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Water Framework Directive

Policy Review

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Water Framework Directive

Policy Review
Name/Type of the Legal Act or Policy
WFD, Water Framework Directive, Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy Communications linked to the WFD: - Commission communication to the European Parliament and the Council on the wise use and conservation of wetlands, which recognised the important functions they perform for the protection of water resources (29 May 1995) - Commission communication to the European Parliament and the council on European Community water policy setting out the principles for a Community water policy (21 February 1996) - The Blueprint Communication 2012: The blueprint to Safeguard Europe's Water resources, COM(2012) - The Water Framework directive and the Floods Directive: Actions towards the 'good status' of EU water and to reduce flood risks, COM(2015)120 Daughter directives of the WFD following Art. 16 (Strategies against pollution of water) and Art. 17 (Strategies to prevent and control pollution of groundwater): Directive 2006/118/EC on the protection of groundwater against pollution and deterioration; Directive on priority substances = Directive on Environmental Quality Standards (2008/105/EC). Other directives pursuant to the WFD: Directive 2009/90/EC on technical specifications for chemical analysis and monitoring of water status. Commission Decisions: Two Commission Decisions (2005 and 2008) on ecological status established a register of almost 1 500 sites included in an intercalibration exercise to allow for comparison of different countries' standards, and published the results.
Entry into force
December 2000
Departments/Units in charge
DG ENV, Dir. C Quality of Life, Water & Air, 1. Water Dir. C Quality of Life, Water & Air: Director: Marianne Wenning Administrative Assistant: T. Verlinden Additionally, Art. 21 fixes that the Commission shall be assisted by a regulatory committee
Common Implementation strategy (CIS processes)

A Common Implementation Strategy (CIS) has been agreed upon five months after the entry into force of the Directive. The work resulted for instance in several guidance documents, resource documents or key events related to different aspects of the WFD implementation. The work is organised through work programmes which are fixed for a period of two to three years. The current work programme ("Strengthening the implementation of EU water policy through the second river basin management plans – Work Programme 2013-2015") provides for the following structure:

Nine working groups are organised in 3 clusters:

1 Water Status Cluster: includes the Working Groups Ecostat, Groundwater, Chemicals (previous WGs A, C & E) and Ecological Flow (building upon part of previous EG on WS&D).
2 Water Management Cluster: includes the Working Groups Programme of Measures (builds upon part of previous EG on WS&D with additional expertise), Agriculture (previous EG on Agriculture), and Floods (previous WG F).
3 Knowledge Integration & Dissemination Cluster: includes the Working Groups Economics (NEW) and Data and information sharing (previous WG D Reporting).

Next to the working groups there is a Strategic Coordination Group (SCG) and the Water Directors (WD) which hold strategic discussions. The WD decide what needs to be done, the SCG ensures delivery of the work programme by steering and coordinating the activities of the working groups. WD can decide to create new WGs to cover emerging issues.

Administrative body handling implementation in MS

According to the WFD, all member states need to report the competent authorities responsible for the implementation of the WFD. All reported competent authorities can be found in the EIONET Central Data Repository: http://cdr.eionet.europa.eu/

Some examples are provided in the following: In France, implementation of the directive (e.g. drafting of river basin (district) management plans) takes place through the water agencies at the level of river basin districts. In Luxembourg: WFD implementation handled at national level by the "Administration de la gestion de l'eau". In Germany, the competent authorities for implementing the WFD are the ministries of environment at the Länder level.

The Austrian Art. 3 report indicates that, given that the WFD consists of several different implementation phases (e.g. elaboration of the RBMPs, monitoring, implementation of the PoM), different authorities can be responsible for different implementation parts. In Austria for example, the federal ministry of agriculture, forestry, environment and water is responsible for the elaboration of the RBMP and all reporting requirements. The implementation of the programmes of measures is done at Länder or at district (Bezirk) level.

The 3rd WFD implementation report states that: "In some cases the responsibility for WFD implementation has been placed in dedicated units without clear links to the day-to-day water management or feedback at basin level. The result creates overlapping approaches and in some cases decisions and actions that are not compatible with WFD objectives."

Main Objective

The key objective of the WFD is to achieve good status for all water bodies by 2015. This includes the objectives of good ecological and chemical status for surface waters and good quantitative and chemical status for groundwater.

The environmental objectives of the WFD are defined in Art. 4. The aim is long-term sustainable water management based on a high level of protection of the aquatic environment. Art. 4.1 defines the WFD general objective to be achieved in all surface and groundwater bodies, i.e. good status by 2015, and introduces the principle of preventing any further deterioration of status. There follow a number of exemptions to the general objectives that allow for less stringent objectives, extension of deadline beyond 2015, or the implementation of new projects, provided a set of conditions are fulfilled.

