legislation took place from 1975 to 1980, resulting in a number of directives and decisions which either lay down environmental quality standards (EQS) for specific types of water, like the Surface Water, Fish Water, Shellfish Water, Bathing Water and Drinking Water Directives, or establish emission limit values (ELV) for specific water uses, like the Dangerous Substances Directive and the Groundwater Directive. These directives were mainly based on the first Environmental Action Programme (1973), which called for both approaches to be used. In practice, however, the dual approach did not only lead to highly fragmented water legislation, but also to huge implementation problems. It proved less successful than expected in its environmental outcome.

Emission limit values (ELV) can be defined as regulatory measures aimed at the source of potential environmental pollution. They are used to restrict the level of permissible pollutant emissions to the environment by means of general or abstract limit values. This approach is guided by such concepts as 'state-of-the-art technology' or the highly economically oriented 'best available technology'.[4]

Environmental quality standards (EQS) focus on the pollution target. They can therefore be described as rules relating to environmental quality. They are generally concerned with individual aspects of the environment, such as a particular medium (soil, water and air) or a specific target (e.g. human beings, ecosystems). For these targets, environmental quality standards outline a desirable quality level.[5]

The second wave of water legislation from 1980 to 1991 was less comprehensive. Apart from the introduction of two new instruments, the Nitrates and Urban Waste Water Directives, several 'daughter directives' implementing the Dangerous Substances Directive were adopted.

Due to this patchwork of legislation from the 1970s onwards, new and more co-ordinated water legislation was demanded by both Council and Parliament. Over the last decade, a major revision of the EU water policy was prepared, finally resulting in the Water Framework Directive 2000/60/EC[6]. Not only will this directive repeal six earlier water directives and one regulation and effect a number of other pieces of water legislation, but it will also provide the basis for subsequent legislative initiatives.

The WFD tries in particular to reconcile the conflicting approaches of ELVs and EQSs. The crucial Directives to be repealed by the WFD in this respect are the Dangerous Substances and Groundwater Directives. While their emission limit approaches are in principle taken over by the WFD, it is doubtful whether this will result in an equivalent level of water protection. The EQSs set

[4] EEB Industry Handbook: *A critical evaluation of available European Legislation on Industry and the Environment*, December 1998.

[5] Ibid.

[6] OJ L 327/1, 22.12.2000, p.1-72

by the Surface Water, Shellfish and Fish Water Directives are a lot more easily taken up than the WFD 'good status' objective to be achieved by Dec 2015 for all EU waters.

The Drinking Water and Bathing Water Directives remain as free-standing directives, yet Member States are required to co-ordinate the protection of these waters under the scope of the WFD.

The Directives stemming from the 'second wave' of water legislation will not be repealed by the WFD, but some of them will be revised. Several of their requirements will have to be co-ordinated via the River Basin Management Plans. In addition, the achievement of the objectives for the 'protected areas' designated under the Nitrates and Urban Waste Water Directives is required by 2015 (Article 4).

To assess the potential difficulties of the newly consolidated water legislation under the WFD, it is worth looking at the enforcement of existing directives. Hardly any directive in the field of water has been fully implemented and enforced in the prescribed way or by the prescribed deadline[7], nor have its objectives been achieved. It is an open question whether the new WFD will be able to ensure a better implementation and enforcement of water law than in the past.

3.2 Surface Water 75/440/EEC, Fish Water 78/659/EEC and Shellfish Water Directive 79/923/EEC

These three directives require EQSs to be established for specific water bodies and water uses.

The 1975 Surface Water Directive aims at protecting relevant surface waters intended to be used for drinking water purposes, such as lakes, rivers and reservoirs. Member States have to designate those waters and have to take all necessary measures to comply with the standards set in the directive. Most of the requirements of the directive have been integrated into the 1980 Drinking Water Directive. Consequently, the Surface Water Directive will be repealed by the WFD in Dec 2007.

The objective of the 1978 Fish Water Directive is to protect and improve the quality of fresh waters that support, or could support, certain species of fish. Similarly, the 1979 Shellfish Water Directive aims to protect and improve the quality of coastal and brackish water bodies, in order to contribute to the quality of edible shellfish products. In order to achieve the objectives of both directives, Member States have to designate the relevant water bodies, to monitor the quality of these water bodies and to take measures to ensure compliance with the minimum standards set by the Directives ('guide' as well as 'imperative' values are laid down).

The Fish Water and Shellfish Water Directive will be repealed by the WFD in Dec 2013. The achievement of a good ecological and chemical status for all waters through the WFD should imply the achievement of quality standards to support fish and shellfish life. Nevertheless, nothing in the WFD explicitly prevents the lowering of standards from these Directives once they are repealed.

[7] C. Demmke, *Towards effective environmental regulation: Innovative approaches in Implementing and Enforcing European Environmental Law and Policy*, European Institute of Public Administration, October 2000, not yet published.

3.3 Dangerous Substances Directive 76/464/EEC and its 'Daughter Directives'

The 1976 Dangerous Substances Directive is an important component of EU water legislation and provides the framework for subsequent regulation to control the discharge of specific dangerous substances. It applies horizontally to all surface water in the EU and, by setting emission standards, partially follows the second approach of the 1973 Environmental Action Programme.

The objectives are the elimination of pollution by the dangerous substances listed in Annex I ('Black List') and the reduction of pollution by Annex II substances ('Grey List'). The regulatory measures to be used by Member States to achieve these objectives are prior authorisations for any discharge of List I substances, which can be granted only for a limited time period. List I substances are identified on the basis of their toxic, persistent and bioaccumulative properties.

Due to differing viewpoints between the UK and other Member States, the directive follows a parallel approach and provides (under Article 6.1 and 6.2) for the EU Council to adopt both ELVs and EQSs for each 'black list' substance. Member States are free to choose which approach to use. For the time being, only the UK has followed the EQSs approach.

In 1982 the Commission identified 129 'candidate' substances[8] which qualify as List I substances according to Directive 76/464/EEC. However, only 18 out of the 129 substances have been regulated up to now through daughter directives as List I substances (Mercury Discharges 82/176/EEC, Cadmium Discharges 83/513/EEC, Mercury Discharges 84/156/EEC, Hexachlorocyclohexane Discharges 84/491/EEC, and Dangerous Substance Discharges 86/280/EEC).

The WFD will repeal the 1976 Dangerous Substances Directive in 13 years' time, except for Article 6, which will be repealed as of the entry into force of the WFD. The immediate repeal of Article 6 can be read together with Article 16(1) of the WFD under which European Parliament and Council have to adopt specific measures against water pollution by individual pollutants or groups of pollutants. Repeal of Article 6 of the Dangerous Substances Directive means that the 1982 'candidate' list of 129 substances will be repealed when Annex X of the WFD has established a new list of priority substances. The Commission came forward with a proposal for that list containing 32 substances (Com(2000)47).

One of the crucial issues for the protection of freshwater from dangerous substances is whether the WFD regime will be as stringent as the one under Directive 76/464/EEC. It is specifically mentioned in the WFD that the EQSs established under the first River Basin Management Plan have to be at least as strong as the ones established under Directive 76/464/EEC.

3.4 Groundwater Directive 80/86/EEC

In principle, all discharges of pollutants into groundwater were regulated by the 1976 Dangerous Substances Directive which in its Article 4 explicitly obliged Member States to apply a zero emission regime for discharges of List I pollutants into groundwater. This article also referred to a future directive on groundwater and ceased to be applicable with the adoption of the 1980 Groundwater

[8] OJ C 176, 14.7.1982, p. 3.

Directive.

In a similar way to the Dangerous Substances Directive, the Groundwater Directive divides pollutants into two categories – a 'black list' and a 'grey list'. However, the objectives are to prevent 'black list' substances from entering groundwater and to limit 'grey list' substances introduced into groundwater. To reach these objectives, the national competent authorities have to prohibit any direct discharges and to take all necessary measures to prevent indirect discharges with regard to 'black list' substances. All discharges of 'grey list' pollutants are subject to prior investigation and authorisation.

The Groundwater Directive has not been able to meet the challenge of effectively preventing long-term and diffuse groundwater pollution. A lack of instruments and of integration into other policies is the main reason for this. Nevertheless, the zero-emission obligation applies to all sources of groundwater pollution and represents a precautionary principle for certain substances, which are identified on the basis of their toxic, persistent and bioaccumulative properties.

The Groundwater Directive will be repealed by the WFD in Dec 2013. The preventative approach is less explicit under the new directive.

3.5 Implementation deficits in the field of water policy

One of the biggest problems that future water protection may be facing is not insufficient legislation, but the fact that basically no directive has been completely implemented and applied by the Member States. Nine Member States were found guilty by the European Court of Justice for non-compliance with water legislation in 42 cases concerning 17 Directives[9]. In addition, a large number of further infringement proceedings are pending. The implementation situation may be called disastrous, and in terms of EU-wide common water protection standards, the Community is far from its goal.

To add to the problem, during the first wave of water legislation, Member States were not obliged to report in detail about any progress in implementing and transposing EU water legislation. As a result, a lot of cases never came before the Commission and a huge number of infringements is likely not to have been the subject of legal proceedings.

With Council Directive 91/692/EEC of 23 Dec 1991 on Standardising and Rationalising Reports on the Implementation of Certain Directives Relating to the Environment, Member States are obliged to report in detail on the implementation of environmental directives. Consequently, the number of cases against Member States that are brought before the European Court of Justice by the Commission because of implementation shortcomings has risen sharply in recent years.

On the hit list of judgements of the European Court of Justice are the Dangerous Substances Directive 76/464/EEC and Groundwater Directive 80/86/EEC, with six Member States violating the Directives' provisions.

In the case of the Dangerous Substances Directive, Member States had provided no or insufficiently detailed notification of any specific programme for the Directive, or else the implementation was insufficient with regard to the requirement for an authorisation (see also Chapter 3.3).

[9] C. Demmke, *Towards effective environmental regulation: Innovative approaches in Implementing and Enforcing European Environmental Law and Policy*, European Institute of Public Administration, October 2000, not yet published.

The Groundwater Directive was not transposed accurately enough into national law by most Member States.[10] The directive obliges Member States to prevent the input of certain pollutants into groundwater. Hence Member States have to actually determine the list of relevant substances. Only the UK has recently drawn up a list of 79 substances for which action is deemed necessary.

In the case of Nitrates Directive 91/676/EEC, infringement proceedings have been started against 13 out of 15 Member States. In many cases Member States have not submitted the implementation reports.[11]

Increasing efforts have been undertaken at European level to improve enforcement of EU environmental legislation. For example the IMPEL Network for Environmental Inspection has been established. IMPEL describes minimum criteria for inspections which mainly focus on inspection and site visits to control compliance and promote compliance steps in the regulatory cycle. "Lessons learned from enforcement in practice provide a basis for drafting new laws and rules or amending existing laws and rules".[12] It is not entirely clear yet whether the WFD has taken into account the lessons learned from the past.

What is clear is that for the time being, the environmental sector is suffering from a severe shortage of human and financial resources. These factors will continue to restrict improvements in the field of implementation and enforcement. Efficient, effective and realistic solutions are needed.[13]

The effectiveness of EU water protection is compromised by inadequate implementation and application. The number of judgements and pending proceedings is high and many further judgements are to be expected. One important question is whether enforcement of the directives, which will be repealed by the WFD (in 7 and 13 years), will lose its current momentum. For the time being, the Commission seems to be looking after the proper enforcement of the 'first wave' directives from the 1970s. This is particularly critical with regard to the Dangerous Substances Directive (76/464/EEC) and the Groundwater Directive (80/86/EEC) because the clear and strong preventative approach of both pieces of legislation could be at stake under the WFD.

3.6 Repeal of existing legislation under the WFD and their implementation by accession countries

Accession candidate countries must have all environmental legislation implemented at the date of their accession. Nevertheless, accession countries are asking for transposition periods, which are under negotiation. In the case of water legislation, accession countries have asked for transition periods in the case of all the directives to be repealed in Dec 2013 by the WFD[14]. For other water-related directives, transition periods are being discussed, such as for Urban Waste Water Treatment

[10] C. Demmke, *Towards effective environmental regulation: Innovative approaches in Implementing and Enforcing European Environmental Law and Policy*, European Institute of Public Administration, October 2000, not yet published.

[11] European Court of Auditors, *Special Report* No. 3/98, OJ C 191/2 of 18.6.1998.

[12] *IMPEL Reference Book for Environmental Inspection*, IMPEL Network, European Union Network for the Implementation and Enforcement of Environmental Law, June 1999.

[13] C. Demmke, 2000.

[14] Dangerous Substances 76/464/EEC, Fish Water 78/659/EEC, Shellfish 79/923/EEC and Groundwater 80/86/EEC Directives.

Directive 91/271/EEC and Nitrates Directive 91/676/EEC, which might be especially important given the high implementation costs. These transition periods would give accession countries several years to comply with the required provisions.

Questions remain about the directives to be repealed by the WFD in 7 and 13 years. Will they have to be implemented and enforced in all their details until they are repealed? Or will accession countries be able to concentrate solely on the implementation of the WFD to cover all obligations and provisions of the EU water legislation which will be repealed?

