Manual of European Environmental Policy

The following pages are a section from the Manual of European Environmental Policy written by the Institute for European Environmental Policy.

The Manual was published by Earthscan/Routledge from 2010 to 2012. It was designed as an on on-line interactive reference work and annual printed versions were also produced.

This section is the text of the Manual as published in 2012. It is therefore important to note the following:

- The contents have not been updated since 2012 and no guarantee is given of the accuracy of the contents given potential subsequent developments.
- The sections include links to external websites (e.g. to legal texts). These links continue to work as long as those links are not broken by those websites.
- The sections also include the original links that enabled interactivity within the published on-line version of the Manual. These links no longer work.

The Manual should be cited as follows:

Farmer, A.M. (2012) (Editor). Manual of European Environmental Policy. 1043pp. Routledge, London.

Water Framework Directive

Formal reference	
2000/60/EC (OJ L327 22.12.2000)	Directive establishing a framework for Community action in the field of water policy
Proposed 26.02.97 – COM(97)49	
Legal base	Article 192 TFEU [originally article 175 TEC]
Entry into force	1 August 2006 (most provisions)
	1 January 2007 (rest of provisions)
Binding dates	
Entry into force	22 December 2000
Groundwater strategy	22 December 2002
Formal compliance	22 December 2003
Identification of competent authorities	22 December 2004
Monitoring programmes to be operational	22 December 2006
Publication of River Basin Management Plans	22 December 2009
Programme of measures to be established	22 December 2009
Environmental objectives to be achieved	22 December 2015
Formal reference	
2455/2001/EC (OJ L331 15.12.2001)	Council Decision on priority substances
Formal reference	
2009/90/EC (OJ L201 31.7.2009)	Directive laying down, pursuant to Directive 2000/60/EC of the European Parliament and of the Council, technical specifications for chemical analysis and monitoring of water status

Purpose of the Directive

Surface waters (rivers, lakes and coastal waters) and ground waters are to be managed within the context of River Basin Management Plans. All waters are to be characterized according to their biological, chemical and hydromorphological characteristics. These together are to be compared with an assessment of waters unmodified by human activity and classified into different categories of ecological status. All waters are required to meet ‘good status’, except where specific derogations are applied. The means to achieve this is through the use of the River Basin Management Plans, which integrate existing EU measures to protect the water environment and identify all remaining human pressures that may result in a failure to achieve ‘good status’. Member States are required to establish a programme of measures in each river basin appropriate to these pressures.

Directive 2000/60/EC is also a 'framework' measure in that it provides for additional measures to be adopted by the Community at a later date, including the establishment of environmental quality standards for specified priority substances.

Transitional provisions

Directive 2000/60/EC results in the progressive repeal of six existing EU water Directives. The provisions of these Directives concern the establishment of environmental quality objectives for surface or ground waters, the Regulation of the discharge of dangerous substances to these waters or the monitoring and sampling of waters. Directive 2000/60/EC either expands on the environmental objectives beyond that in existing legislation, incorporates (and will expand) requirements for discharge control and provides a comprehensive framework for monitoring and reporting. Specific transitional and related provisions include:

- The list of priority substances to be adopted under Article 16 shall replace the list of substances prioritized in the Commission communication of 22 June 1982 in implementing the Dangerous Substances Directive 76/464/EEC.
- In identifying pollution problems, establishing quality standards and adopting measures under the framework Directive, Member States will comply with the provisions of Article 7 of Directive 76/464/EEC.
- The environmental objectives developed under Article 4 of the water framework Directive and environmental quality standards established in Annex IX and standards developed by Member States under Annex V shall be regarded as environmental quality standards for the purposes of Articles 2.7 and 10 of the IPPC Directive 96/61/EC.

The following transitional timetable applies:

Legislation to be repealed	**Date of repeal**
Directive 76/464/EEC (Article 6 only): Dangerous Substances	22/12/2000
Directive 75/440/EEC: Surface Waters for Drinking	22/12/2007
Decision 77/795/EEC Exchange of Information	22/12/2007
Directive 79/869/EEC Measurement and Sampling	22/12/2007
Directive 78/659/EEC Fishlife	22/12/2013
Directive 79/923/EEC: Shellfish Waters	22/12/2013
Directive 80/68/EEC: Groundwater	22/12/2013
Directive 76/464/EEC (except Article 6 only): Dangerous Substances	22/12/2013

The European Commission published proposals for a daughter Directive on groundwater in September 2003. The proposal was subsequently adopted as Directive 2006/118/EC. This Directive will complement the replacement of the Groundwater Directive 80/68/EEC begun by Directive 2000/60/EC.

Summary of the Directive

Directive 2000/60/EC applies to surface waters, that is lakes, rivers, transitional waters (estuaries) and coastal waters (up to one nautical mile from land) and to ground waters. The approach to water management is comprehensive in three regards:

- Directive 2000/60/EC requires that the objectives of water management are based on the overall ecology of these waters, taking account of biological, chemical and hydromorphological (i.e. a combination of hydrology and physical structure) characteristics. It requires Member States to undertake extensive analysis of these characters to determine how far the ecology has been affected by human activity and classify waters according to categories of 'status'.
- Directive 2000/60/EC requires that all waters either achieve 'good ecological status', 'good ecological potential' (heavily modified and artificial water bodies) or 'good status' (groundwaters) or that 'high status' waters are maintained, subject to specific derogations.
- Directive 2000/60/EC requires that water management is undertaken in a comprehensive, integrated manner through the development of River Basin Management Plans. Plans should be developed for each river basin, which may include more than one Member State. Each plan will define the character of the waters, where water status is not 'good', identify a programme of measures to rectify any problems and to specify a monitoring programme both for a general assessment of water status and for specific threats to it. The plan also acts as a vehicle for consultation with the public and is used for reporting to the European Commission.

