



Water Note 9

Integrating water policy: Linking all EU water legislation within a single framework

Protecting the quality of Europe's water resources has been a high priority for the European Union (EU) since it started adopting legislation in the area of environmental protection. The first directives, adopted in the mid-1970s, established a series of quality standards aimed at protecting human health and the living environment, including surface water used for drinking water, bathing water, fish waters, shellfish waters, groundwater and water for human consumption. In the same "generation" of legislation, a directive that set standards for the discharge of dangerous substances into the aquatic environment was for many years the main instrument to control emissions from industry.

However, the quality standard approach proved insufficient for protecting Europe's polluted waters. When eutrophication became a major problem in the North and Baltic seas and parts of the Mediterranean in the late 1980s, the EU started to focus on the sources of pollutants.

This led to the Directive on Urban Wastewater Treatment (UWWT) which requires Member States to invest in infrastructure for collecting and treating sewage in urban areas while the Nitrates Directive requires farmers to control the amounts of nitrogen fertilisers applied to fields. And the Directive on Integrated Pollution Prevention and Control (IPPC) adopted a few years later aims to minimise pollutants discharged from large industrial installations.

To make this patchwork of policies and legislation more coherent, the EU adopted the Water Framework Directive (WFD) in 2000, creating a global and unified approach to water legislation.



A drinking water fountain in Venice, Italy

The Water Framework Directive

The Water Framework Directive establishes a legal framework to protect and restore clean water across Europe and ensure its long-term and sustainable use. (Its official title is *Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.*)

The directive establishes an innovative approach for water management based on river basins, the natural geographical and hydrological units, and sets specific deadlines for Member States to achieve ambitious environmental objectives for aquatic ecosystems. The directive addresses inland surface waters, transitional waters, coastal waters and groundwater. Article 10 details the directive's "combined approach for point and diffuse sources" and refers to several related directives. The list in Annex VI, Part A includes *inter alia* the directives on:

- Bathing Water (76/160) (now replaced by 2006/7)
- Drinking Water (80/778, as amended by 98/83)
- Urban Wastewater Treatment (91/271)
- Nitrates (91/676)
- Integrated Pollution Prevention & Control (96/61, codified as Directive 2008/1/EC).
- Sewage Sludge (86/278)

The directive regards implementation of these other directives as a minimum requirement. The measures to implement them must be integrated into river basin management planning (Article 11.3(a)).



Children playing on a beach in Spain. Ensuring clean bathing water is necessary to protect human health.

Protecting bathing water

The aim of the 2006 **Bathing Water Directive** is to ensure that Europeans have clean and safe water to swim or play in. It replaces the 1976 directive with a more sophisticated system of monitoring and classification of bathing water for protection of human health.

Many of the measures it establishes to minimise risks to bathers are similar in approach to those found in the Water Framework Directive. These include requirements to draw up management plans for each bathing site and to provide the public with extensive information and opportunities to participate in drawing up the plans.

The Bathing Water Directive is linked to the Urban Wastewater Treatment Directive (described below) in that the primary health threat to bathers is faecal contamination, which is often due to inadequate sewage treatment and pollution from animal waste. It sets four categories for the classification of bathing sites – “excellent,” “good,” “sufficient” and “poor” – on the basis of levels of two microbiological indicators (*E. Coli* and *Intestinal Enterococci*).

Bathing waters classified as “poor” require management measures, including prohibition or advice against bathing, so as to protect bathers from being exposed to pollution.

The combined approach

In order to achieve the environmental objectives of the Water Framework Directive, Member States are obliged to establish programmes of measures for each river basin district (or part of an international river basin district within its territory). The WFD’s combined approach for point and diffuse sources links the requirements established in the other directives through the programmes of measures.

In addition to the emission controls set in the IPPC, Urban Wastewater Treatment and other directives, the combined approach also takes account of diffuse sources, such as chemicals used in agriculture by requiring best environmental practices, product controls, and other measures.

The WFD also coordinates the environmental objectives set in earlier legislation by providing a new overall quality or good status objective for all water sources, thus providing the link between emission controls and the achievement of quality objectives, both chemical and ecological. Where needed the directive requires Member States to set in place more stringent controls to reach the WFD objectives.

The requirement to achieve good chemical status is further linked through the WFD’s provision for listing priority substances where action is needed at EU level because of the risks the substances pose to human health and the environment (see Water note no 8 on chemical pollution of surface waters).