The question is clear from a formal point of view: all directives have to be implemented at the date of accession, even if they are repealed by Dec 2007 and 2013. Moreover, considering the importance of the Groundwater and Dangerous Substances Directives for EU water protection and the long time period of 13 years, timely implementation and enforcement of these directives is crucial and necessary. These directives are comparable with the requirements of the WFD; moreover, the WFD offers a useful supporting frame in order to implement theses directives. The WFD explicitly guarantees at least the same level of protection as existing Community legislation (Article 4(9)) and the environmental objectives established under the first River Basin Management Plan have to give rise to quality standards which are at least as stringent as those required for implementing the Dangerous Substances Directive (Article 22(6)). This entails that full implementation of the existing directives is a prerequisite for meeting the WFD objectives.

The Commission's Draft Implementation Handbook suggests in this respect that the contents of the existing directives should be complied with, but that an overly formal transposition of the directives to be repealed might not be necessary.[15] This approach is only acceptable in the case of Directive 79/869/EEC on the Measurement of Surface Water and Council Decision 77/795/EEC on the Exchange of Information about Surface Water, which will be repealed by the WFD in Dec 2007.

[15] EC Commission, *Handbook on the Implementation of EC Environmental legislation.*

4 Objectives and Instruments under the Water Framework Directive and Political Options for future work

It is beyond the scope of this chapter to give a comprehensive view of the Water Framework Directive 2000/60/EC [16] (WFD). The authors have attempted to identify and focus on the key issues of the WFD, analyse its provisions, point out weaknesses and ambiguities and derive from them a number of political options which are crucial for the improvement of European waters.

4.1 General Remarks

In September 2000, after a decade of political struggle, the European Parliament and Council adopted the Water Framework Directive (WFD). There is no doubt that this new framework for EU water legislation is a most complex package of objectives, instruments and obligations.

Two of the main goals of the Water Framework Directive are the protection and improvement of the aquatic environment and the contribution to sustainable, balanced and equitable water use. The Directive should also contribute to achieving the objectives of relevant international agreements (e.g. OSPAR, BARCELONA and HELCOM). This is important since some of the objectives laid down by these international agreements are far-reaching and might ask for more stringent measures than those currently required under the WFD.

New instruments are introduced in the EU water policy to protect and improve all European waters[17]: an ecological and holistic water status assessment approach; river basin planning; a strategy for elimination of pollution by dangerous substances; public information and consultation and finally, financial instruments.

Despite these important additions to EU water policy instruments, a number of problems are emerging from the directive. They need to be dealt with as soon as possible to achieve clear and consistently positive results for EU waters. Some of the main weaknesses identified are:

- complicated and wide-ranging exemption and derogation conditions for the environmental objectives for 'heavily modified' waters or for new physical modifications for example;
- new implementation problems, also due to legal uncertainty - for example the situation before and after the repeal of existing water legislation;
- a shift of important decisions to subsequent political processes – like the criteria for assessing groundwater quality, or the environmental quality standards and emission limit values for surface waters.

One may say that the WFD follows a two-level approach, which differs from existing EU water legislation:

1. Co-ordination of measures at national or Community level (with the WFD).
2. The definition of exact objectives, guidelines and measures is left to subsequent political processes (through daughter directives, experts' committees).

[16] OJ L 327/1, 22.12.2000, p.1-72

[17] including transitional and coastal waters, which is currently neglected under EU legislation

The success of this approach will strongly depend on political will and future hard work, on the full participation of all stakeholders as well as on the exploitation of synergies between the various legislative instruments provided for under the WFD.

A lot of different technical and political networks will be established and play a major role in subsequent legislative processes. It is the integrative powers of such networks which will determine the success of the WFD. NGO participation at all relevant stages is necessary in order to reflect the interests of the public and the environment. Past experience shows that NGO intervention is crucial to improve implementation and enforcement, which cannot be left to regulators alone.

It remains to be seen to what extent environmental NGOs will have the capacity to follow the large number of sometimes very technical networks and control and positively influence their work. More financial resources seem to be necessary to support NGO work, while NGOs need to prioritise their involvement and action.

The following chapters will try to give an initial overview of the WFD's key issues and should help NGOs to identify the necessary steps to take at national, regional and local levels.

4.2 Integrated River Basin Management

4.2.1 Introduction

One of the important concepts of the WFD is the organisation and regulation of water management at the level of river basins. To this effect, river basin districts are created in such a way as to comprise not only the surface run-off through streams and rivers to the sea, but the total area of land and sea together with the associated groundwaters and coastal waters. Small river basins directly discharging into the sea may be combined into one river basin district.

Every decision about the use or interference with the aquatic systems within the river basin district should take place in principle in an integrated and co-ordinated manner and be laid out in so-called River Basin Management Plans (RBMPs). All planning, from the analysis and assessment stage via the objectives for the river basin to the respective programmes of measures intended to achieve these objectives, is undertaken at the river basin level. Member States are required to empower one competent authority for each river basin district with the production of the plans.

4.2.2 Role of River Basin Management Plans

The central administrative tools are the River Basin Management Plans (RBMPs), which Member States are required to produce for each river basin district. The initial RBMP for each river basin district will have to be completed by Dec 2009 and reviewed and updated every six years thereafter (2015, 2021 etc). The preparation of RBMPs is a most important area of influence for NGOs, since this is where all relevant issues for the achievement of the WFD objectives are negotiated. Notably, Member States are required to ensure a full and comprehensive public consultation of all the issues covered by the plans.

In the case of international river basins – whether they fall entirely within the European Union or extend beyond the boundaries of the Community – Member States are asked to ensure co-ordination and co-operation with the aim of producing one single international River Basin Management Plan. If such an international RBMP cannot be produced for some reason or other, Member States are still responsible for producing River Basin Management Plans for the parts of the international river basin district falling within their territory.

NGOs should demand that RBMPs be supplemented by more detailed programmes and management plans, which are specifically encouraged by the WFD. Such detailed plans can for instance focus on sub-basins, water use sectors, or a particular water type, and deal with various aspects of water management. Especially in large river basins such as the Rhine or Danube, sub-basin plans can help to make the issues at stake more transparent and thus heighten public interest and input. Separate management plans for certain water uses (e.g. irrigation) would simplify an overview of the situation.

1. Content of the River Basin Management Plans

Member States are required to ensure that the River Basin Management Plans cover the following elements:

- A general description of the characteristics of the River Basin District, i.e. maps of the location and boundaries of water bodies (surface and groundwater) and of the eco-regions and surface

water body types found in the river basin. Reference conditions for the surface water body types encountered should also be included.

- A *summary* of significant pressures and impact of human activity on the status of surface water and groundwater, including an estimation of point and diffuse source pollution and a summary of land use. Moreover, pressures on the quantitative status of water (including abstractions) are to be estimated and supplemented by an analysis of other impacts of human activity on the status of water. NGOs will play an important role in ensuring that all relevant pressures are identified and taken into account. The interpretation of what is deemed *significant pressure* (and what is not) can be influenced so as to take due account of all relevant water users and polluters.
- Protected areas are to be identified and shown in map form.
- A presentation in map form of the results of the monitoring programmes for the status of surface water (ecological and chemical), groundwater (chemical and quantitative) and protected areas. A map of the monitoring networks shall also be included. These maps of monitoring results are a first indication of the true state of the aquatic environment in the river basin. NGOs would be well advised to study these maps in detail and identify possible problems and their causes. The maps of the monitoring results are an excellent tool for raising public awareness and putting pressure on those responsible.
- A list of the environmental objectives established under Article 4 for surface waters, groundwaters and protected areas. RBMPs are the area where the authorities have to declare (and defend) for the first time the application of extensions and derogations under the directive's Article 4(4), (5), (6) and (7). This may prove to be an excellent opportunity for NGOs to influence the application of such legislation. The authority in charge will have to explain in detail on the basis of which information they want to exempt certain waters from achieving the objectives. This provides an inroad to assess and where necessary challenge such decisions.
- A summary of the economic analysis of water use (Article 5 and Annex III).

2. Programmes of Measures and the River Basin Management Plans

For waters for which the analysis shows that they do not achieve yet the objectives of Article 4, programmes of measures will have to be adopted under Article 11. Member States (or the authority responsible for the respective river basin district) will also have to explain how the adopted programmes of measures apply the WFD rules to the river basin district and how they are expected to achieve the objectives under Article 4.

The following information is to be included in the RBMPs as regards the programmes of measures:

- a *summary* of the measures required to implement Community legislation for water protection;
- the application of the principle of recovery of the costs of water use;
- a *summary* of the measures taken to give special protection to the waters intended for human consumption (Article 7);
- a *summary* of the controls on abstraction and impoundment of water (including exemptions under Article 11(3)(e);
- a *summary* of the controls adopted for point source discharges and other activities with an impact on the status of water;

- an identification of authorisations of direct discharges to groundwater under Article 11(3)(j);
- a *summary* of the measures taken on priority substances (Article 16);
- a *summary* of the measures taken to prevent or reduce the impact of accidental pollution incidents;
- a *summary* of the measures taken for bodies of water which are unlikely to achieve the objectives of the WFD;
- details of the measures taken to avoid increase in pollution of marine waters (Article 11(6)).

3. Subsequent River Basin Management Plans

Albeit still very much an issue in the rather distant future, the following additional information shall be included in subsequent RBMPs (2015, 2021, and every six years thereafter):

- a *summary* of any changes or updates since the publication of the previous RBMP, including a *summary* of the reviews of the applied derogations and time extensions;
- an assessment of the achievement (or not) of the environmental objectives;
- a presentation of the monitoring results for the period of the previous plan in map form;
- an explanation for any environmental objectives which have not been reached;
- a *summary* of, and an explanation for, any measures that have not been undertaken though they were planned in an earlier version of the RBMP;
- a *summary* of any additional interim measures adopted for waters for which there is an indication that the WFD objectives are unlikely to be achieved.

4.2.3 Public Consultation and NGO options under the RBMPs

1. More information, more possibilities

It is obvious from the above that the RBMPs are likely to provide the general public and NGOs with more factual information relevant to water protection than any other document before. This information should be thoroughly assessed and analysed and where necessary be used to challenge the explanations and justifications of the river basin authority and to propose more efficient measures.

Where more detailed programmes and management plans are drawn up for the river basin district dealing with particular sub-basins, sectors, issues or water types, even more factual information becomes available because Member States are required to publish at least a *summary* of such management plans.

The Directive specifically requires Member States to list the contact points and procedures for obtaining the background documentation and information in order to "encourage the active involvement of all interested parties in the implementation of this Directive, in particular in the production, review and updating of the River Basin Management Plans".

2. Deadlines for preparing RBMPs

In preparation of the RBMPs, Member States have to respect clear deadlines:

- A timetable and a work programme is to be published for the production of RBMPs, including

the consultation measures to be taken, at least three years before the beginning of the period to which the plan refers (i.e. for the initial plans covering the period 2009 to 2015, by Dec 2006).

- One year after that (by Dec 2007), an interim overview of the significant water management issues identified in the river basin is to be made publicly available.
- Finally, one year before the RBMPs become operational (by Dec 2008), draft copies are to be published.

For all these interim documents, Member States shall allow at least six months for submitting comments in writing in order to enable active involvement and consultation.

3. Right to Know for the Public

More importantly for NGOs, an all-encompassing right to know has been established under Article 14: '*Upon request*, access shall be given to background documents and information used for the development of the draft River Basin Management Plan'. In particular, details shall be publicly accessible as regards the control measures on point sources of pollution (Article 11(3)(g)) and other adverse impacts on the status of waters (Article 11(3)(i)), though excluding details of measures on diffuse sources for some reason (Article 11(3)(h)).

Furthermore, Article 14 provides for public access to the actual monitoring data *upon request*. Thus, in principle, the information publicly available during the preparatory phase of RBMPs should enable NGOs to critically evaluate all water management policies at the river basin level. By identifying and where necessary exposing strategic weaknesses of the RBMPs, NGOs supported by the general public can make a significant impression on the future of European waters.

4.3 Ecological objectives for surface waters

4.3.1 General Introduction and Overview

People use water in many different ways and traditionally, water users are grouped into households, industry and agriculture. It is often forgotten that the environment and wetlands in particular also depend on a sufficient and timely supply of water with sufficient quality. Ecosystems are an important part of the hydrological water cycle, and their functioning is an indispensable precondition for the replenishment and renewal of the water resources that humans rely on. Despite the fundamental human dependence on natural cycles, some water users still regard the environment as an 'alternative user' in competition with human water demands.

The WFD aims to protect the physical and biological integrity of aquatic systems and hence the basis of human water withdrawals. Environmental protection is thus one of the main objectives of the Directive. The integrated and ecologically oriented assessment of the surface water status with its corresponding objectives are central instruments.

The overall objective of the WFD is a 'good status' to be achieved for all waters by Dec 2015. For surface waters, 'good status' is determined by a 'good ecological' and a 'good chemical status'. Good chemical status is discussed separately in Chapter 4.4. Ecological status is determined by biological, hydro-morphological (e.g. the habitat conditions) and physico-chemical quality elements. The point of reference is given by the biological parameters of undisturbed waters. These are waters with only 'very minor' human impacts.

This 'integrative' approach, which is extending the current chemical water quality targets to water quantity, habitat quality and biological targets, is an improvement in the protection of our aquatic environment. Under the WFD, waters have to be protected and enhanced in a more 'holistic' manner. This will require re-habilitation measures such as the provision of ecologically oriented water flows to support natural biodiversity. The risks stemming from chemical pollution not covered by traditional monitoring (because of its complexity or synergies) may now be detected if biological assessment tools, which are sensitive to toxic pollutants, are applied in the right place. As soon as the biological system in a given water body reacts negatively, the causes should be identified and controlled in order to achieve 'good ecological' status.