Overall objective of the Directive (Article 1)

The purpose of water framework Directive is: 'to establish, for the protection of fresh water, estuaries, coastal waters and groundwater in the Community, a framework which:

- Prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems; and
- Promotes sustainable water consumption based on long-term protection of available water resources; and thereby contributes to the provision of a supply of water of the qualities and in the quantities needed for sustainable use of these resources'.

This is to be achieved by the:

- Establishment of River Basin Districts with integrated management.
- Characterization of River Basin Districts by ecology, geology, hydromorphology, demography, land use, economic activities, etc.
- Identification of historical trends in water quality and use.
- Assessment of water quality, quantity, status and monitoring.
- Identification of point and diffuse sources of pollution and other anthropogenic influences.
- Meeting the requirements of Protected Areas.
- Undertaking economic analyses of water use.
- Developing a programme of measures to achieve objectives in each River Basin District.

Environmental objectives: ecological status

The environmental objectives are set out in Article 4 and require Member States to:

- Prevent deterioration of ecological quality and pollution of surface waters and restore polluted waters, in order to achieve good water status in all surface waters by 31 December 2015.
- Prevent deterioration of groundwater quality, restore polluted groundwater, and ensure a balance between abstraction and recharge of groundwater, in order to achieve good groundwater status in all groundwaters by 31 December 2010.
- Comply with all standards and objectives relating to Protected Areas by 31 December 2010, unless otherwise specified in the Community, national or local legislation under which the individual Protected Areas have been established.

The key criterion for judging performance is the achievement of 'good ecological status'. Waters will be classified into five classes, being 'high', 'good', 'fair', 'poor' and 'bad'. 'Ecological status' is itself assessed by the worst performance of three separate assessments of biological, chemical and hydromorphological status. Directive 2000/60/EC contains a number of definitions of different aspects of ecological status and also provides a detailed set of parameters (Annex V) to assess high, good and fair biological, chemical and hydromorphological status for lakes, rivers, transitional waters (such as estuaries) and coastal waters.

Derogations from meeting environmental objectives

The list of derogations from meeting some of the environmental objectives includes situations where:

- Heavily modified water bodies are designated.
- Technical feasibility to achieve objectives requires an extension to the deadline.
- Cost implications to achieve objectives require an extension to the deadline.
- Natural conditions require additional time to meet the objectives.

Member States are also allowed to fail to meet the requirements of Directive 2000/60/EC when this is due to new modifications of the physical characteristics of a surface water body or alterations to the levels of groundwater or where water status declines from high to good due to 'new sustainable human development activities'. In such cases the following conditions must be met:

- To take all practical mitigating steps.
- The reasons for the changes are of over-riding public interest and/or the benefits to the environment and society are outweighed by the benefits to the new modifications to human health, safety or to 'sustainable development'.
- The benefits cannot be achieved by other means due to technical or cost issues.

These exemptions are far from clear. For example, there is no definition of a 'sustainable human development activity'.

Classification of waters

All waters are to be classified according to their type. The classification system for surface waters is outlined in Annex II. This requires all surface water bodies in a River Basin District to be defined as rivers, lakes, 'transitional waters', coastal waters or artificial water bodies or

heavily modified water bodies. The classification of each type of water body can be undertaken using one of two systems – A or B:

- System A is based on classification according to ecoregions (Annex XI). This map provides only very broad ecoregions across Europe. Once a water body has been assigned to an ecoregion under system A, it has to be further classified according to type based on altitude (high, mid or low), size (catchment area) and geology. Thus, system A provides only a very basic framework for classification.
- System B is more flexible. It requires classification of, for example, a river or part of a river. There is no requirement to refer to ecoregions. Obligatory requirements for classification include altitude, latitude, longitude, geology and size. However, there are also a wide range of optional factors, such as flow, depth, valley shape, etc. If system B is used, the same level of discrimination must be achieved as under system A, in order to ensure that type-specific reference conditions can be readily derived.

Characterization of waters (Article 5)

The characterization of the water bodies within each River Basin District should include:

- Characterization according to requirements in Annex II.
- A review of human activity on the status of surface and ground waters.
- An economic analysis of water use.

The water status of each water body within a River Basin District has to be judged against reference conditions for similar water bodies which are of 'high status', taking account of the classification applied to these waters. Annex II describes the different ways to determine these reference conditions. The steps to be undertaken in determining type-specific conditions are as follows:

1. Surface water bodies must be characterized into groups of water bodies with similar characters.
2. For each of these groups, a type-specific reference condition must be determined.
3. The key parameters to be used for the determination are the same as those used to define ecological quality and are detailed in Annex V.
4. For the three key elements of ecological quality (biological, chemical and hydromorphological) it is necessary to determine the details which correspond to 'high status', according to the generalized definitions in Annex V.
5. Different methods are indicated below of how these details may be determined, but Directive 2000/60/EC recognizes the need for flexibility and the role of 'expert judgement'. Thus the methods are not prescriptive.
6. High status waters, if present, must be monitored to maintain information on the accuracy of reference conditions.
7. If necessary, the reference conditions should be reviewed.

Two alternative methods are in Annex II in order to determine reference conditions. However, in some cases it may not be possible to use either method, in which case Member States may use 'expert judgement' to determine the reference conditions. The two methods are:

- ‘Spatially based’: This involves the identification of a network of sites which exhibit ‘high status’ against which other water bodies may be judged. This network must contain a sufficient number of sites to ensure that there is confidence concerning the variability of the reference conditions, such as in comparison with the modelling method described below.
- ‘Modelling’: Models used may either be predictive or hindcasting methods. They may incorporate any relevant data on ecological characters to determine reference conditions. Such data may, for example, be historical (such as fish records) or palaeo-ecological.