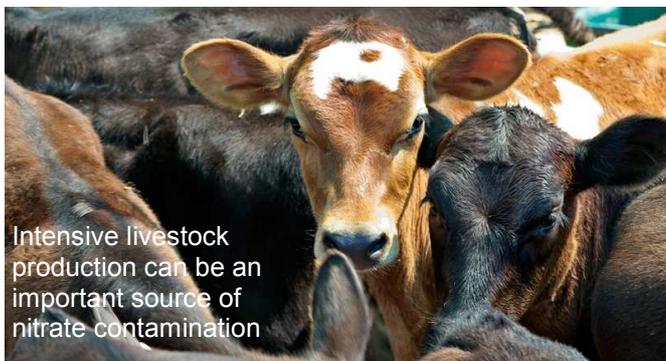
Ensuring clean drinking water

The **Drinking Water Directive** (98/8/EC) is also aimed at protecting human health. It sets standards aimed to ensure the water EU citizens consume is clean and healthy and abides by WHO guidelines.

Member States must monitor the quality of the drinking water supplied to their citizens as well as the water used in the food production industry against the 48 microbiological and chemical parameters set in the directive. Testing of drinking water is carried out straight from the tap at private and public premises. EU Member States may include additional or higher standards than those set in the Drinking Water Directive, but they are not allowed to lower the EU standards.

To achieve the Drinking Water Directive’s standards, large investments in water supply and drinking water infrastructure may be required. This is particularly the case in the 12 new Member States (see the box on the next page).

The WFD complements the Drinking Water Directive requirements by establishing safeguard zones where water for human consumption is abstracted. Drinking water is thus protected at source where it is abstracted until delivery at the tap.



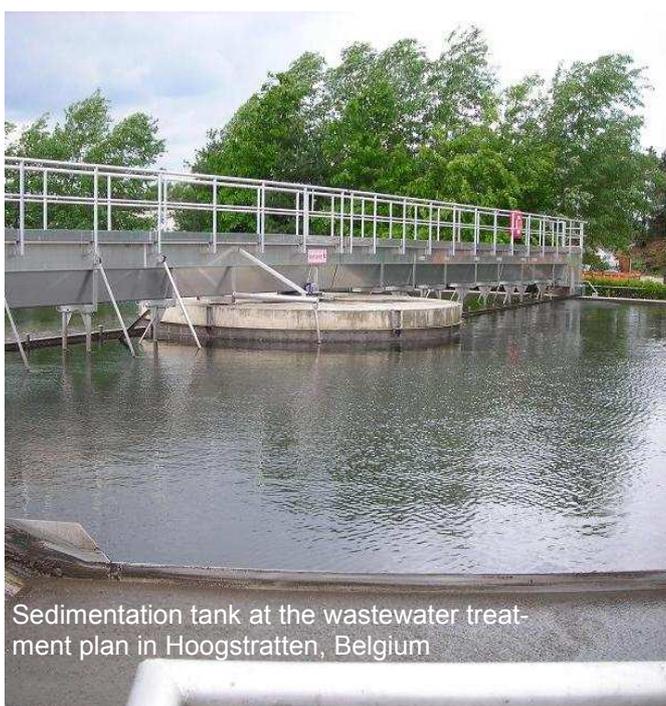
Intensive livestock production can be an important source of nitrate contamination

Restoring the quality of Europe's waters

One of the major pollution problems facing European waters is eutrophication, a process whereby water bodies, such as lakes, estuaries, or slow-moving streams receive an excess of nutrients, such as nitrogen and phosphorus compounds that stimulate excessive plant growth, commonly known as algal bloom. When dead plant material decomposes, dissolved oxygen levels in water fall, causing other organisms such as fish to die.

Eutrophication symptoms are found in some 40% of European rivers and lakes, and in the North, Baltic, and Black Seas and significant parts of the Mediterranean Sea.

Nutrients can come from a variety of sources. Diffuse pollution from agriculture, such as nitrogen fertilisers applied to agricultural fields, manure from rearing of livestock and the erosion of soil containing nutrients are responsible for 50 to 80% of all water pollution. The second largest source of water pollution is the wastewater originating from sewage treatment plants. Both of these sources are addressed by EU legislation adopted in 1991.