However, the application of ecological assessments and the exact definition of the 'good ecological status' objective need further clarification. In its Annexes II and V, the WFD gives a first 'guideline' with work instructions and normative definitions, but specific numerical values, e.g. to characterise 'good ecological status', still need to be developed.

4.3.2 Detailed analysis: Five steps to a EU water status map

In order to assess if the overall goal of the Directive, namely to achieve good status for all waters by Dec 2015, has been reached, a consistent classification of all European surface waters into status classes is necessary. At the end of this exercise, a map should indicate which waters are of good or higher status and thus achieve the WFD objective, and which ones are of moderate, poor or even bad status. In order to make results comparable between Member States, common criteria have to be developed and applied. The respective reference systems also have to be intercalibrated.

4.3.2.1 Step 1: Assignment of surface waters to ecological types

There are thousands of surface water bodies in Europe within each water category (rivers, lakes, transitional and coastal waters), and their natural conditions are very different. In order to facilitate comparisons, each surface water body should be assigned to one type of surface water. The methodology for this assignment is set out in Annex II of the Directive.

The other obvious role for typology is simply to develop a common language for communication within and between Member States – so that we broadly know what 'habitat' we are talking about.

Two different optional approaches may be used for each water category - System A and System B.

System A:

- 25 European eco-regions have been identified for rivers and lakes and 6 eco-regions for transitional and coastal waters (see maps in Annex XI).
- For each eco-region, further differentiation is undertaken by geographical, physical and geological descriptive factors for rivers or lakes and salinity and tidal range / mean depth for transitional or coastal waters.

Thus, the result of such a typology for a given river might be: central highlands, mid-altitude (200-800 m), medium catchment size (100-1000 km²) and siliceous geology. Or, for a coastal water body: North sea, mesohaline (0.5 to 1.8 % salinity) and shallow depth (<30m).

For rivers alone, around 900 different types are possible. For lakes, even more types are possible (over 2000) and for transitional as well as coastal waters, 90 different types could be derived. Only water bodies belonging to the same type can be directly compared with each other.

System B:

Compulsory and optional factors for alternative characterisation are provided.

Compulsory factors are: altitude, longitude, latitude and other descriptive elements like geology and size for rivers and lakes or salinity and tidal range for transitional and coastal waters.

Optional factors include a range of morphological, physical and chemical parameters.

For an alternative characterisation, physical and chemical factors determining the body of water and therefore its biological composition have to be used.

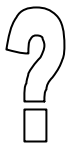
System B should lead to at least the same degree of differentiation as system A. Due to its flexibility all Member States are likely to choose for System B.

4.3.2.2 Step 2: Establishing type-specific reference conditions

Next, for each of the several hundred types of water bodies, type-specific hydromorphological and physico-chemical conditions must be established. These conditions should represent the high ecological status defined in Annex V, which means a status with 'no or only very minor human impact'. Type-specific biological reference conditions will be derived from this. The elements, which define the ecological status, are set out in the table below.

Biological quality elements		
Rivers and Lakes	Transitional Waters	Coastal Waters
Phytoplankton Macrophytes and phytobenthos Benthic invertebrate fauna Fish fauna	Phytoplankton Macroalgae Angiosperms Benthic invertebrate fauna Fish fauna	Phytoplankton Macroalgae and angiosperms Benthic invertebrate fauna
Hydromorphological quality elements		
Rivers	Lakes	Transitional and Coastal Waters
Hydrological regime River continuity Morphological conditions	Hydrological regime Morphological conditions	Tidal regime Morphological conditions
Physico-chemical quality elements for Rivers, Lakes, Transitional and Coastal Waters		
	Rivers and Lakes	Transitional and Coastal Waters
General conditions	Nutrient concentrations Levels of salinity pH Oxygen balance Acid neutralising capacity Temperature	Nutrient concentrations Temperature Oxygen balance Transparency
Specific synthetic and non synthetic pollutants	Annex X substances and substances discharged in significant quantities	Annex X substances and substances discharged in significant quantities

It is important to note that the hydromorphological and the general physico-chemical conditions are merely *supporting* elements for the biological elements for good ecological status.



Specifically, for the physico-chemical parameter 'specific' to synthetic and non-synthetic pollutants, concentrations below the detection limit or natural background concentration will be used as a reference.

However, 'specific' pollutants are limited to the priority substances listed in Annex X and discharged into the relevant water body (at the moment 32, see 4.4.2.3), and to other pollutants discharged in 'significant' quantities. And yet what are 'significant' quantities? This wording clearly leaves much room for interpretation and could lead to a reference system with high but undetected human impact, which then represents 'high status'.

How to find one body of water for each type of water body that shows no or only slightly altered morphological and physico-chemical conditions? For many types, undisturbed water bodies do not exist in Europe any more, so that models might be used to predict these conditions and derive the biological parameters. In the models, predictive methods may be applied as well as historical data (e.g. from lake sediments). Because of the lack of natural waters in the EU, models and predictions are likely to be used extensively, raising concern about the reliability of the respective reference conditions.

It must be ensured that there is a reasonable reference system, which presents the best possible approximation of values for undisturbed biological conditions. Quantities of discharged pollutants must therefore be considered as 'significant', when they have an impact on biological parameters. The reference system will indirectly define the goal to be achieved under Article 4. The proper use of a reference system representing the best approximation of anthropogenically undisturbed status of a water body is crucial in order to be able to compare and harmonise the different national systems. For example, the assessments of the current systems in UK and France could not be compared, due to a lack of reference conditions[18].

4.3.2.3 Step 3: Setting harmonised class boundaries between high/good/moderate status through an intercalibration network

Annex V of the WFD gives normative definitions of the different quality classes. The general definitions are:

High status: Reflect undisturbed conditions and no or only very minor evidence of distortion.

Good status: Low level of distortion and only slight deviation from undisturbed conditions.

Moderate status: Moderate level of deviation and distortion.

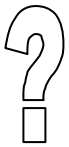
The next crucial step is to define what the boundaries separating high status from good status and good status from moderate status shall be (see Annex V, 1.4.1). It is clear that due to different national approaches to assess the biological quality of waters, different results of this exercise can be expected, which would finally not lead to harmonised environmental objectives.

Member States are therefore required to express the results of their assessment systems as ecological quality ratios. Monitoring results will supply measured values for each biological quality element (e.g. fish population). The ratio of this measured value and the reference value derived from undisturbed conditions will be taken, resulting in numbers between 0 and 1. Ratios close to zero indicate bad status and ratios close to 1 indicate high status.

Member States will first set their own national class boundaries between high/good/moderate, followed by a Commission-facilitated intercalibration exercise in order to ensure consistency. Specific sites will be selected by expert judgement based on joint inspections from a range of surface water body types present within each eco-region. Reference waters in different Member States will be compared and the various national class boundary systems applied. This rather complex and lengthy procedure (described in Annex V, 1.4.1) is intended to lead to harmonised class boundaries

[18] *The harmonised monitoring and classification of ecological quality of surface waters in the EU*, Final Report for the EU Commission DG XI, May 1996.

by 2006. However, the setting of class boundaries between moderate and poor status and between poor and bad status are left to the Member States.



What is the class boundary between high and good? Is it at the Environmental Quality Ratio value of 0.99 or 0.70? And more importantly, what is the class boundary between good and moderate (with moderate status waters failing the goals of the Directive)?

Member States will have to work together from the beginning of the exercise in order to achieve harmonised and comparable results. The class boundary between good and moderate has to be sufficiently stringent, since it will determine the level of the good ecological water status objective.

4.3.2.4 Step 4: Monitoring and assignment of status

After setting the reference conditions for each type of water body at national level and established the harmonised class boundaries between high/good/ and moderate status Member States have to establish an appropriate monitoring network for the ecological, chemical status and the volume and level or rate of flow (as relevant to the ecological and chemical status).

The monitoring operation has to cover at least the parameters indicative of each quality element as set out in step 2 (see Chapter 4.3.2.2).

This means that out of each quality element, indicative parameters can be chosen, which are then monitored and compared with the relevant reference condition. By comparing this parameter value with the value of the parameter under the high status reference condition and the intercalibrated class boundaries, each element can be defined as high, good, moderate, poor or bad.

It is clear that one has to be careful with the selection of these 'indicative' parameters, since every parameter excluded from monitoring could limit the sensitivity of the assessment system. This is especially important with regard to the biological parameters, which should be a sufficient and overall indicator for chemical quality.

Member States therefore need to provide estimates of the level of confidence and precision of the monitoring results in the programme of measures.

The overall ecological status of a body of water is defined as a combination of biological and physico-chemical results. If, for instance, biological results indicate moderate status while physico-chemical results indicate good status, the overall ecological status will be moderate.

The open question is how the biological or physico-chemical quality is exactly classified. It is unclear how the aggregation of the different values of the biological and physico-chemical quality elements will be undertaken. Is the status good when all or some percent of the parameters for each quality element reach values which are at or above the level for good status? Or does the worst element determine the status? And must all samples over a year show a good status or only some percent?

EU-wide standards must be developed on how to aggregate Environmental Quality Ratios for the specific parameters within biological and physico-chemical quality. Care should be taken that a river classified as good in Sweden is similar in quality as a good status river in Italy or anywhere else in the EU or in the accession countries.

4.3.2.5 Step 5: Creating EU water status maps

Finally, all the status results will be aggregated into colour-coded maps.

Ecological Status Classification	Colour Code
High	Blue
Good	Green
Moderate	Yellow
Poor	Orange
Bad	Red

A black dot shall indicate non-compliance with environmental quality standards for specific synthetic or non-synthetic pollutants.

4.3.3 Artificial and Heavily Modified Waters

Even though the values of the hydromorphological parameter (e.g. the habitat conditions) are only used to classify high status sites, the hydromorphological conditions at other sites must be such as to support the achievement of 'good ecological status' biological conditions.

That is, in order to reach good status, the hydromorphological quality elements, for example the flow dynamics, river bed, meanders etc…, have to allow biological diversity, which only 'slightly' deviates from undisturbed conditions.

Major physical constructions, like large dams, dikes, reservoirs etc… could mean in many cases that the hydromorphological conditions would not be consistent with good biological conditions unless major changes or even removal of these constructions were undertaken. Nevertheless, a lot of improvements could be undertaken to allow for richer biodiversity.

One of the ways in which the WFD accommodates such severe physical modifications is to establish a new category of water bodies – 'artificial or heavily modified waters'- for which a new and less stringent ecological objective called 'good ecological potential' is established.

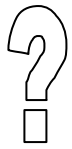
This objective allows the anthropogenic impact on hydromorphological characteristics to remain, which lowers the standard for biological quality elements compared to 'natural reference waters'. Nevertheless, the achievement of good physico-chemical status remains an unchanged objective.

This should mainly ensure that Member States are not in breach of the Directive's objectives, when the ecological improvement or total removal of important facilities – like port facilities or flood protection dams in cities – is not reasonably achievable or desirable.

Article 4.3 specifies the conditions for the designation of 'heavily modified or artificial water bodies':

- if the achievement of 'good ecological status' would have adverse effects on the wider environment or some specific activities (navigation, water supply, flood protection and other important sustainable developments);
- and if the beneficial objectives served by the artificial or modified characteristics of the water body cannot, for reasons of technical feasibility or disproportionate costs, reasonably be achieved by other means, which are a significantly better environmental option.

The designation and the reasons have to be explained in the River Basin Management Plans.



The very wide and ambiguous conditions for the designation of 'heavily modified and artificial waters' could be used for virtually all water bodies. What is an 'important sustainable development' and what is meant by a 'significantly better environmental option'?

Because of the fact that the ecological objectives for artificial or heavily modified water bodies are substantially lower than for other bodies of water subject to the good ecological status objective, it will be a very important decision to determine which bodies of water will be designated as 'artificial' or 'heavily modified'. Environmental NGOs may need to play an important role in ensuring that this designation is only used where it is really needed.

The status assessment of artificial and heavily modified waters is derived as a result of the five steps mentioned above.

This means that in step 1 – the assignment of surface waters to ecological types –, this operation should be undertaken by assigning the artificial or heavily modified water body to the closest comparable 'natural' surface water body category. This would mean that a drinking water reservoir is considered as a lake and a water transfer canal as a river.

In step 2 –Establishing type-specific reference conditions – the reference conditions, called 'maximum ecological potential', are derived from the closest comparable 'natural' surface water body type, so that the values of the relevant biological quality elements must reflect those linked to the surface water body type as far as possible, given the physical conditions which result from the artificial or heavily modified characteristics of the water body. With respect to the reference hydromorphological conditions, they must be consistent with the only impacts on the surface water body being those resulting from the artificial or heavily modified characteristics of the water body, once all mitigation measures have been taken to ensure the best approximation to ecological continuum, in particular with respect to migration of fauna and appropriate spawning and breeding grounds.

Member States must restore all heavily modified or artificial waters which are not at maximum ecological potential to at least 'good ecological potential'. This objective represents a 'slight' deviation from the biological conditions specified for maximum ecological potential.

Step 3 and 4 are similar to the ones mentioned above.