Register of protected areas (Article 6)

Within each river basin district a register of all protected areas designated under EU legislation shall be created. This must include those designated for water protection purposes (such as bathing waters) or for conservation purposes (such as under the Habitats Directive (92/43/EEC)). The complete list of relevant EU Directives is provided in Annex IV.

Waters used for drinking water abstraction (Article 7)

This Article incorporates requirements originally detailed in the Surface Waters for Drinking Directive 75/440/EEC. It requires Member States to identify current and future water bodies, which may be used for the abstraction of drinking water and meet quality standards sufficient to ensure that treatment will meet the requirements of the Drinking Water Directive 98/83/EC.

Monitoring (Article 8)

Member States must ensure a programme for monitoring water status is established ‘in order to establish a coherent and comprehensive review of water status’ in each River Basin District. Such monitoring includes volume and flow rates, as well as ecological and chemical parameters necessary to determine water status.

Monitoring is required in order to determine the effectiveness of River Basin Management Plans and aid in their periodic revision. It also acts as a measure of compliance, such as in assessing whether good water status has been achieved. Monitoring is not just required *after* a River Basin Management Plan has become operational. The full monitoring programme must be in place at least three years prior to this. This is necessary to ensure that there is an adequate link between the programme of measures and the state of the environment.

Monitoring of ecological quality (or groundwater status) provides the basis for all other actions in implementing Directive 2000/60/EC. Monitoring locations must include, if possible, sufficient high status waters to ensure the validity of type reference conditions and cover the requirements of protected areas (or other legislation, such as the Nitrates Directive 91/676/EEC). Monitoring should provide an adequate determination of ecological quality and how it is changing. Some details of appropriate locations are provided in Annex V, which focuses monitoring efforts on water bodies subject to anthropogenic pressures. This requires that Member States initially produce a list of priority waters to be monitored. These include:

- Bodies at risk from point source pollution.

- Bodies at risk from diffuse source pollution (representative bodies monitored).
- Bodies at risk from significant hydromorphological pressure (representative bodies monitored).

Biological parameters must be monitored at all sites. Other parameters may first be subject to an investigation and inventory prior to additional monitoring.

Annex V also details monitoring frequency. Routine monitoring is described as 'surveillance' monitoring. This indicates that biological and hydromorphological parameters should be monitored relatively infrequently (many parameters only once every three years). However, as problems occur, Member States are to determine to provide sufficient information for a 'reliable assessment' of water status.

For groundwaters there is a general requirement to monitor hydrology in all groundwater bodies and more specific requirements for those subject to abstraction and direct or indirect discharges. For pollution and water level information, Directive 2000/60/EC only requires that monitoring is sufficient to detect trends. Directive 2000/60/EC is less prescriptive than for surface waters.

A programme of monitoring for protected areas shall also be established within each River Basin District. The timetable of the programme for protected areas shall be that already required in the EU legislation which establishes the protected area. Technical specifications for monitoring also follow that already required in the EU legislation which establishes the protected area.

In 2009 a Directive (2009/90/EC) was adopted laying down, pursuant to Directive 2000/60/EC, technical specifications for chemical analysis and monitoring of water status. This sets out technical requirements related to monitoring.

Recovery of costs for water services (Article 9)

Member States are required to 'take account of the principle' of recovery of the costs of water services. This should take account of the economic analysis of water use required by Article 5. Member States are required to ensure, by 2010, that water pricing provides adequate incentives to ensure efficient water use and that this is spread across different water use sectors.

The combined approach to pollution control (Article 10)

Discharges to waters shall be controlled by one or more of the following, as set out in EC legislation including the Integrated Pollution Prevention and Control Directive (2008/1/EC), the Urban Waste Water Treatment Directive 91/271/EEC and the Nitrates Directive 91/676/EEC:

- Establishment of emission limits.
- Emission controls based on Best Available Techniques.
- Use of best environmental practices for diffuse sources.

Wherever the quality objectives of Directive 2000/60/EC require stricter conditions to be applied, Member States must ensure that these are achieved. The use together of emission

limits and environmental quality objectives is known as the ‘combined approach’ and represents the integration of different strands of EU pollution control policy developed over many years.

Programme of measures (Article 11)

Within each River Basin Management Plan a programme of measures should be detailed, to ensure that environmental quality is maintained or, where waters are below ‘good status’, that quality improvements are made. Compulsory measures for all waters include:

- Those necessary to implement other EU legislation for the protection of water, in particular the combined approach.
- Those appropriate to take account of recovery costs for water use and achieve sustainable water use.
- Those necessary for heavily modified water bodies.
- Those necessary to safeguard water quality intended for drinking water abstraction.
- Register of water abstractions, prior authorization for abstraction and impoundment.
- Prior authorization, or registration based on general binding rules for all point source discharges liable to cause pollution.
- Authorizations, etc., shall be periodically reconsidered.
- Prohibition of direct discharges to groundwater subject to a series of provisions for specific exemptions and ensuring that all discharges are authorized. The Carbon Capture and Storage Directive 2009/31/EC (Article 32) amended the Water Framework Directive by inserting the following after Article 11.3.j, adding to the list of exceptions: ‘injection of carbon dioxide streams for storage purposes into geological formations which for natural reasons are permanently unsuitable for other purposes, provided that such injection is made in accordance with Directive 2009/31/EC’.

Compulsory measures for water bodies which do not meet the environmental objectives of Article 4 include:

- Monitoring to be reviewed and adjusted as appropriate.
- Establishment of stricter environmental quality standards for pollutants if necessary.
- Investigation of sources of pollution.
- Review of all relevant authorizations and discharge permits.

Supplementary measures are also given and are to be implemented where they are necessary to achieve the objectives of Directive 2000/60/EC.