Sedimentation tank at the wastewater treatment plant in Hoogstratten, Belgium

Tackling urban waste water

The UWWT Directive is one of the most costly EU legislation to implement and affects more than 22,000 urban areas across Europe. It also sets requirements for pre-treatment of industrial waste water entering collecting systems and the disposal of sewage sludge.

The specific requirements depend on the size of the so-called "urban agglomerations", areas where population or economic activities are concentrated and on how sensitive are the waters into which they discharge. "Sensitive areas" (which have to be designated by Member States) are eutrophic areas or areas at risk of eutrophication, areas used for drinking water extraction or areas where further treatment is necessary to fulfil other directives (such as the Bathing Water Directive). In certain areas wastewater discharges can lead to more serious environmental consequences unless nutrients and other pollutants are removed.

The directive requires all urban areas with the equivalent of more than 2,000 inhabitants to conduct at least secondary (biological) treatment of their wastewater. For those in sensitive areas, or those with more than 10,000 inhabitants, more stringent treatment is required.

At present, the main challenge is for the 12 new Member States that became EU members in 2004 and 2007 to comply with the directive. Approximately €35 billion will be required to implement the UWWT Directive in these 12 countries, and the two most populous, Poland and Romania, need to invest over €10 billion each.

EU funds will help finance these investments, but users will also have to contribute (see box below).

Financing water services

Because of the high cost of the investments needed, especially in the 12 new Member States, the EU is supporting the construction of drinking water facilities, wastewater treatment plants and sewerage networks through its Structural and Cohesion Funds. Between 2007 and 2013 a total of about €22 billion will be available for such investments. Over 60% of the resources will go to new Member States and the remainder to the poorer regions in the 15 older Member States.

Under the Water Framework Directive, Member States are required to ensure that the prices charged to water consumers for services, such as for the delivery of fresh water and the collection and treatment of wastewater, reflect the full costs of extracting, treating and transporting it to consumers. However, the WFD also allows certain derogations for less favoured areas or to ensure affordability of basic services.

Reducing nitrates from agriculture

The **Nitrates Directive** (91/676/EEC) is aimed at preventing nitrates from agricultural sources from affecting ground and surface waters. It requires Member States to (1) detect waters that are already affected or likely to be affected by nitrate pollution, (2) designate all those areas that drain into waters that are polluted as “vulnerable zones”, (3) develop action programmes within the vulnerable zones, and (4) monitor and assess the action programmes and revise them as needed to achieve the directive’s goals.

Member States must establish codes of good agricultural practice to be implemented by farmers on a voluntary basis. The action programmes for vulnerable zones must include measures set out in the codes of good practice and those needed to limit the application of any nitrogenous fertilisers to soils, which may require investing in livestock manure storage facilities.

The Nitrate Directive’s approach is proving effective. A recent report on its implementation noted that from 2000 to 2003 nitrate concentrations were stable or decreasing at 86% of monitoring sites.

Common measures used in EU directives to protect water quality

Measure	Directives: Bathing Water	Drinking Water	Nitrates	UWWT	Water Frame- work Directive
Quality standards in water	✓	✓			✓
Identification of risks	✓		✓	✓	✓
Classification of water bodies	✓				✓
Management plan	✓		✓		✓
Emission limit values				✓	
Information to the public	✓	✓			✓
Public participation	✓				✓
Monitoring	✓	✓	✓	✓	✓

The major EU directives to protect water quality use a variety of measures, ranging from quality standards to management plans and requirements for public information and public participation. The Water Framework Directive uses nearly all these measures and also sets a combined approach that links other water legislation.

The role of river basin management plans

The WFD is also linked to the other water sector directives as similar measures are found in the various instruments. These include the WFD, Bathing and Nitrates Directives’ requiring to draw up management plans and to provide the public with extensive information and opportunities to participate in drawing up the plans.

All these measures must be integrated into river basin management planning. The river basin management plans themselves must provide summaries of the measures needed to implement each of the other directives. The WFD’s global approach thus links all of the other EU legislation related to water quality and quantity.

Water Information System for Europe (WISE)

WISE gathers and presents information from all over Europe related to river basins and their management, including data gathered through Member State water quality monitoring programmes for groundwater, rivers and lakes. For example, <http://www.eea.europa.eu/themes/water/mapviewers/bathing> provides an interactive map with data on bathing water quality across Europe in 2007.

The European Commission’s web pages, which are linked to WISE, provide further information on the Water Framework Directive and related water legislation. See: http://ec.europa.eu/environment/water/index_en.htm.