Step 5 – Creating EU water status maps – using the following colour codes:

Ecological Potential Classification	**Colour Code**	
	Artificial Water Bodies	**Heavily Modified**
Good and above	Equal Green and Light Grey Stripes	Equal Green and Dark Grey Stripes
Moderate	Equal Yellow and Light Grey Stripes	Equal Yellow and Dark Grey Stripes
Poor	Equal Orange and Light Grey Stripes	Equal Orange and Dark Grey Stripes
Bad	Equal Red and Light Grey Stripes	Equal Red and Dark Grey Stripes

4.3.4 Derogation and extensions of deadlines regarding ecological objectives

4.3.4.1 Extension of deadlines

Article 4(4) allows Member States to extend the deadline for achieving good ecological status by up to twelve years beyond 2015. Such a rule is justified in order to take account of adverse natural conditions or insurmountable technical difficulties. However, there is also a more problematical clause allowing extensions on the grounds of disproportionate expense.

Fortunately, the reasons and justification for making use of an extension of deadlines must be included in the River Basin Management Plan, for which public consultation is required at all stages. It should therefore be possible to ensure that extensions are only used under exceptional circumstances and with proper justification.

4.3.4.2 Less stringent objectives

Article 4(5) may cause even more problems. Member States are allowed to exclude specific bodies of water from achieving good ecological status objectives because they are "so affected by human activity … that the achievement of the objectives would be unfeasible or disproportionately expensive". Potentially, this clause might be used to permanently exclude very polluted sites from the scope of the Directive's objectives.

However, there are many steps requiring public participation in the process of applying such derogation. Furthermore, a lot of conditions have to be met. Given sufficient public involvement, this derogation should only be used when it is in the long-term public interest.

4.3.5 Political options

What are the key issues concerning the restoration of the ecological quality of surface waters in the WFD? Where can NGOs be most effective in improving the situation?

At river basin level

- Participation in drafting the River Basin Management Plan to limit the application of time extensions and derogations for achieving good ecological status.
- Ensuring that only water bodies are designated as 'heavily modified' when it is proven that it is justified and that all mitigation measures are undertaken for these waters in order to improve the hydromorphological situation.

At national level

- Ensuring full transposition of the WFD into national law.
- Participation in the process of establishing type-specific reference conditions, which should be the best approximation of the situation with no or only very minor human impacts. This will indirectly determine the level of the 'good ecological status' objective.
- Ensuring that the status assessment procedure is stringent as well as sensitive to changes in quality.

At EU level

- Ensuring that Member States are working closely together right from the beginning to establish finally comparable and consistent status maps and ecological objectives. Harmonised EU water legislation means that a river classified as good in Sweden is similar in quality as a good status river in Italy or anywhere else in the EU and the accession states.
- Participating in the intercalibration process to ensure that appropriate 'reference waters' are selected and class boundaries are sufficiently stringent and harmonised. Environmental problems should not be hidden but be explained.

4.4 Chemicals policy under the WFD

4.4.1 General Introduction and Overview

With respect to the regulation of water pollution, the Water Framework Directive requires action at Member State level and Community-wide uniform standards for certain chemicals.

A. At Member State level:

Environmental quality standards (EQSs) for all pollutants 'identified as being discharged in significant quantities' into bodies of surface water have to be set *at Member State level* (an indicative list of the main pollutants is provided in Annex VIII). Compliance with these EQSs is required for the achievement of the objective of 'good ecological status' (defined in Annex V) by Dec 2015.

For 'High Status' surface water bodies, Member States must with regard to the non-deterioration provision (article 4.1.a.i):

- prevent non-synthetic pollutants discharged in significant quantities from reaching concentrations in the water body above the range normally associated with undisturbed conditions;
- and prevent synthetic pollutants discharged in significant quantities from reaching concentrations above the limits of detection.

B. At Community level:

EU sets *Community-wide standards*, which have to be met as part of the objective of achieving 'good chemical status'. The more stringent standards described above apply to high status waters.

The existing Community standards (laid down in the daughter directives to the Dangerous Substances Directive (76/464/EEC)) are listed in Annex IX. For bodies of surface water, environmental objectives established under the first River Basin Management Plan required by this Directive shall, as a minimum, give effect to quality standards at least as stringent as those required to implement Directive 76/464/EEC.

However, the Dangerous Substances Daughter Directives must be reviewed by the Commission, and revised control measures proposed, including the possible repeal of controls on the substances covered by these Directives but not included in the Water Framework Directive's list of priority substances (see below).

The Water Framework Directive's list of priority substances will be identified under the procedures laid down in Article 16. Priority hazardous substances will be selected from this list. The priority list will be reviewed every 4 years. The list replaces the list of 129 substances prioritised in the Commission Communication to the Council of 22 June 1982.

For priority substances a progressive reduction in pollution is to be achieved by establishing Community-wide environmental quality standards and source controls by the procedure laid out in Article 16. For so-called priority hazardous substances, the cessation of discharges, emissions and losses shall in principle be achieved within 20 years at the latest. There is no derogation provided in the Directive from these obligations.

4.4.2 Detailed Analysis

4.4.2.1 Scope of the Directive

Which waters are covered?

1. With respect to Article 4(1)(iv) (i.e. priority substances):

⇨ all surface waters (not just bodies) are covered including territorial waters.

2. With respect to the objective of good surface water chemical status (i.e. priority substances; 76/464/EEC daughter directive substances; other substances for which standards have been set in Community legislation):

⇨ all surface water **bodies** are covered including territorial water bodies.

3. With respect to ecological status objectives (i.e. priority substances being discharged; any other pollutants being discharged in significant quantities).

⇨ all surface water **bodies** but excluding territorial waters beyond the coastal water body limit.

NB There is considerable overlap between the above objectives. The most stringent objective applies.

Surface waters include:

- all inland surface waters (rivers, lakes, reservoirs, canals);
- transitional waters (i.e. estuaries);
- coastal waters (one nautical mile from the baseline from which territorial waters are measured);
- and territorial waters (for chemical status objectives and Art 4(1)(iv) objectives only).

The status objectives described above only apply to 'bodies' of surface waters. Bodies are 'significant elements' of surface waters. Certain small surface waters may be regarded as insignificant (i.e. not identified as 'bodies').

4.4.2.2 Measures at Member State level

Member States are required to act about the pollution of surface waters by

a) identifying environmental pressures, i.e. identifying for which surface waters the input of pollutants endangers the maintenance of the status of the water body or the restoration of the body to good status (i.e. breaches of environmental quality standards or adverse effects on the water bodies' biota) by 2004;

b) identifying which pollutants are responsible for the problem;

c) setting environmental quality standards (EQSs) for pollutants discharged in significant quantities according to the procedure laid out in Annex V, 1.2.6. In setting an environmental quality standard (EQS), detailed data on biological toxicity and the aquatic ecosystem need to be taken into account. Hence, environmental quality standards (EQSs) are likely to differ from

region to region and from water type to water type. The environmental quality standards (EQSs) are subject to peer review and public consultation.

One major weakness is that environmental quality standards are set as maximum annual average concentrations, which means that very high concentrations would be temporarily tolerated.

d) implementing measures to keep within environmental quality standards in order to prevent deterioration in status and to achieve 'good ecological status'.

4.4.2.3 Measures at Community level

Priority substances

For the substances on the WFD priority list, Community-wide uniform measures (environmental quality standards and emissions controls for both point and diffuse sources, Article16(6)) must be established. To establish these measures, the Commission shall firstly draft a list of priority substances, which has to be approved by the Council and EP. Substances shall be prioritised for action on the basis of risk to or via the aquatic environment. They are identified by:

(a) risk assessment (under Regulation (EEC) No 793/93, Directive 91/414/EEC, and Directive 98/8/EC); or

(b) targeted risk-based assessment (following the methodology of Regulation (EEC) No 793/93).

Nevertheless, a third and important option to prioritise substances for action can be chosen in order to comply with the timetable (first revised priority list must be ready by Dec 2004):

c) Prioritisation on the basis of risk to or via the aquatic environment, identified by a simplified risk-based assessment procedure based on scientific principles taking particular account of evidence of intrinsic hazards, evidence from monitoring of widespread environmental contamination, and other proven factors which may indicate the possibility of widespread environmental contamination (e.g. production or use volume, use patterns).

The priority list will be reviewed by the Commission at least every four years.

This does not mean, however, that the Commission is obliged to propose additional priority substances every four years. The Commission shall merely come forward with proposals 'as appropriate' (Article 16(4)).

Once the proposed list of priority substances has been adopted by the Council and Parliament (adoption under the co-decision procedure, Art 175 of the EU Treaty), the Commission shall propose measures for the progressive *reduction* of discharges, emissions and losses of the priority substances (and for *cessation or phasing-out* of priority hazardous substances, see below).

Again, for these measures to become law, they have to be adopted by the Council and Parliament (probably as Daughter Directives), for each single substance or group of substances, via a full legislative process. If no agreement is reached and no measures are adopted by 2006, Member States are obliged to establish national environmental quality standards and source controls for all bodies of water affected by priority substances (Article 16(8)).

Priority hazardous substances

Community-wide standards will specifically apply to so-called *priority hazardous substances*, a sub-group of the WFD list of priority substances. This class of substances has been established against fierce resistance at the request of the European Parliament. It is the first time in EU law that the cessation of inputs of certain chemicals into surface waters has been made a legal requirement. For priority hazardous substances, defined in a similary way to 'hazardous substances' under the OSPAR agreement on the protection of the Northeast Atlantic, cessation of discharges, emissions and losses shall be achieved within 20 years at the latest.

Priority hazardous substances are identified by the Commission amongst the substances on the priority list (Article 16(3)). To this end, the Commission will have to assess which of the substances on the WFD priority list fulfil the criteria of bioaccumulation, toxicity and persistence set out in Article 2(29) or are giving rise to an equivalent level of concern (e.g. endocrine disrupters, certain metals, etc.). In that process, the selection of hazardous or dangerous substances under relevant Community legislation (e.g. (EEC) No. 793/93, 91/414/EEC 76/464/EEC) and international agreements (OSPAR, UN ECE POPs Convention etc.) has to be taken into account. The identification process does not specifically require full risk assessments in accordance with Council Regulation (EEC) No. 793/93, which is crucial in order to follow a precautionary approach.

In a second stage, 'controls for the cessation or phasing-out of discharges, emissions and losses' of priority hazardous substances have to be adopted by the Council and EP. The timetable for cessation shall not exceed 20 years as from the adoption of these measures. These controls are again proposed by the Commission as daughter directives, and have to be adopted by the Council and Parliament. Controls may include bans of certain substances, restrictions in terms of use, or a requirement to limit the application of a substance to zero-emission, closed-cycle installations.

If the Council and EP do not adopt the necessary measures for cessation of specific priority hazardous substances (Article 16(8)), Member States are required under Article 4(1)(a)(iv) to take the appropriate measures to achieve cessation or phasing-out of such substances 'according to Articles 16(1) and 16(8)', without a specific deadline provided. It is unlikely, however, that a Member State will be able to ignore the 20-year deadline, once a priority substance has been identified as hazardous at Community level.

The first WFD Priority List

A proposal for a first priority list has been tabled by the Commission in February 2000 (COM (2000) 47 final/2 - 2000/0035 (COD)). It consists of 32 substances selected as a result of a simplified risk-based procedure (Article 16.2) with the so-called COMMPS procedure, which takes account *inter alia* of monitoring results and intrinsic substance properties. 32 is an arbitrary number and is intended to reflect the Commission's limited administrative potential. It does not indicate that there are no more than 32 substances of concern, but that the list of substances should be manageable, adding some new ones every four years.

Nevertheless, a number of shortcomings can be reported, requiring improvements under COMMPS for its future application. For example, a great number of substances for which no data were available at Community level from the national monitoring programmes were left out. This situation applies to:

- about 60% of pesticides which are currently in use;
- all industrial chemicals which no company in the EU produces or imports in quantities of over

1,000 tonnes per year. This concerns about 8,000 to 10,000 substances for which appropriate data were not available in the IUCLID databank when the COMMPS procedure was carried out;

- industrial chemicals produced or imported by fewer than four undertakings in the EU in quantities superior to 1,000 tonnes per year (confidentiality of market data).

As a consequence, the COMMPS procedure only covered 95 substances on the basis of monitoring data and 123 substances on the basis of modelling data.

Amongst the 32 WFD priority substances, 3 are classified as UNECE POPs, 13 as hazardous by OSPAR, which means that they are either POP-like substances or highly toxic, persistent and bioaccumulative. Another 16 are selected under OSPAR 1998 and 2000 for priority action for a cessation of their releases by 2020. It should be very clear that the priority substances that fulfil one of these selections should be identified as priority hazardous substances. The Community has internationally committed itself to cease emissions of these substances by 2020.

21 priority substances are in one of the above-mentioned 'hazardous' categories and most of them are on different lists established in Community legislation on dangerous/hazardous substances. At least these 21 substances should be identified as priority hazardous substances. The Parliament's rapporteur has pointed out that a further 7 substances prioritised by OSPAR in 2000 should be added to the WFD priority list, thus totalling 39 priority substances, 28 of which are priority hazardous substances.

4.4.2.4 Other WFD issues relevant to chemicals legislation

Repeal of existing standards

The Dangerous Substances Directive (76/464/EEC) will be repealed 13 years after the date of entry into force of the WFD. Article 22(6) states that the quality standards established under the Water Framework Directive shall be at least as stringent as those required for implementation of the Dangerous Substances Directive. It is unclear, however, whether this clause guarantees an identical level of water protection under the WFD once the Dangerous Substances Directive has been repealed.