River Basin Management Plans (Article 13)

The basic management unit required by Directive 2000/60/EC is that of the River Basin District. Each River Basin District is to produce a River Basin Management Plan. Each plan must provide the following information for each District, as detailed in Annex VII:

- Geographical and geological characteristics.
- Hydrological characteristics.
- Demographic information.
- Land use and economic activity.

- Point sources of pollution.
- Diffuse sources of pollution.
- Water abstraction.
- Other anthropogenic influences.
- Economic information (values, prices, costs, including historical trends, investments and forecasts divided by households, industry and agriculture) for abstraction and distribution of water and collection and discharge of waste water.
- Identification of all water bodies used for abstraction.
- Register of protection areas (EC, national and local designations), covering sensitive waters (such as nitrates, bathing waters, etc.) or nature conservation.
- Details of monitoring regimes for ecological and chemical characteristics and for protected areas.

The plan must also contain a series of management objectives. These include:

- Measures to meet environmental quality standards for groundwater.
- Monitoring, investigation and review of authorizations in all waters not classified as "good".
- Controls over abstraction, including a register of abstractors and ensuring that abstraction only amounts to a small proportion of available resources.
- Requirement for prior authorization for all activities that have a potentially adverse impact of water status.
- Prohibition on direct discharges to groundwaters.

Public consultation (Article 14)

Member States must ensure the following avenues for public consultation for the production of River Basin Management Plans and their periodic revisions:

- At least three years before a plan is to be in operation, a timetable and work programme for its production is to be made public.
- An interim overview of significant water management issues is to be made public not less than two years before the plan is operational.
- Draft copies of the plan must be available at least one year before it is in operation and the public must be given six months to comment on it.
- All background documents must be available on request.

Reporting (Article 15)

Member States are to forward to the Commission all river basin management plans in their territory, within three months of publication. Member States also have to submit an interim report (within three years of publication of a river basin management plan) describing progress on its implementation. Member States shall also submit summary reports of the review of human activities and economic analyses and of the results of monitoring programmes established for developing the first River Basin Plans, within three months of their completion.

Strategies against pollution (Articles 16 and 17)

The Commission may develop proposals to control pollution using risk-based approaches. A strategy for ground water shall be produced by 22 December 2002.

Development of the Directive

Although the Directive was proposed in 1997 it developed out of a much earlier debate concerning the limitations of existing EC water legislation. The existing *acquis* can be criticized for being too fragmented, concentrating on specific aspects of environmental quality or specific threats to that quality. In 1994 the Commission proposed a Directive (COM(93)680) on the ecological quality of surface waters as a more comprehensive approach. This too was seen as not sufficiently wide by the Commission in its Communication on European Community Water Policy (COM(96)59) and the Water Framework Directive was proposed in 1997.

The proposal generated significant debate, with extensive support for the general principles it promoted, but sharp disagreements concerning the detail. In 1998 the UK Presidency placed the proposal on the Council agenda and produced a significantly modified version. Given that the European Parliament had not produced its first opinion by that point, it inflamed many MEPs and led to the development of entrenched positions by both sides. The Parliament also delayed its readings to allow for the ratification of the Amsterdam Treaty and, therefore, to the proposal being adopted by co-decision.

A number of components of the proposal were deleted or watered down during its adoption, including:

- The inclusion of wider marine waters.
- An absolute requirement for full cost recovery of water use.
- Strict protection for groundwaters.
- Inclusion of protected areas designated at national or local level.

The timetable for implementation was increased during the passage of the proposal and a range of derogations, exclusions, etc., added (particularly to Article 4).

Council Decision on priority substances (Decision 2455/2001/EC)

In 2001 the Council adopted a Decision establishing a list of priority substances in the field of water policy. This was formally proposed by the European Commission at the beginning of 2001 (COM(2001)17) and formed Annex X of the Directive 2000/60/EC. The priority list of 33 substances is derived from an initial survey of other ‘lists’, including those in Directive 76/464/EEC, the OSPAR and HELCOM Conventions, etc. To determine which substances were a priority, a procedure termed COMMPS (Combined Monitoring-based and Modelling-based Priority Setting) was elaborated. Information on environmental contamination in surface waters and sediments was examined across all 15 Member States. In all, over 800,000 monitoring data items were examined. This led to the development of the list which aimed at tackling eco-toxicological effects, bio-accumulation and health impacts. The monitoring data

did indicate the *in situ* importance of some substances, such as DDT, which are, however, already controlled under existing legislation. These 'historical' substances were not, therefore, included in the list. The final priority list contains four metals and their compounds (cadmium, lead, mercury and tin). The remainder are toxic organic substances (such as certain pesticides, product contaminants, etc.). The adoption of the Decision will enable the European Commission to bring forward proposals for specific measures to reduce pollution from the named substances.

In 2008 Directive 2008/105/EC on quality standards in water was adopted. Annex II of 2008/105/EC replaced Annex X of Directive 2000/60/EC. 2008/105/EC establishes environmental quality standards for surface waters (or exceptionally sediments and/or biota) for 33 'priority substances' and eight other pollutants in order to achieve the environmental objectives of Directive 2000/60/EC. Implementation of Directive 2008/105/EC is to be achieved through the assessment and planning processes established under Directive 2000/60/EC.

Supporting implementation through the Common Implementation Strategy

In May 2001, a meeting of the Water Directors Group (involving representatives of officials from Member State ministries responsible for water management) agreed a Common Implementation Strategy for implementation of Directive 2000/60/EC. This was developed as a response to the complex technical issues which Member States face in implementing the Directive. The Common Implementation Strategy established a series of expert and working groups to take forward various aspects of Directive 2000/60/EC. The expert groups assisted the European Commission in developing policies in areas that were not then (or were inadequately) addressed in the text of Directive 2000/60/EC – priority substances, groundwaters and reporting. The working groups each addressed specific technical issues, ranging from the typology of waters and defining 'heavily modified waters' to monitoring and the using of Geographical Information System (GIS). The working groups each had two lead institutions, at least one of which was a Member State, to take forward the initiative. These groups developed guidance in their various areas and in late February 2003 the first eight were published by the Commission. Table 1 summarizes the guidance that has been published to date.

Implementation of the Directive

Information on national transposition of Directive 2000/60/EC can be found in the national 'execution measures' communicated by the Member States.

The European Commission published its first report (COM(2007)128) on the implementation of Directive 2000/60/EC in March 2007. The report was a short (13 page) document summarizing the results of reports made by the Member States under Article 5 of the Directive. It was, however, accompanied by a more detailed Staff Working Document (SEC(2007)362), which examined issues further. Article 5 of Directive 2000/60/EC requires Member States to produce an environmental and economic analysis of water bodies by 2004 and report on this to the Commission. The 2007 Commission report were based on these reports. The striking feature of the report was the number of water bodies which are reported

to be ‘at risk’. There were still many data gaps, but only three of the 27 Member States reported that the majority of water bodies were not at risk. There were a number of reasons for this, including agricultural and point source pollution and over-abstraction. In some cases improvements were stated to be in the pipeline (such as implementation of urban waste water treatment in the new Member States). In many cases, however, there would need to be considerable efforts in developing programmes of measures within the river basin management plans. The transposition of the Directive 2000/60/EC by the EU15 (December 2003 deadline) was poorly met, although the new Member States had progressed well by the date of accession in 2004. A common feature was a failure to address requirements related to access to environmental justice. Other areas of deficiency were environmental and economic assessment tools. Water pricing was also a major problem area. In many cases prices were not reported, and when they were, prices tended to be lower in agriculture compared with other sectors.

On 1 April 2009 the Commission published a report (COM(2009)156) on programmes for monitoring of water status. It concluded that all Member States had reported on the establishment of monitoring programmes in accordance with Article 8 and Annex V of Directive 2000/60/EC, with the exception of Greece which did not report and Malta, which did not report on surface water monitoring programmes. Overall, there was a good monitoring effort across the European Union, with more than 107,000 monitoring stations reported for monitoring of surface water and groundwater under Directive 2000/60/EC. However, gaps were detected in individual river basin districts or individual water categories. For instance, there were still many river basin districts where the necessary assessment methods for biological quality elements were not yet in place. This was particularly true in the countries that joined the EU in 2004 and 2007.

In April 2009 the Second European Water Conference was held. The ‘Conference Document’ summarized progress on implementation of Directive 2000/60/EC beyond what has been published in the formal Commission Communications, based on information submitted by the Member States. By January 2009, 23 Member States had published documents on Significant Water Management Issues. The most important pressures identified were diffuse pollution from agriculture and domestic effluent in areas without a sewage collection network; point sources from urban wastewater treatment plants and industry; flow Regulation, hydropower works and morphological modifications of rivers; abstraction for public water supply and irrigation; and climate change. The most important impacts identified were nutrient enrichment; contamination by priority substances; altered habitats; organic enrichment; and excessively low water levels.

By the end of January 2009, draft River Basin Management Plans were made available for public consultation in 17 Member States (many of those not available were in southern Member States). Most draft River Basin Management Plans provided information on the current and likely future status of water bodies by 2015 and on the use of exemptions from objectives. The likely achievement of reaching good status by 2015 varied greatly from below 10 per cent of surface water bodies (Belgium-Flanders, Czech Republic) to above 80 per cent (in several River Basin Districts in Ireland, Bulgaria, France and Estonia). Groundwater was more likely to reach good status (especially for quantity) by 2015 than surface water bodies. However, the chemical status of groundwater will not reach 100 per cent good status in many cases by 2015. The most frequently used exemptions were the extension of deadlines and use of less stringent objectives. A Programme of Measures was

included in all draft River Basin Management Plans, as was an economic analysis, although proposals related to water pricing were less often identified.

With regard to public participation and consultation process, reports concluded that the process had helped to raise awareness and to improve the planning process as well as establish new contacts between stakeholders and improve existing relationships. Some processes could have been done more efficiently and early participation had helped to deflect conflicts.

Member States reports of individual River Basin Management Plans can be found at this link and in the Reporting Obligations Database. The deadline for publishing River Basin management Plans was 22 December 2009 and the deadline for reporting these to the Commission was 22 March 2010. The Commission is currently evaluating these plans and, therefore, assessment of implementation is not possible at this stage. However, the Commission has stated that, as of 22 December 2011, 23 Member States and Norway had adopted their River Basin Management Plans, but for four Member States (Belgium, Greece, Portugal and Spain) the consultations were ongoing or had not even started. The Commission is aiming to publish a "Blueprint for Europe's water resources" in 2012 and this will draw upon its assessment of the implementation of the Water Framework Directive. The NGO, the European Environmental Bureau published a report in July 2010 entitled "10 years of the Water Framework Directive: A Toothless Tiger? A snapshot assessment of EU environmental ambitions"[2]. This examined the role of the Directive in tackling nutrient pollution. It argued that there were 'serious doubts over the effectiveness of the WFD implementation to change specific and well known unsustainable water management practices'. More specifically, it concluded the following:

- Lack of transparency and robust assessments: from the River Basin Management Plans assessed, 'for the purpose of checking the level of environmental ambitions and measures to restore specific water quality elements, like nutrient conditions, RBMPs as well as background documents are useless' as 'specific assessments and data are not available'. Only six river basin districts and/or countries 'were found where the respective RBMPs provide objectives for restoring nutrient conditions of water bodies or where this information could be provided after considerable effort'.
- Inadequate delays in ending eutrophication: five of the six river basin districts and regions, which provided information, aimed at restoring less than one third of the surface water which suffers from excessive nutrients by 2015; the rest is to be restored some 10 years later. 'This massive procrastination is not underpinned by specific justifications for the individual cases, but based on generic excuses stating high costs and lack of knowledge. The minimum legal criteria appear to have not to be met'.
- 'Well-trodden paths - no reform': a spot check of programmes of measures suggested that no new significant measures were being proposed to tackle nutrient pollution. However, 'the application of exemptions, in this case the designation of heavily modified water bodies, is still the most common way to avoid moving on from old approaches'.