The five daughter directives to the Dangerous Substances Directive (listed in WFD Annex IX) will be reviewed. For those substances, which are found on the first WFD priority list, quality standards and emission limits will be updated. For those which are not on the first priority list, standards shall be reviewed with an option for entire repeal (Article 16(10)).

Combined approach

In general, under the Water Framework Directive, specific environmental quality standards (EQSs) for pollutants (i.e. concentrations of pollutants, not to be exceeded in the receiving waters) and more general ecological-status objectives must be met by applying controls on pollutant discharges.

For certain activities and certain pollutants, a different form of combined approach applies whereby emission controls based on BAT, relevant emission limit values or, in the case of diffuse impacts, Best Environmental Practices must be applied first. If these are inadequate for meeting an environmental quality standard or objective, more stringent emission controls must be set accordingly. This true form of combined approach not only achieves the required environmental standards and objectives, but may even reduce inputs below these targets. The BAT and Best

Environmental Practice requirements drive polluters to audit and improve their overall environmental efficiency.

Such a combined approach applies to substances and processes controlled by the Nitrates Directive, the IPPC Directive, the Urban Waste Water Directive, directives adopted for priority substances and also the existing daughter directives to the Dangerous Substances Directive (Article 10).

For priority substances (regulation at EU level), both environmental quality standards and uniform emission limit values should be set. However, Article 16(6) merely states that the Commission should "take account of Community-wide uniform emission limit values". It remains to be seen whether this is a binding requirement.

In the absence of Community-wide measures on priority substances (i.e. if the Council and Parliament are unable to agree on measures), Member States have to act on these substances anyway. Article 16(8) states that Member States have to establish environmental quality standards (EQS) and "controls on the principal sources of such discharges, based *inter alia* on consideration of all technical reduction options". This statement implies that Member States must apply the strong form of the combined approach, with application of Best Available Technologies first, and stronger controls if necessary. After all, this is the regime that applies in the event of Community-wide measures being agreed.

4.4.3 Derogation and extensions of deadlines regarding chemicals

4.4.3.1 Extensions of deadline

Article 4(4) allows Member States to extend the deadline for achieving good status by up to twelve years beyond 2015. Such a rule is justified by the need to take account of adverse natural conditions or insurmountable technical difficulties. However, there is also a more problematical clause allowing extensions on the grounds of disproportionate expense.

Fortunately, the reasons and justification for making use of an extension of the deadline must be included in the River Basin Management Plan, for which public consultation is required at all stages. It should therefore be possible to ensure that extensions are only used when it can be shown that achievement of the objectives is impossible within the agreed timetable.

4.4.3.2 Less stringent objectives

Article 4(5) may cause even more problems. Member States are allowed to exclude specific bodies of water from achieving the objectives because they are "so affected by human activity … that the achievement of the objectives would be unfeasible or disproportionately expensive'. The weakness is that this paragraph not only applies to past human activities, but possibly also to ongoing ones.

Potentially, this clause might be used to permanently exclude very polluted sites from the scope of the Directive's good status objectives (though not from the objective of progressively reducing pollution by priority substances/priority hazardous substances). The formulation of Article 4(8) requiring effects on other bodies of water to be taken into account should also be noted.

However, there are many steps requiring public consultation in the process of applying such a derogation. Furthermore, a lot of conditions have to be met. Given sufficient public scrutiny, it should be rather difficult for a Member State to abuse this clause.

4.4.4 Political options

What are the key issues concerning water protection against pollution in the WFD? Where can NGOs be most effective in improving the situation?

At river basin level

- Participation in the process of river basin analysis (assessment of polluting pressures, identification of substances and polluters).
- Participation in the process of setting environmental quality standards [Annex V 1.2.6 makes specific provision for this with respect to EQSs for non-priority pollutants. This will be at national level, though. Article 16 requires the Commission to take account of recommendations from European environmental organisations, amongst others, when preparing its proposal for the priority list and its reviews].
- Ecological status objectives for water bodies may or may not be subject to appeal, although derogations allowing for less stringent objectives clearly require public consultation in the plans.
- Participation in drafting the River Basin Management Plan to limit the application of time extensions and derogations for achieving good status.

At national level

- Ensuring full transposition of the WFD into national law.
- Including stricter requirements where the Directive leaves room for this, such as in the programmes of measures.

At EU level

- Putting pressure on the Commission to ensure that priority hazardous substances are selected as a result of the hazard assessment approach instead of risk assessment - making use of the precautionary principle.
- Urging the Commission to continue to use the simplified risk-based procedure for the selection of priority substances and to improve the COMMPS procedure for its next application.
- Putting pressure on the Commission to propose stringent measures on the control of priority substances and the cessation of priority hazardous substances.
- Putting pressure on Member States and Parliament to swiftly adopt both the priority list and subsequent measures.

4.5 Groundwater protection under the WFD

4.5.1 General Introduction and Overview

Community legislation for groundwater quality protection was first established by the 1976 Dangerous Substances Directive (76/464/EEC). However, the groundwater regime in the Dangerous Substances Directive was replaced by the 1980 Groundwater Directive (80/68/EEC), which still represents the main European legislative provision for the protection of groundwater against pollution caused by certain dangerous substances.

More recently, the Community adopted the Nitrates Directive (91/676/EEC) to tackle the widespread problem of nitrate pollution from agriculture. The Directive requires Member States to take action to reduce pollution by agricultural nitrates when the concentration of nitrates in groundwater exceeds 50 mg/l, or will do so if unchecked.

The Pesticides Directive (91/414/EEC), which is a marketing authorisation directive, sets stringent requirements for the protection of groundwater. Before such substances can be sold within the Community, it must be demonstrated that upon regular use of a pesticide, its concentration in groundwater will not exceed 0.1 micrograms per litre.

The Landfill Directive (1999/31/EC) requires the design of landfills to be such as to protect the quality of groundwater from landfill leachates.

Despite these Directives, groundwater resources remain seriously endangered, while over-exploitation is not addressed at all. In 1995 the Council acknowledged the "special significance of groundwater as an essential component of the water cycle and ecosystems and as one of the most important resources in the provision of drinking water" (2/3 of all drinking water in the EU is groundwater). In particular, the Council advocated the establishment of new "measures to provide for preventive, far-reaching groundwater protection, *inter alia*, in view of diffuse sources". The Council agreed that groundwater protection should be based on the following principles:

- maintaining the quality of unpolluted groundwater;
- preventing further pollution;
- restoring polluted groundwater, where appropriate.

The WFD has partially taken these considerations on board by establishing general quantitative and qualitative objectives for groundwater.

Member States are obliged:

- to prevent or limit the input of pollutants into groundwater and to prevent the deterioration of the status of all bodies of groundwater;
- to protect, enhance and restore all bodies of groundwater, ensure a balance between abstraction and recharge of groundwater, with the aim of achieving good groundwater status by Dec 2015 at the latest;
- to reverse any significant and sustained upward trend in the concentration of any pollutant in order to progressively reduce pollution of groundwater.

But due to the conflicting positions of the European Parliament and Council on the level of groundwater protection against pollution, any specific EU-wide measures were removed from the text of the WFD. They will have to be developed and proposed by the Commission before Dec 2002 under Article 17, then adopted by the Council and Parliament under the co-decision procedure. This process includes the establishment of criteria for assessing 'good groundwater chemical status' and for the identification of 'significant and sustained upward trends'.

However, while specific EU-wide measures on groundwater protection are thus considerably delayed under the WFD, Member States are still required to meet the objectives set out above through establishing appropriate national programmes of measures. Member States must also comply with the requirements of the existing Directives protecting groundwater, including those of the Groundwater Directive until its repeal in Dec 2013.

4.5.2 Detailed analysis

4.5.2.1 Scope of the Directive

Which types of groundwater are covered?

With regard to the obligation to prevent or limit the input of pollutants, the WFD is concerned with groundwater in general. The definition for groundwater is given in art. 2.2 and covers virtually all groundwater without exemption.

But with regard to the non-deterioration, protection, enhancement and restoration requirements, the WFD refers to 'bodies of groundwater'. The definition given in Article 2.11 and 2.12 is much narrower than the one for groundwater. Bodies of groundwater are restricted to geological situations, which allow either a significant flow of groundwater or the abstraction of significant quantities of groundwater. This restriction provides Member States with the option to limit restoration to those groundwaters of greatest importance for surface ecosystems or for resource use. The identification and characterisation of bodies of groundwater must be reported in the River Basin Management Plans, which are subject to public consultation. This will ensure that decisions on groundwater body identification are exposed to public scrutiny.

The vagueness of the definition of a 'body of groundwater' is of severe concern. In principle, a Member State might opt not to classify certain groundwater aquifers by arguing that such groundwater could not support 'significant' abstraction and does not exhibit a 'significant' flow. Such groundwater would thus effectively be excluded from the quantitative and general restoration and status protection objectives of the WFD.

It must be assured that there are sound reasons why certain aquifers are not classified. Despite these concerns, it must be kept in mind that the obligation to prevent or limit groundwater pollution and to reverse any significant and sustained upward trend in the concentration of any pollutant is not limited to groundwater bodies but covers all groundwater.

4.5.2.2 Groundwater Classification

For a deeper analysis of the requirements of the WFD with regard to groundwater protection, it is necessary to take a closer look at the classification of groundwater status undertaken in Annex V of the Directive.

Only two groundwater classes – good and poor – are established. If a body of groundwater fails to achieve the status 'good', then it is called 'poor'. Good status takes into account both the quantitative and the chemical condition of the groundwater body.

Good quantitative status is achieved when:

- The available groundwater resource (defined in Article 2(27) as the long-term average rate of recharge less the average flow required to maintain surface water flows) is not exceeded by the long-term annual average rate of abstraction (i.e. the groundwater is not being over-abstracted).
- Alterations of the level of groundwater are not resulting in failure to achieve the environmental objectives for associated surface waters or in any significant damage to terrestrial ecosystems, which depend directly on the groundwater body.

Good chemical status is achieved when:

- Quality standards applicable under other relevant Community legislation are not exceeded. It is not clear which Community legislation is 'relevant'. The Nitrates Directive refers to a 50 mg/l nitrate concentration but this is a trigger threshold for action to reduce pollution rather than an environmental quality standard. The 0.1 µg/l value set for pesticides in groundwater under the Pesticides Directive is arguably a marketing authorisation test rather than a formal environmental quality standard. (However, the reference to other Community legislation may imply: the values in the Nitrates and Pesticides Directives discussed above are to be treated as environmental quality standards, and/or environmental quality standards may be developed in future Community legislation under Article 17).
- The concentrations of pollutants are not resulting in failure to achieve environmental objectives of associated surface waters or in any significant damage to terrestrial ecosystems, which depend directly on the groundwater body.
- There is no indication of saline or other intrusions.

This definition of good chemical status may be amended when the European Parliament and Council adopt the criteria for the assessment of 'good chemical status', which the Commission has to propose under Article 17 by Dec 2002.

For the time being, the Directive's definition of good groundwater chemical status will allow a wide range of different quality groundwaters to be classified as 'good'. Amongst other things, this means that restoration measures will only be required for those groundwater bodies that are so badly polluted that they would cause significant damage to a surface ecosystem.

Because of the costs of restoring heavily polluted groundwaters, Member States are likely to seek derogation to less stringent objectives for most poor-status waters.

Where the quality of groundwater is not likely to significantly affect a surface water ecosystem, that body will be classified as 'good chemical status', no matter what the concentration of pollutants within the body. The only chemical quality standards that may apply at good status are for pesticides and nitrates, as discussed above.

The Commission's proposal for the criteria for the assessment of 'good chemical status' under Article 17 has to assure that good chemical status considers more than only pesticides and nitrates, and that it does not allow groundwaters, which are highly polluted, to be called good.

4.5.2.3 Prevent or limit the Input of Pollutants into Groundwater

According to Article 4(1)(b)(i), Member States have to take measures to 'prevent or limit the input of pollutants into groundwater'. The similarity of the wording to that used in the 1980 Groundwater Directive would reasonably be taken to imply that List 1-type dangerous substances should be *prevented from entering groundwater*, and the entry of List II-type dangerous substances must be limited in order to *avoid pollution of groundwater*. However, as this interpretation is not explicitly stated in the Water Framework Directive, there may be confusion over which option (prevent or limit) applies to which pollutants when the Groundwater Directive is repealed in Dec 2013. On the other hand, Member States have expressed their intention under Article 4(9) that the application of the new provisions guarantees at least the same level of protection as the existing legislation.

Article 11(3)(j) specifies that Member States have to prohibit direct discharges of pollutants into groundwater, as one of the measures required to achieve the Directive's objectives. However, Member States may exempt certain direct discharges from specified activities from this general prohibition, provided that the objectives set for the groundwater body are not compromised and the dischargers have obtained authorisation. But some of the exempted activities potentially concern very toxic substances (e.g. injecting mining waste back into certain groundwater aquifers). Considering that the respective groundwaters may re-emerge at the surface with a delay of decades or even centuries, these exemptions arguably violate the precautionary principle for groundwater protection.

The provisions under the WFD are not clear with regard to which inputs of pollutants into groundwater have to be prevented and which ones to be limited.

It is not clear at what date the objective 'to prevent or limit the input of pollutants into groundwater' comes into effect (see next Chapter 4.5.2.4). It could be from entry into force of the WFD or in Dec 2003, when the directive is transposed into national law or Dec 2004, when the river basin analysis has been carried out.