The implementation of the Directive is also the focus of considerable research. For example Hering et al[1]. have reviewed the achievements of the Directive. They concluded that the development of assessment methods across the EU was 'more time consuming, and methods more complex, that originally expected'. Also, while a large quantity of monitoring data are being collected, the storage and accessibility of the data is not optimised.

Enforcement and court cases

There have been a number of judgements by the European Court of Justice against Member States for failure to implement Directive 2000/60/EC. A number of these concern failure by a Member State (or part of a Member State) to transpose all, or part, of the Directive:

- C-67/05 15/12/2005. This judgement against Germany found that it had failed adequately to transpose Directive 2000/60/EC by the relevant deadline.
- C-33/05 15/12/2005. This judgement against Belgium found that it had failed adequately to transpose Directive 2000/60/EC in the Brussels Region by the relevant deadline.
- C-85/05 12/01/2006. This judgement against Italy found that it had failed adequately to transpose Directive 2000/60/EC by the relevant deadline.
- C-118/05 12/01/2006. This judgement against Portugal found that it had failed adequately to transpose Directive 2000/60/EC by the relevant deadline.
- C-32/05 30/11/2006. This judgement against Luxembourg found that it had failed adequately to transpose Directive 2000/60/EC with regard to Articles 2, 7(2) and 14 by the relevant deadline

Further cases concern aspects of failure of practical implementation:

- C-516/07 07/05/2009. This judgement against Spain found that it had failed to designate a competent authority the application of the rules of Directive 2000/60/EC as required under Article 3(2) and (7).
- Two cases concern the failure to undertake the necessary analyses for some or all river basins in the respective Member States:
- C-85/07 18/12/2007. This judgement against Italy concerned the pilot river basin district of the River Serchio and a part of the river basin districts of the Eastern Alps and the Northern, Central and Southern Apennines. Italy had failed to submit a summary report on the analyses required under Article 5(1) of Directive 2000/60/EC and carry out the analyses and the study referred to in Article 5(1).
- C-264/07 31/01/2008. This judgement against Greece declared that it had failed to ensure that, for each river basin district or for the portion of an international river basin district falling within its territory, it had undertaken an analysis of its characteristics, a review of the impact of human activity on the status of surface waters and on groundwater, and an economic analysis of water use, are undertaken according to the technical specifications set out in Annexes II and III of Directive 2000/60/EC.
- C-351/09 22.12.2010. This judgement against Malta for failure to make operational a surface water monitoring programme as required by the Directive.

Further developments

On 31 January 2012 the Commission published a proposal to amend Annex X the Water Framework Directive and the Quality Standards for Water Directive (COM(2011)876). This would add a further 15 priority substances (six of which as priority hazardous substances) and designate two existing priority substances as priority hazardous substances. The proposal was accompanied by a report (COM(2011)875) on the outcome of the review of Annex X of the Water Framework Directive.

The Commission is reviewing EU freshwater legislation and policy with the aim to publish a "Blueprint to Safeguard Europe's Waters" in late 2012. A major part of the review is an examination of experience and progress arising from the first River Basin Management Plans produced by Member States under the Water Framework Directive. Further information on the Blueprint can be found at this link.

Related Legislation

Directive 2000/60/EC interacts with a large number of other EU laws. It is important to note, initially, the interaction with the Marine Strategy Framework Directive 2008/56/EC, which also applies to coastal waters covered by Directive 2000/60/EC.

Directive 2000/60/EC establishes broad quality objectives for waters. Other EU water law also sets quality objectives and some of this legislation has been amended or adopted since the adoption of Directive 2000/60/EC. It is also important to note that these objectives not only include specific chemical or microbiological values, but also conservation objectives. This legislation includes:

- Dangerous Substances Directive 2006/11/EC and its daughter Directives.
- Directive on quality standards in water 2008/105/EC.
- Groundwater Directive 2006/118/EC.
- Bathing Waters Directive 2006/7/EC.
- Habitats Directive 92/43/EEC.
- Birds Directive 79/409/EEC.

The Commission produced[3] frequently asked questions concerning the interaction between Directive 2000/60/EC and the Birds and Habitats Directives in 2010.

Directive 2000/60/EC requires the development of programmes of measures to tackle pressures on the water environment. These measures must include requirements set out in other EU legislation. This legislation includes:

- Nitrates Directive 91/676/EEC.
- Urban Waste Water Treatment Directive 91/271/EEC.
- The Integrated Pollution Prevention and Control Directive 2008/1/EC.
- The Industrial Emissions Directive (2010/75/EU).
- Floods Directive 2007/60/EC.
- Landfill Directive 1999/31/EC.
- SEA Directive 2001/42/EC.
- EIA Directive 2003/35/EC.

The Carbon Capture and Storage Directive 2009/31/EC amended Directive 2000/60/EC allowing for injection of carbon dioxide streams for storage purposes into geological formations which for natural reasons are permanently unsuitable for other purposes.

The scope of Directive 2000/60/EC influenced the scope of Regulation (EC) No 166/2006 concerning the establishment of a European Pollutant Release and Transfer Register and data from this register may assist water managers in assessing changes in pressures on water bodies.

References

1 Hering D. (and 11 others). 2011. The European Water Framework Directive at the age of 10: A critical review of the achievements with recommendations for the future. Science of the Total Environment, 408: 4007–4019.