It must be assured that the clear prevention of groundwater pollution stemming from the Groundwater Directive will be maintained and reinstated under the WFD and no weakening of existing standards of protection is allowed.

4.5.2.4 Non-deterioration of groundwater status and achievement of 'good status'

According to the analysis in Chapter 4.5.2.2 the non-deterioration in status objective and the obligation to achieve good status with regard to the chemical status are rather limited objectives.

The non-deterioration in status objective, therefore, only prohibits groundwaters with 'good status' deteriorating to 'bad status'. Deterioration within the wide good status class is still possible under this objective. Effectively, the requirement to prevent or limit the input of pollutants in Article 4(1)(b)(i) should, if applied as described above (see Chapter 4.5.2.3), provide a more stringent control on quality deterioration than the non-deterioration objective itself.

Further to this rather limited non-deterioration provision, there is some ambiguity as to from which deadline the provision will apply. Since there is no deadline mentioned, this normally means in EU legislation that the provisions have to be met when the Directive is implemented into national law i.e. three years from the date of entry into force of this Directive (Dec 2003). But it could also be argued that the provision applies at the moment when the assessment of status impacts (Article 5 and Annex

II) is carried out (before Dec 2004) and those bodies of water are identified, which risks to result in a failure to achieve the objectives. Nevertheless, it can be argued that non-deterioration has to be enforced for any ongoing planning which could have bigger impacts on the status of water bodies.

As implied above, the protection, enhancement and restoration requirement of Article 4(1)(b)(ii) is also a limited objective because of the broad range of groundwater quality tolerated under the definition of 'good status'. Restoration to good status must be achieved by Dec 2015.

With regard to the quantitative management of groundwater resources, the non-deterioration obligation and the good status objective are a lot more ambitious and straightforward. Member States have to achieve 'good groundwater quantitative status' and ensure 'a balance between abstraction and recharge of groundwater' in order that the long-term annual average rate of abstraction does not exceed the available groundwater resource (defined as average recharge less average surface water flow). In particular, 'good quantitative status' requires that alterations in the level of groundwater do not significantly affect the status of surface waters or damage terrestrial ecosystems, which directly depend on the groundwater.

4.5.2.5 Trend reversal

Member States have to reverse any significant and sustained upward trend in the concentration of any pollutant in order to progressively reduce pollution of groundwater (Article 4(1)(b)(iii)). What this exactly means has not been defined under the WFD. Therefore, under Article 17, the Directive requires the Commission to come forward with proposals by 2002 for identifying 'significant' and 'sustained' trends, and for defining starting points for trend reversals.

If these criteria have not been adopted at Community level by 2005, Member States must establish their own national criteria.

In the absence of national or Community criteria, trend reversal must take as its starting point a maximum of 75% of the quality standards set out in existing Community legislation applicable to groundwater.

Since existing Community legislation does not set any quality standards for groundwater, it is unclear what this requirement implies. It appears likely that the values laid down in the Nitrates Directive (i.e. Member States must commence trend reversal at 37.5 mg/l of nitrate rather than at 50 mg/l as currently applies under the Nitrates Directive) and the Pesticides Directive (this means 0.075 µg/l of pesticides) should be used.

4.5.3 Derogation and extensions of deadliness regarding groundwater protection

4.5.3.1 Extensions of deadlines

Article 4(4) allows Member States to extend the deadlines for achieving the good status objective by up to twelve years beyond 2015. The derogation allows Member States to apply this derogation where on account of adverse natural conditions or technical reasons, it is not possible to make the necessary improvements by 2015. However, there is also a more problematical clause allowing extensions on the grounds of disproportionate expense.

The reasons and justification for making use of an extension of deadlines must be included in the River Basin Management Plan, on which public consultation is required at all stages. It should therefore be possible to ensure proper public scrutiny in the use of this derogation of Article 4(4).

4.5.3.2 Less stringent objectives

Article 4(5) allows Member States to exclude specific bodies of ground water from achieving the objectives because they are "so affected by human activity … that the achievement of the objectives would be unfeasible or disproportionately expensive". The weakness is that not only past human activities are covered, but also ongoing ones. It is likely that users of the water environment, for instance polluting industries, will argue for the application of this derogation in order to reduce the stringency of the controls that are applied to their activities.

However, there are many steps in the process of applying such a derogation that require public consultation. Furthermore, a lot of conditions have to be met before a derogation is granted. Given sufficient public scrutiny, it should be rather difficult for a Member State to abuse this clause.

4.5.4 Political options

What are the key issues concerning protection of groundwaters in the WFD? Where can NGOs be most effective in improving the situation?

At river basin level

- Participation in the process of river basin analysis (identification of groundwater bodies, including terrestrial ecosystems such as wetlands that depend on groundwater, and water abstractions, assessment of polluting pressures, identification of substances and polluters).
- Participation in drafting the River Basin Management Plan to limit the application of time extensions and derogations for achieving good status.

At national level

- Ensuring full transposition of the WFD into national law, the earlier the better. Including stricter requirements where the Directive leaves room for that, such as in the programmes of measures.
- Putting pressure on the full implementation of the zero-emission approach of the Groundwater Directive.
- Demanding strong national criteria for assessing groundwater chemical status, for example by using the standards of the Drinking Water Directive 98/83/EC.
- Demanding strong national criteria for identifying significant and sustained upward trends in the concentration of pollutants. This could include the demand to act preventively and start action from the moment when a trend is developing.

At EU level

- Putting pressure on the Commission to come forward with adequate criteria for assessing groundwater chemical status, which could include more status classes to make the non-deterioration obligation work and using more stringent standards (e.g. of the Drinking Water Directive 98/83/EC).

- Putting pressure on the Commission to develop stringent criteria for the identification of sustained upward trends following the precautionary principle.
- Asking for clarification how the zero-emission approach for list 1 substances under the Groundwater Directive can be maintained under the WFD after the repeal in Dec 2013.

4.6 Water Pricing under the WFD

4.6.1 General Introduction and Overview

The use of economic instruments is of growing importance for environmental policies. One of the key priorities of the 5th Environmental Action Programme is the widening of the range of environmental instruments and for several years financial instruments have been promoted in EU environmental policy – like energy taxes or levies and the principle of full cost recovery.

Member States are obliged under the WFD to take into account this latter principle. This would also include the evaluation and inclusion of environmental and resource costs.

The potential for improving current inefficient water management and move towards a sustainable water use is great. Sound water pricing could – especially for the supply-driven management in the agricultural sector – lead to a more efficient water use and finally to demand management.[19]

Nevertheless, with regard to full cost recovery, including environmental costs, water pricing is quite a sophisticated question. Water is not just a commercial good, and since market forces are not easily applicable, the economically based calculation of environmental costs is therefore complicated. But if the Polluter Pays Principle must be taken into account, then the inclusion of environmental (damage) or resource costs is a crucial precondition.[20]

Simple and straight forward action, such as identifying and reducing subsidies, charges or levies for water abstraction and use and earmarking them etc., is needed.

Ecological and holistic oriented water status objectives, strategies against pollution by dangerous substances, river basin management and public participation – these are the main tools and objectives within which water pricing should be set.

The introduction of the full cost recovery principle for water services in the WFD has not been an easy task and during the WFD legislative process, opposition especially from Member States, where the potential of financial instruments is greatest, hindered EU-wide clear and binding obligations on water pricing. The political hurdles for financial instruments in EU water policy are high. Therefore, given also the 'water pricing' provision in Article 9, the above-mentioned two-tiered approach of the WFD is followed and further guidelines and targets have to be developed.

Since the Commission shows high interest in an harmonised water pricing regime, it came forward with a Communication in July 2000 [21], with the aim of establishing guidelines for the implementation of water pricing obligations under the WFD.

4.6.2 Detailed analysis

4.6.2.1 Water prices and cost recovery per sector

Article 9 of the WFD obliges Member States to take into account the principle of recovery of the

[19] *Water Pricing in the EU*: A review by Eva Roth, EEB 2000.

[20] Ibid.

[21] *Pricing policies for enhancing the sustainability of water resources*; Communication from the Commission to the Council, the European Parliament and the Economic and Social Committee; COM(2000) 477 final

costs for water services and specifically include environmental and resource costs. The Article further specifies that Member States have to ensure by 2010:

- that the water pricing policy is an incentive for efficient water use and thereby contributes to the environmental objectives;
- an adequate contribution for the different water uses to the recovery of the cost of water services.

The first obligation is very important, because it makes clear that water pricing has to be seen and used within the frame of the environmental objectives of the WFD.

The second obligation specifies that water uses are at least broken down into industry, households and agriculture, which is crucial for the effectiveness and transparency of the pricing regime. The problematic wording is the 'adequate' contribution and it gives wide room for interpretation. Further to that cost recovery is limited to water services, which are defined in Article 2(3) as " all services (abstraction, impoundment, storage, treatment and distribution of surface water or groundwater, waste water collection and treatment facilities) which provide, for households, public institutions or any economic activity". This is a clear limitation compared to the general term "water uses".

4.6.2.2 Economic analysis

The basis for the application of the full cost recovery principle and the polluter pays principle will be the economic analysis for each river basin district, which has to be concluded by 2004.

According to Annex III of the Directive, the economic analysis should therefore contain sufficient information. This would also include the estimation of environmental costs. Annex III further specifies that long-term forecasts of supply and demand for water have to be accounted for, which is very important in the light of the possible changes in the water cycle due to climate changes.

The economic analysis and the steps to implement the full cost recovery obligation have to be reported under the public participation and information provisions in the river basin management plans, which allows stakeholders to have an influence on how far their government is willing to move towards cost recovery and internalisation of external (environmental) costs.

4.6.3 Exemptions from water pricing policies and full cost recovery

Due to the above-mentioned strong opposition from Member States, with low level of cost recovery for water services (particular Spain and Ireland), exemptions from the application of the full cost recovery principle are wide.

When establishing water pricing policies under Article 9, Member States can take into account social, environmental and economic effects as well as geographic and climatic conditions. This might be justified in some cases, while leaving room for manoeuvre.

But further to that, Member States simply can decide not to establish any water pricing policy for a specific water use activity (e.g. irrigation) under the condition that this does not compromise the achievement of the Directive's objectives.

Member States can decide to exempt certain water uses from the objectives of article 9.

But under the river basin management plan, they have to report the reasons why they exempt specific water use activities from a water pricing policy. Together with a sufficient and detailed economic analysis of water uses in the River Basin, this should put pressure on governments to allow low, subsidised water prices only if the general public accepts to pay for the external costs of these activities.

4.6.4 Political options

At river basin level

- Participation in the process of river basin analysis (economic analysis, especially with regard to environmental costs of water uses, a key element will be agricultural activities).
- Participation in drafting the River Basin Management Plan to limit the application of exemptions from pricing policies with the principle of cost recovery and inclusion of environmental costs.

At national level

- Ensuring full transposition of the WFD into national law.
- Calling for concrete action such as: identifying subsidies and making them transparent; phasing out 'perverse subsidies' and exploring win-win situations; charges and levies on water uses (pollution, abstraction etc...), which will be an important tool to include environmental costs; earmarking levies and charges (preferably used to directly support the reduction of water pollution and water stress).

At EU level

- Putting pressure on the Commission and Council to come forward with sufficient criteria for the economic analysis (including environmental costs).
- Asking for stringent guidelines about how to implement water pricing policies for a sustainable resource management and the principle of full cost recovery.

4.7 Deadlines

The Water Framework Directive entered into force when it has been published in the Official Journal of the European Communities on the 22nd of Dec 2000 as Directive 2000/60/EC (OJ L 327/1). This means that the relevant date for most of the following deadlines is the 22nd of Dec 2000 (e.g. 2003 means 22nd of Dec 2003).

Article	**Action at Member State level**	Deadline
4.1.(a.i)and (b.i)	Preventing deterioration in water status	2003 or 2004?
24.1	Implementation of the Directive	2003
3.7 and 24.1	National laws, regulations and administrative provisions, including the identification of competent authorities	2003
3.8	List of competent authorities submitted to the Commission	2004
5.1-2	Analysis of the river basin districts: Characteristics; Environmental impact of human activity; Economic analysis Update by 2013 at the latest and review every 6 years thereafter	2004
6.1	Register of Protected Areas (under specific Community legislation, and waters used for the abstraction of drinking water art. 7)	2004
17.4	National criteria for groundwater assessment and the identification of significant and sustained upward trends (if no measures are adopted at EU level)	2005
8.2	Monitoring Programmes operational	2006
16.8	Establishing EQS and source controls for priority substances (if no measures are adopted at EU level) Action by Member States on substances on subsequent priority lists, five years after adoption of the list	2006
14.1	Publication of a timetable and work programme for the production of the River Basin Management Plan	2006
14.1	Publication of an interim overview of the significant water management issues identified in the river basin	2007
14.1	Publication of draft copies of the River Basin Management Plan for consultation	2008
13.6-7	River Basin Management Plans Published Update by 2015 at the latest and review every 6 years thereafter (Note that public consultation timetable starts three years prior to the publication of the 2nd and subsequent plans, as indicated above with respect to the first plan)	2009 latest
11.7-8	Establishing Programme of Measures Operational Possible update by 2015 at the latest and review every 6 years thereafter	2009 latest 2012 latest
9.1	Water Pricing Policies to promote efficient water use and to recover the costs of water services	2010 January

10.2	Setting EQS and ELVs (or Best Environmental Practices) according to the combined approach	2012 latest
4.1.(a.ii), (b.ii) and c	Restoration to good status without extension Compliance with standards and objectives for Protected Areas	2015
4.4.c	Environmental objectives with extension without referral to the Commission	2027
16.6	Achievement of cessation or phase-out of priority hazardous substances at the latest	20 years after adoption of appropriate measures

Article	**Action at EU level**	Deadline
22.2	Repeal of Article 6 of Directive 76/464	2000
16.2	Commission proposal for a first list of priority substances	2000 February
16.4	First review of the list of priority substances and every 4 years thereafter	2004
16.8	Commission proposal for controls on progressive reduction of priority substances and cessation of emissions of priority hazardous substances and relevant EQS	2 years after adoption of the list of priority substances
17.1	Commission proposal for measures to prevent and control groundwater pollution	2002
22.1	Repeal of Directive 75/440, 77/795, 79/869	2007
18.1	First Commission implementation report	2012 and every 6 years thereafter
22.2	Repeal of Directive 78/659, 79/923, 80/68, 76/464 (except Article 6)	2013
19.2	Review of the Directive	2019

5 Key Issues and political options for better water protection under the WFD

5.1 Introduction

The current implementation and enforcement of environmental legislation is insufficient. The efficiency of EU water legislation is highly threatened by non- or insufficient implementation and application. Two of the main reasons are:

- the water protection sector is suffering from a severe shortage of human and financial resources; and
- inconsistency, contradictions and lack of integration into other EU policies.

With respect to the latter aspect, one can say that EU water legislation is much more coherent and less contradictory under the WFD. Nevertheless, integration will strongly depend on the subsequent processes following the WFD, such as the establishment of guidelines and daughter directives. Expert networks and committees[22] will therefore play an important role in their design.

It remains to be seen to what extent environmental NGOs will have the capacity to follow the large number of sometimes very technical networks and control their work. More financial resources are necessary to support NGO work, yet at the same time NGOs need to prioritise their involvement and action.

This issue also leads to the first mentioned hurdle for proper implementation and enforcement, i.e. the shortage of human and financial resources.

The improvement of today's overused and polluted waters under the WFD will strongly depend on the political will to ensure full participation of all stakeholders and to enable regulators to implement and enforce all the provisions.

The detailed analysis of the main instruments of the WFD shows the variety of provisions under the WFD, a number of subsequent processes and those political options which may have to be considered to ensure EU-wide harmonised standards and an improvement in the current situation of our waters. The three major places where these processes and the implementation and enforcement of the provisions will take place: River Basin District or even catchment level, national level and EU level.

5.2 Key issues and political options at river basin level

The river basin analysis to be carried out by Dec 2004 and the establishment of the river basin plans[23] are the crucial processes for the public to be part of decision-making.

[22] These expert networks and committees are part of the process and will be set up by the Commission, as for the intercalibration exercise for the ecological status, or informally established to develop guidelines for implementing certain provisions, like water pricing, or at national level to develop methods for the ecological status assessment, etc.

[23] includes: publication of timetable and work programme by December 2006; publication of overview of water management issues by December 2007 and publication of draft plans by December 2008.

How can proper public consultation and participation be ensured?

To enable the public to express its views, the authorities responsible for the river basin management plans (RBMPs) need to maximise transparency of the issues and intentions addressed by the plans. There is every reason to invest into this exercise, since public input will generally help to strengthen the quality of RBMPs and increase their legitimacy and degree of representation. Unfortunately, many civil servants still regard public consultation as a mere legal necessity and even as a constraint on their duties.

A multitude of options exists to raise awareness about the development of RBMPs and to invite adequate input of the general public. To explain the pending environmental and water use problems in the river basin as well as the intended measures to combat them via the RBMP, a thorough documentation in written form is only a first step. River basin conferences bringing all stakeholders and the public together are another tool to improve communication between people and officials.

Exhibitions about the river basin, existing challenges and intended future solutions appear to be a most efficient strategy to get the public involved. NGOs might be instrumental in facilitating such exhibitions, which should preferably take place in water-related locations or even on the water itself, for instance on boats. The attraction of water could thus be linked to the interest in protecting the resource.

5.2.1 Key issues for the River Basin Analysis

- Assessment of polluting pressures and identification of substances and polluters.
- Identification of groundwater bodies, including terrestrial ecosystems such as wetlands that depend on groundwater, and water abstractions.
- Economic analysis, especially with regard to environmental costs of water uses (a key element will be agricultural activities).

5.2.2 Key issues for the River Basin Management Plan

Ideally, all the key issues of the future water policy concerning a river basin should be laid out in the respective river basin management plans (RBMPs). While in principle, measures should be directed to achieve ‘good status’ in all waters, the WFD provides for a fair number of derogations from this overall objective. The decisions about their application is taken at the level of the river basin, and the justification for each derogated water body is to be laid out in the RBMPs. Public awareness and NGO involvement could considerably increase the authorities’ possibilities for turning down unfair or exaggerated derogation demands by polluters or others.

In the end, NGO involvement is vital to ensure that RBMPs not only reflect users' interests, but are an adequate and fair expression of public aspirations. After all, rivers, lakes and groundwater as well as coastal waters, about whose future the RBMPs decide, are public assets.

Decisions under the RBMPs which need to be particularly scrutinised and influenced:

- application of time extensions to postpone the achievement of good status for surface water and groundwater bodies and for derogations in this respect;
- application of exemptions from pricing policies with the principle of cost recovery and inclusion of environmental costs;

- designation of water bodies as 'heavily modified';
- setting of environmental quality standards.

5.3 Key issues and political options at national level

The crucial steps at national level are the transposition into national law (by Dec 2003) as well as the establishment of a national ecological assessment system. Transposition usually needs the consent of national parliaments, so public pressure at that step would have to be at the level of the competent government ministries and the parliamentary delegates. The establishment of a national ecological assessment system usually falls within the responsibility of water authorities supervised by national and/or regional governments. It may be difficult for NGOs to influence this rather technical process, but given the key importance of the ecological assessment system, every attempt should be made to safeguard the highest possible standards.

The WFD leaves ample room for stricter requirements and governments should be urged to go well beyond the minimum standards required by the directive. Also, a timely transposition is crucial to be able to keep to the timetable set by the directive.

The WFD requires the EU Member States to establish the necessary measures to achieve *at least* good status in all waters. So nothing keeps a Member State from adopting programmes of measures which are more ambitious than that. Hence, NGOs should watch closely the legal requirements for programmes of measures put into national law.

The transposition of groundwater protection rules is a particularly important issue, since for the time being, the WFD does not define any clear standards. This ought to happen with the adoption of consecutive legislation under Article 17, though this will not be completed for some time yet. Hence, the existing Groundwater Directive (80/68/EEC) which is to be repealed in 2013, remains the main basis for national legislation. NGOs should make sure that the principle of the prevention of groundwater pollution laid down in the Groundwater Directive is fully taken on board by national laws. Also, strong national criteria for assessing groundwater chemical status should be established, for example by applying the standards of the Drinking Water Directive. The same needs to be ensured for national criteria relating to the identification of significant and sustained upward trends in the concentration of pollutants in groundwater. As a general rule, NGOs should push for preventative action from the very moment when a trend is developing.

In the field of water pricing, NGOs should call for more concrete action than the minimal requirements prescribed by the WFD. For instance, subsidies should be identified and made transparent; 'perverse subsidies' should be phased out and win-win situations explored; charges and levies on water uses (pollution, abstraction etc...) could be introduced as an important tool to include environmental costs; levies and charges should preferably be used to directly support the reduction of water pollution and water stress.

NGOs should attempt to participate in the process of establishing type-specific reference conditions. This is important firstly because type-specific reference conditions closely approximated to an anthropogenically undisturbed situation directly lead to better protection of 'high ecological status' water bodies. Secondly, they will also indirectly determine how ambitious the 'good ecological status' objective will be.

The national decision, to which authority the responsibility for river basin management is assigned, needs some attention as well. Member States are free to either set up a new competent river basin

authority, or just identify one of the various existent authorities responsible for water in the river basin to co-ordinate the work for the RBMPs. To tackle the severe problems of river basins (and paralysing competition at times between different sector authorities), it seems much better to establish a true river basin authority with extensive powers.

5.4 Key issues and political options at EU level

Ecological objectives

The processes to develop ecological objectives and the relevant technical basis for them will rely on specialist networks and expert committees. Public participation is expected to be very limited. However, if NGOs are invited to contribute to these steps, the following conditions should be urged for:

- Member States should be working closely together right from the beginning in order to establish comparable ecological objectives (instead of trying to harmonise uncoordinated national assessment systems).
- The intercalibration process must ensure that appropriate 'reference waters' are selected and class boundaries are well defined and harmonised as well as ambitious.
- Agreed guidelines need to be applied by all Member States to the determination of good ecological status. For example, the biological or physico-chemical quality element of lowest value should determine the status (instead of an average of all values).
- Clear, agreed and uniform criteria are necessary for defining a 'significant quantity' of pollutant discharges. This is crucial to ensure that in the face of comparable water contamination, all Member States act similarly. Only such criteria safeguard a 'level playing field' throughout the EU regarding the protection of waters from chemicals.

Chemicals policy

The steps preparing Community action on chemicals will follow the standard legislative procedure for directives or decisions. NGO efforts will therefore be mainly directed towards the Commission, Council and European Parliament.

Key legislative steps to come:

- List of priority substances (ongoing).
- Commission proposal for pollution controls, two years after adoption of the list of priority substances.
- Review of the list of priority substances by Dec 2004.

Main political options:

- Putting pressure on the Commission to ensure that the priority hazardous substances are selected as a result of the hazard assessment approach instead of risk assessment – making use of the precautionary principle.
- Urging the Commission to continue using the simplified risk-based procedure for the selection of priority substances and to improve the COMMPS procedure for its next application.

- Putting pressure on the Commission to propose stringent measures about the control of priority substances and the cessation of priority hazardous substances.
- Putting pressure on Member States and Parliament to swiftly adopt both the priority list and subsequent measures.

Groundwater protection

As for chemicals, groundwater legislative activities will follow standard legislative procedures, and the usual options for NGO influence are given.

Key legislative act to come: Commission Proposal for measures to prevent and control groundwater pollution by Dec 2002 at the latest.

Main political options:

- Urging the Commission to come forward with adequate criteria for assessing groundwater chemical status, specifically including a larger number of status classes to make the non-deterioration obligation meaningful. Secondly, more and tougher standards are necessary for adequate groundwater protection (e.g. standards of the Drinking Water Directive).
- Urging the Commission to develop stringent criteria for the identification of sustained upward trends, specifically by application of the precautionary principle.
- Asking the Commission for clarification about how the zero-emission approach for list 1 substances under the existing Groundwater Directive 80/86/EEC can be maintained under the WFD, once the Groundwater Directive has been repealed in 2013.

Water Pricing

The development of guidelines through expert networks is currently under way. In this process, there are only very limited possibilities for NGO involvement for the time being. Still, NGOs should urge both the Commission and Council to come swiftly forward with adequate criteria for the economic analysis of water uses (including environmental costs).

6 Summary and Conclusions

Unfortunately, the Water Framework Directive neither fully satisfies European Environmental Organisations' nor the European Parliament's expectations about EU water policies. Long deadlines, ambiguous provisions, an unclear level of protection as well as a large number of opt-out clauses and time extensions are the main causes for concern.

On the other hand, the WFD is deemed to hold sufficient potential to have an overall positive impact on water resource management in Europe, and is hence supported by NGOs. The exact outcome for the aquatic environment is difficult to assess, however, and depends on future decisions. The true essence of the WFD will only become clear once many further political and technical steps have been taken. The existence of a clear timetable for all the consecutive legislative and technical decisions is welcome, as well as the fact that through river basin management plans, full public consultation is ensured.

This publication analyses the general layout and key concepts of the Water Framework Directive. It is not an attempt to explain each article or to fathom the legal depths of the directive. The text agreed by the European Parliament and Council is problematical in many respects, mainly because of its history of strong lobbyism and compromise wordings. Some of its provisions are unclear, ill-defined or even contradictory, and it will take many lawyers to extract its true meaning. Where legal advice fails, the European Court of Justice will have to step in and decide.

The main issues

The overall objective of the WFD is to achieve 'good status' for all waters. It is therefore of paramount importance to define the term 'good status' precisely and consistently and to apply identical criteria to all waters throughout the Community and accession countries. Many technical and political steps lie ahead which have to be mastered in order to safeguard comparable status assessments, thus creating a 'level playing field' for water protection in the EU. **Member States will have to co-operate closely and from the very beginning in elaborating the criteria that define 'good status' and the administrative mechanisms necessary to achieve it for all Community waters. The development of such criteria should not be compromised by the political and/or economic implications of their application at Member State level.**

Member States should only use derogations from restoration where the costs are genuinely disproportionate to the long-term benefits. Good status should be ambitious and it should be meaningful. Clear provision must be made for a review of all Ecological Status criteria at regular intervals, with the aim of ensuring that these continue to optimise both the protection of existing quality and the incentive for ecological improvement according to new available scientific knowledge. Public involvement should be actively encouraged for all relevant decisions.