2 EEB (2010) 10 years of the Water Framework Directive: A Toothless Tiger? A snapshot assessment of EU environmental ambitions. http://www.eeb.org/?LinkServID=B1E256EB-DBC1-AA1C-DBA46F91C9118E7D&showMeta=0

3 European Commission 2010. Links between the Water Framework Directive (WFD 2000/60/EC) and Nature Directives (Birds Directive 79/409/EEC and Habitats Directive 92/43/EEC). Frequently Asked Questions. Brussels. Available at: [link]

Table 1. Guidance and other supporting documents published to assist in the implementation of Directive 2000/60/EC

Number	Title	Short description
1	Economics and the Environment – The Implementation Challenge of the Water Framework Directive	The Guidance covers: • The role of economics in Directive 2000/60/EC: where economic elements are addressed in the Directive and how these fit into river basin planning. • Planning the economic analysis: how to organize the economic analysis, the role of stakeholders and what should be done by 2004. • Methodologies for undertaking the economic analysis: including integration in River Basin Management Plans, assessment of costs and cost recovery, assessment of benefits and when economic analysis can be used to justify a derogation. • Reporting the results of the economic analysis: how to report the results to the Commission and how to communicate with the public.
2	Identification of Water Bodies	The Guidance provides a common understanding of the definition and identification of water bodies for surface and groundwater. The Guidance describes the principles involved in defining a water body and a hierarchical process for sub-dividing river basin districts into water bodies.
3	Analysis of Pressures and Impacts	The Guidance provides a common understanding about pressures and impacts in Directive 2000/60/EC: • The role of the analysis of pressures and impacts within the implementation process of Directive 2000/60/EC. • How the analysis contributes to the characterization of water bodies, which has to be fulfilled according to Article 5 of Directive 2000/60/EC, and how this analysis contributes to the development of monitoring programmes, river basin management plans and programmes of measures. • The key terms of the analysis (e.g. significant pressures, water bodies at risk of failing the objectives of Directive 2000/60/EC). • General approach for the analysis of pressures and impacts, including the key working steps proposed to undertake the analysis. • A toolbox for the analysis, such as data, classification systems and models, available to aid the analysis of pressures and impacts; and sources of data and information. • Examples are available of current good practice.
4	Identification and Designation of Heavily	The Guidance offers explanations of the importance and consequences of Heavily Modified (HMWB) and Artificial Water Bodies (AWB). It describes the overall designation process, giving a short

	Modified and Artificial Water Bodies	description of the individual steps leading to the identification of HMWB and AWB, with specific steps for each. It describes the requirement to establish reference conditions and environmental objectives on which status classification is based. The Guidance also summarizes some important issues regarding measures and related cost considerations throughout the process.
5	Transitional and Coastal Waters – Typology, Reference Conditions and Classification Systems	The Guidance initially provides a common understanding of terms, including what are transitional and coastal waters, how surface water bodies should be defined within transitional and coastal waters and specific issues such as the treatment of marine lagoons and wetlands. It addresses how typology should be approached, how reference conditions be set and the classification process for these types of water body.
6	Towards a Guidance on Establishment of the Intercalibration Network and the Process on the Intercalibration Exercise	The Guidance provides a common understanding of Directive 2000/60/EC intercalibration requirements as required in Annex V. It sets out the timetable, practical problems and procedures, as well as the organization of the selection of intercalibration sites. It also provides a preliminary technical protocol for the intercalibration exercise.
7	Monitoring under the Water Framework Directive	The Guidance begins with a common understanding of concepts and terms, including the terms 'supporting' and 'water body', concepts of risk, precision and confidence, monitoring of wetlands, and surveillance, operational and investigative monitoring of surface waters, groundwaters and protected areas. It provides guidance on the selection of quality elements, with tables summarizing the key features of each quality element for surface and ground waters and how each of the quality elements is monitored in Member States. It also provides a toolbox on best practices for monitoring (design, type, frequency, etc.) and examples of best practice in the Member States.
8	Public Participation in Relation to the Water Framework Directive	The Guidance addresses what is participation and how stakeholders should be involved. It considers that public participation is a means of improving Decision-making, to create awareness of environmental issues and to help increase acceptance and commitment towards intended plans. It recommends public participation at any stage in the planning process, from the Article 5 requirements to the Programme of Measures and the design of the River Basin Management Plan. It provides guidance on how to implement public participation in the different steps of the management process. It considers specific steps information supply and consultation (mandatory in Directive 2000/60/EC) and active involvement (encouraged in the Directive).
9	Implementing the Geographical Information System (GIS) Elements	The Guidance addressed the common understanding on terms and on the role of GIS in the Directive 2000/60/EC. It considers how GIS is to be used in implementation and the range of technical issues for its application, including ensuring harmonization and consistency of reporting to the Commission.