The WFD has laid down rules to protect waters from chemical contamination, introducing concepts which are new to EU legislation. One of them is the inclusion of chemical effects on the aquatic environment, albeit limited to 'significant quantities', a term yet to be defined. More importantly, these new concepts include the cessation or phase-out of certain substances and a 20-year deadline to achieve it. These goals have been written into water legislation, not chemical legislation, to express the need for action to protect water quality. Also, EU chemicals legislation has proved to be so far an extremely slow process, strongly under pressure from industrial interests. The European

Parliament has therefore seized the opportunity of the WFD to push for more fundamental changes, which are deemed appropriate in order to adequately protect waters and the environment as a whole from hazardous chemicals. The WFD is only a first step to fully incorporating the cessation goal for hazardous substances into EU chemicals legislation. The Commission, Member States and EP are urged to make this goal a legally binding requirement concerning ALL hazardous substances. To thid effect, the regular revision of the priority list by the Commission every 4 years should be used to progressively cover all hazardous substances by 2020.

It is now up to the Commission to make these new concepts work, and up to Member States to endorse the respective policies. The Commission has already come forward with a first list of so-called 'priority substances', some 20 chemicals of which ('priority hazardous substances') should be earmarked for cessation of discharges within 20 years. However, strong pressure not to apply the cessation target is exerted. **All actors involved in decision-making – Member States, the Commission, the European Parliament as well as industry associations – have to apply the provisions of the WFD concerning priority hazardous substances. The objective of preventing inputs of a handful of particularly problematical chemicals within 20 years is not too ambitious, but a necessary prerequisite for efficiently protecting waters, including the marine environment.**

It was a major disappointment that no agreement on groundwater legislation could be found between the – still not over-ambitious – demands of the European Parliament and the Council. Thus, groundwater protection has been delayed by years. Even though the Commission has been given the task to submit relevant legislation within 2 years, further delays in the adoption procedure are predictable, given the differences in position between the EP and Council. The few provisions on groundwater protection remaining in the WFD are impossible to judge since the very core of the objectives is missing, notably the definitions of 'good status' and 'trend reversal' conditions. However, even if the most stringent definitions were adopted, it seems difficult within the framework of the WFD to achieve the protection of groundwater that the Council itself deemed necessary only a few years ago. **The Commission, Council and Parliament have to work together in devising progressive and ambitious groundwater legislation. Notably, a new balance needs to be found between agricultural interests and the protection of groundwater, which is after all the source of no less than two thirds of EU drinking water.**

One of the great successes of the WFD is the organisation of water management by river basins. This is a concept which is new to many Member States and which should enable a much more integrated and efficient management and protection of water resources and aquatic ecosystems. Unfortunately, not all Member States intend to create specific river basin authorities and the outcome of a mere co-operation approach for existing authorities is unclear. **The Commission will have to control that the river basin authorities have the competence, legal power and resources to realise the objectives of the WFD. The principles of the WFD with respect to the status objectives, sustainable use of water and full-cost pricing are reflected in all sectoral Community policies and decisions. This applies more specifically to the Common Agricultural Policy, Structural and Cohesion Funds, and possible future policies on the organisation of the water industry. Member States should fully integrate water management into all sectors, including land-use activities. In order to make management more transparent, public consultation has to be introduced at every level and stage of the drawing-up of river basin management plans. Public participation will not only increase the effectiveness of the measures adopted to achieve the WFD's objectives, but also the**

legitimacy and general acceptance of EU water policies.

For the first time in EU environmental policy, Member States have to take 'full cost recovery' into account. The potential for improving the current situation, with regard to efficient water use and the move from supply to demand management as well as the application of the polluter pays principle, is great. But water pricing has been opposed especially from Member States, where the potential of financial instruments is greatest, and the result is that Member States can decide not to establish a water pricing policy for certain water uses. **The Commission and Member States have to develop guidelines together for the economic analysis of water uses in a river basin district, which allow the sufficient assessment of all costs including environmental costs by 2004. But water is not just a commercial good and market forces are not easily applicable; the economically based calculation of environmental costs is therefore complicated. Simple and straightforward action - like identifying and reducing subsidies, charges or levies for water abstraction and use and earmarking them etc. – should be given priority.**

The question is whether accession candidate countries will have to implement and enforce the directives, which will be repealed in 2007 and 2013 by the WFD, or will they be able to concentrate solely on implementation of the WFD to cover all obligations and provisions of EU water legislation? **From a formal point of view and from the detailed analysis of the major provisions of the WFD, it is clear that it will be crucial that all the directives to be repealed in 2013 and especially the Groundwater and Dangerous Substances Directives have to be implemented and enforced as soon as possible. The WFD offers a useful supporting frame to implement these directives and the full implementation of existing directives is a prerequisite for meeting the WFD objectives.**

Annex I

List of Abbreviations

CEECs: Central and Eastern European Countries

COMMPS (combined **m**onitoring-based and **m**odelling-based **p**riority **s**etting): COMMPS has been elaborated in collaboration with a consultant (Fraunhofer Institute for Environmental Chemistry and Ecotoxicology, Germany). The basic idea is to rank substances for which sufficient data are available according to their relative risk to the aquatic environment in an automated manner and to apply expert judgement for the final selection of priority substances.

ELV: **E**mission **L**imit **V**alues

EQS: **E**nvironmental **Q**uality **S**tandards

OSPAR: The Convention for the Protection of the Marine Environment of the North-East Atlantic ("OSPAR Convention") was opened for signature at the Ministerial Meeting of the Oslo and Paris Commissions in Paris on 22 September 1992. The Convention has been signed and ratified by all of the Contracting Parties to the Oslo or Paris Conventions (Belgium, Denmark, the Commission of the European Communities, Finland, France, Germany, Iceland, Ireland, the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom of Great Britain and Northern Ireland) and by Luxembourg and Switzerland. The OSPAR Convention entered into force on 25 March 1998. It replaces the Oslo and Paris Conventions, but Decisions, Recommendations and all other agreements adopted under those Conventions will continue to be applicable, unaltered in their legal nature, unless they are terminated by new measures adopted under the 1992 OSPAR Convention.

RBMP: River Basin Management Plan (Article 13, WFD)

WFD: Water Framework Directive (full title: European Parliament and Council Directive establishing a framework for Community action in the field of water policy)

Annex II

Development of the Water Framework Directive

The early beginnings of the EU water policy reform dates back to 1988 when a ministerial seminar in Frankfurt/Germany called for such a reform. The following discussion of the water reform was strongly influenced by the question of whether the EU water policy was overregulating and whether the subsidiarity principle, introduced in the 1992 Maastricht Treaty, should lead to a reorganisation of regulatory competences.

In this light and with the clear intention of deregulation, the 1992 Edinburgh Council asked the Commission to revise European water legislation.

Subsequently, the Commission came forward in 1994 with a proposal for a Directive on the Ecological Quality for Surface Waters. The Commission did not call the proposal a deregulation, but a 're-regulation'. This proposal was rejected by the European Parliament and Council in 1995. Later, in 1996, the European Parliament called for a 'Water Framework Directive'. In 1997, the Commission came forward with the proposal for a Council Directive establishing a Framework for Community Action in the Field of Water Policy (COM(97) 49 final) (Water Framework Directive), but had to amend it twice (COM(97) 614 final, COM(98) 76 final). This was due in the first place to the extensive and complicated annexes, which play a crucial role in defining the directive's objectives. The essential elements of the Commission's 1997 proposal were:

- Protection of all EU waters;
- Ecological water status assessment;
- Preventing deterioration of ecological quality and pollution of surface waters and restoring polluted surface waters in order to achieve good surface water status in all surface waters by 31 Dec 2010;
- Preventing deterioration of groundwater quality, restoring polluted groundwater and ensuring a balance between abstraction and recharge of groundwater, in order to achieve good groundwater status in all groundwaters by 31 Dec 2010;
- Water management and protection on the basis of river basins and setting-up of river basin management plans by 2004;
- Programme of measures to achieve environmental objectives;
- Commission strategy for elimination of pollution by dangerous substances;
- Public information and consultation about the river basin management plans;
- Financial instruments, through the introduction of full cost recovery for water services for each sector by 2010.

The following legislative process was dominated by very contrary positions of the European Parliament and the Council on basically all these essential elements and their respective roles in the legislative process.

Council weakens the Commission proposal

Member States were finally able to agree on a compromise at the end of the British presidency in June 1998. Since the European Parliament had not even completed its first reading of the Directive,

the Council compromise could not be formally adopted as a Common Position, but was unofficially agreed as a mere 'political agreement' (Council document 9710/98, dated 26 June 1998).

The pressure exerted by the British government to complete negotiations had dire consequences for the Directive. In order to reach a compromise, far-reaching concessions were made to various Member States.

This political agreement weakened all the essential elements of the Directive. The most important ones ran as follows:

- Protection of all EU water was severely limited in the case of groundwater;
- The overall objective of good status became a mere statement of aspiration ("Member States shall aim to achieve the objectives ….. with the aim of achieving good water status");
- The non-deterioration principle was weakened;
- Environmental objectives became subject to wide-ranging exemptions and derogations; introduction of the concept of heavily modified waters (with lower environmental objectives);
- Less stringent river basin planning (with competent authorities limited to national boundaries);
- Introduction of new and wide-ranging exemptions and derogations in the programme of measures;
- Full-cost recovery became limited to water services and became the mere statement of a principle without effective provisions;
- Most deadlines extended by several years.

Some of these changes can be clearly connected to certain Member States' efforts.

The principle of non-deterioration was changed to comply with existing British law. The concept of non-deterioration of quality proposed by the Commission was reduced to a non-deterioration of water status. In other words, a deterioration of quality in a body of water is only in breach of the Directive if the status of the body drops by an entire status class. Quality deterioration within a status class is allowed, however (special importance for Groundwater, see 4.5.2.4).

The Spanish attitude made the mere mention of terms like 'efficient water use' difficult and prevented for instance the optimisation of opulent agricultural irrigation practices within the Directive. The idea of ful- cost recovery for water uses also became a victim of reservations by the Spanish and other southern Member States' governments.

The Austrian government, for instance, found it unacceptable that the Directive should include the requirement to achieve intact river banks and a proper functioning of aquatic ecosystems. In order to maintain the status quo of Austrian alpine rivers with their often heavily modified banks and massive use of concrete enforcements, the Austrian delegation insisted on a special status for 'heavily modified waters'. Thus canalised, dammed or otherwise altered rivers merely have to achieve 'good ecological potential'. The conditions for designating waters as 'heavily modified' are very wide so that almost every existing modification can be justified (see 4.3.3).

The German authorities objected to the establishment of separate and independent river basin authorities. The Commission's intention was to integrate the administration of all aspects of water protection and management in one administrative body at river basin level. This approach was to overcome the difficulties encountered in many Member States where water protection and management lie in the hands of various different authorities that show a lack of co-ordination or even compete with each other. The German initiative was successful and Germany is now released from

the requirement to introduce independent river basin management authorities – and so are all other EU Member States.

Most importantly, almost all government delegations battled for exemptions from the objective of reaching good status for all waters. The Commission's proposed 10 years to achieve good water status thus became 16 years, with an option for a further 18-year extension, resulting in up to 34 years.

European Parliament strengthens the Commission proposal

The Council's 'political agreement' was reached before the European Parliament's first reading. The European Parliament fiercely criticised the fact that the Council did not consider Parliament's opinion before adopting a Common Position, as is required by the EU Treaty. Parliament adopted 122 amendments in its first reading in February 1999.

The EP identified overly long deadlines, generous and uncontrollable derogation clauses, the lack of rules for more efficient water use in households, industry and agriculture, and insufficient protection of groundwater as the main weaknesses of the proposed paper. Furthermore, the delegates demanded the legally binding inclusion of international obligations for the protection of waters against hazardous substances (OSPAR) into the Directive.

When the Council's Common Position rejected virtually all of Parliament's amendments, the outcome of the second reading was predictable. Meanwhile, a new Parliament was elected and the conservative European People's Party (EPP) won the majority at the expense of Socialists and Greens. The Amsterdam Treaty was finally ratified, giving the Parliament considerably more power under the co-decision procedure which is now applying to all environmental directives. In February 2000 the EP confirmed the majority achieved at first reading at its plenary session and went beyond it in some respects. Apart from better protection against hazardous substances and a precautionary groundwater protection, Parliament vehemently demanded the reinstatement of legally binding and enforceable objectives. On the other hand, the further legislative process was complicated by the fact that due to the complexity of the text, some of Parliament's amendments were not fully consistent.

The Council rejected Parliament's amendments again and a subsequent conciliation became necessary between the Council and Parliament in order to reconcile the differing viewpoints.

Conciliation Compromise

The following negotiations between the European Parliament and Council, facilitated by the Commission, focused on Article 1 and 4 laying down the purpose and the objectives of the Directive (derogations and legal nature were at the core of the negotiation). Other key topics were Article 11 establishing the programme of measures, Article 16 laying down the strategies to prevent pollution of surface water (including cessation of certain substances), and the new Article 17 introducing a daughter Directive to prevent and control groundwater pollution.

However, in spite of the increased influence of Parliament, a conciliation process is a most demanding process for EP delegates. As generalists and without thorough advice from specialists, they find themselves faced with a large number of water-only experts from the Member States and the Commission. After difficult and lengthy negotiations, the Parliament and Council finally agreed on a compromise on 28 June 2000. Due to the difficult negotiation process and the many influences, which had to be accommodated, the resulting text is hard to beat in terms of complexity and lack of clarity.

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