	of the Water Framework Directive	
10	Rivers and Lakes – Typology, Reference Conditions and Classification Systems	The Guidance provides a common understanding of the concepts 'reference conditions' and 'high ecological status', 'good' and 'moderate ecological status', 'surface water bodies', 'wetlands', 'water body types' and 'classification of ecological status'. It sets out the principles and methods for establishing reference conditions and ecological status class boundaries for rivers and lakes. It provides a toolbox to support this and examples from the Member States.
11	Planning Processes	This Guidance creates a common understanding with regard to planning process in Directive 2000/60/EC, setting out the planning requirements and explaining how to organize the planning process. It considers what needs to be done, when and how. It considers the problems that might arise and how authorities can move from plan preparation to plan implementation.
12	The Role of Wetlands in the Water Framework Directive	The Guidance makes a distinction between legal obligations and best practice recommendations. It provides a functional description of wetlands coherent with the purposes of Directive 2000/60/EC and relationship with other Guidance documents. It provides an analysis of relationships between wetlands and surface water bodies, terrestrial ecosystems and other elements of surface water having an influence on water bodies and catchment management. The specific role of wetlands in achieving environmental objectives is described, including in relationship to other objectives and the pressures upon them. Consideration is also given to wetland restoration and recreation as measures to be assessed, among other technical means, to prevent catchment degradation and the loss of environmental quality, taking into account the concept of cost effectiveness. Monitoring of wetlands is also addressed.
13	Overall Approach to the Classification of Ecological Status and Ecological Potential	The Guidance provides step-wise guidance on the assessment of ecological status and potential leading to the overall ecological classification of water bodies. It also provides specific guidance on the role of the general physico-chemical quality elements in ecological classification.
14	Guidance on the Intercalibration Process (2004–2006)	This Guidance provides further information on the intercalibration process, which started in 2004 and continued to the end of 2006.
15	Groundwater Monitoring (WG C)	This provides guidance on establishing groundwater monitoring programmes to meet the requirements of Directives 2000/60/EC and 2006/118/EC. It describes the design of a surveillance monitoring programme, operational programme and quantity monitoring (selection of determinands, monitoring sites and monitoring frequency), as well as drinking water protected area monitoring.
16	Groundwater in Drinking	This guidance explains the obligations for Protected Areas that apply to groundwater, in particular the

	Water Protected Areas	requirements for Drinking Water Protected Areas that are introduced under Article 7 of Directive 2000/60/EC. It does not cover the requirements of the source Directives under which individual Protected Areas are designated. It explains the relationship between the objectives for protected areas and other Directive 2000/60/EC objectives.
17	Guidance on Preventing or Limiting Direct and Indirect Inputs in the Context of the Groundwater Directive 2006/118/EC	This document provides guidance regarding Directive 2000/60/EC obligations for preventing or limiting entry of pollutants into groundwater, as further developed in Directive 2006/118/EC. It clarifies the requirements regarding direct and indirect inputs and the relationship with other objectives of Directive 2000/60/EC.
18	Groundwater Status and Trend Assessment	Annex V of Directive 2000/60/EC and Articles 3, 4 and 5 and Annexes II, III and IV of Directive 2006/118/EC require the assessment of trends in groundwaters. The Guidance describes how this is to be done. It sets out a methodology for deriving threshold values for pollutants, establishes frameworks for assessing both chemical and quantitative status, identifies a method for identifying environmentally significant trends, outlines the reporting requirements and provides case study examples to illustrate the application of the guidance in different Member States.
19	Surface Water Chemical Monitoring	This guidance includes the monitoring of priority substances (and other pollutants) relevant to assess ecological or chemical status and the programmes of measures. It includes sampling and laboratory analyses, in situ field monitoring of physico-chemical quality elements, but not the monitoring of hydromorphological elements. It does not address compliance, statistical treatment and reporting of monitoring data.
20	Exemptions to the Environmental Objectives	The Guidance considers the issues of exemptions to environmental objectives set out in Article 4, introducing the principle of preventing any further deterioration of status. It describes a range of issues such as what is meant by disproportionate costs, what are extreme droughts and floods and the use of mitigation. It also considers how this is taken forward in River Basin planning, the role of public participation, reporting obligations and links with requirements under other EU legislation.
21	Guidance for Reporting under the WFD	The Guidance sets out the reporting requirements of Directive 2000/60/EC, including in relation to River Basin planning, its geographic referencing, surface and groundwaters, reporting for programmes of measures and economic data. The document sets out what needs to be reported, how this is to be provided and what the Commission will do with the data. It also describes the WISE information system.
22	Updated WISE GIS Guidance (Nov 2008)	The original GIS Guidance required updating because of the changes brought about by the development of the WISE information exchange system, the practical experience gained from the first 4–5 years of the

		implementation of Directive 2000/60/EC, technical changes and the need to adapt to requirements of SEIS and the INSPIRE Directive 2007/2/EC. The Guidance supports the development of WISE by providing guidelines and technical specifications, IT tools, services and digital resources to be used by the data providers and WISE developers to ensure satisfaction and availability of water information at the European level for the users.
23	Eutrophication Assessment in the Context of European Water Policies	The document provides a unified conceptual framework to understand eutrophication in all water categories and across different Directives (Water Framework Directive 2000/60/EC, Urban Wastewater Treatment Directive 91/271/EEC and Nitrates Directive 91/676/EEC) and international policies (such as OSPAR and HELCOM). It includes an overview of assessment methods and recommendations for harmonization of classification criteria. It develops a generic conceptual framework for the assessment of eutrophication which includes existing cause–effect relationships in both marine and freshwater ecosystems.
24	River Basin Management in a Changing Climate	These Guidance documents provide information on how to address climate change issues within River Basin Planning. It does this according to the following themes: • How to handle available scientific knowledge and uncertainties about climate change. • How to develop strategies that build adaptive capacity for managing climate risks. • How to integrate adaptive management within key steps of producing River Basin Management Plans. • How to address the specific challenges of managing future flood risk. • How to address the specific challenges of managing future water scarcity.
25	Chemical Monitoring of Sediment and Biota	The guidance covers the requirements for compliance checking and temporal trend monitoring for biota and sediment, taking into account the obligations of the Quality Standards for Water Directive. The guidance contains recommendations on surveillance, operational and investigative monitoring and should be applied to the current list of Priority Substances (33) and eight other pollutants, and to specific river basin pollutants which tend to accumulate in sediment or biota.
26	Risk Assessment and the Use of Conceptual Models for Groundwater	This guidance describes the elements of risk assessment, the use of conceptual models and their specific implementation for groundwater under the Water Framework Directive. It describes a coherent approach on how to assess risks caused by different pressures (such as diffuse and point source pollution and abstraction) at different scales ranging from site scale (local) up the scale of a groundwater body.