Principles included in the legal text

Preamble (11): "As set out in Art. 174 of the Treaty, the Community policy on the environment is to contribute to pursuit of the objectives of preserving, protecting and improving the quality of the environment, in prudent and rational utilisation of natural resources, and to be based on the precautionary principle and on the principles that preventive action should be taken, environmental damage should, as a priority, be rectified at source and that the polluter should pay."

Preamble (18): "Community water policy requires a transparent, effective and coherent legislative framework. The Community should provide common principles and the overall framework for action. This Directive should provide for such a framework and coordinate and integrate, and, in a longer perspective, further develop the overall principles and structures for protection and sustainable use of water in the Community in accordance with the principles of subsidiarity."

Preamble (38): "The use of economic instruments by Member States may be appropriate as part of a programme of measures. The principle of recovery of the costs of water services, including environmental and resource costs associated with damage or negative impact on the aquatic environment should be taken into account in accordance with, in particular, the polluter-pays principle. An economic analysis of water services based on long-term forecasts of supply and demand for water in the river basin district will be necessary for this purpose."

Preamble (44): "In identifying priority hazardous substances, account should be taken of the precautionary principle, relying in particular on the determination of any potentially adverse effects of the product and on a scientific assessment of the risk."

Art. 9: Recovery of costs for water services

Art. 9.1: "Member States shall take account of the principle of recovery of the costs of water services, including environmental and resource costs, having regard to the economic analysis conducted according to Annex III, and in accordance in particular with the polluter pays principle."

The principle of recovery of the costs of water services is also mentioned in Annex III on Economic Analysis.

The 3rd WFD implementation report calls also the management at river basin scale a WFD principle.

Other objectives/Key concepts/key elements of the legislation

The WFD introduced a number of key principles into the management and protection of aquatic resources: (1) The integrated planning process at the scale of river basins, from characterisation to the definition of measures to reach the environmental objectives. (2) A comprehensive assessment of pressures, impacts and status of the aquatic environment, including from the ecological perspective. (3) The economic analysis of the measures proposed/taken and the use of economic instruments. (4) The integrated water resources management principle encompassing targeting environmental objectives with water management and related policies objectives. (5) Public participation and active involvement in water management. Other important elements: The main instrument for the implementation of the WFD is the RBMP and the accompanying Programme of Measures (PoM). Adequate water pricing needs to be ensured to provide adequate incentives for users to use water efficiently in accordance with the WFD (Art. 9.1). Good water status should be reached and – in any case – the status of water bodies shall not deteriorate (Art. 4).

Preamble (40): "With regard to pollution prevention and control, Community water policy should be based on a combined approach using control of pollution at source through the setting of emission limit values and of environmental quality standards."

Terminology

Art. 2 of the WFD provides definitions for 41 terms. These include for example definitions for: surface water, groundwater, inland water, river, lake, transitional water, coastal water, artificial water body, heavily modified water body, body of surface water, aquifer, etc. Definitions of some terms are provided in the following. 1. 'Surface water' means inland waters, except groundwater; transitional waters and coastal waters, except in respect of chemical status for which it shall also include territorial waters. 2. 'Groundwater' means all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil. 6. 'Transitional waters' are bodies of surface water in the vicinity of river mouths which are partly saline in character as a result of their proximity to coastal waters but which are substantially influenced by freshwater flows. 7. 'Coastal water' means surface water on the landward side of a line, every point of which is at a distance of one nautical mile on the seaward side from the nearest point of the baseline from which the breadth of territorial waters is measured, extending where appropriate up to the outer limit of transitional waters. 8. 'Artificial water body' means a body of surface water created by human activity. 9. 'Heavily modified water body' means a body of surface water which as a result of physical alterations by human activity is substantially changed in character, as designated by the Member State in accordance with the provision of Annex II. 10. 'Body of surface water' means a discrete and significant element of surface water such as a lake, a reservoir, a stream, river or canal, part of a stream, river or canal, a transitional water or a stretch of coastal water. 13. 'River basin' means the area of land from which all surface run-off flows through a sequence of streams, rivers and, possibly, lakes into the sea at a single river mouth, estuary or delta. 15. 'River basin district' means the area of land and sea, made

up of one or more neighbouring river basins together with their associated groundwaters and coastal waters, which is identified under Art. 3(1) as the main unit for management of river basins. 17. 'Surface water status' is the general expression of the status of a body of surface water, determined by the poorer of its ecological and its chemical status. 18. 'Good surface water status' means the status achieved by a surface water body when both its ecological status and its chemical status are at least 'good'. 21. 'Ecological status' is an expression of the quality of the structure and functioning of aquatic ecosystems associated with surface waters, classified in accordance with Annex V. 22. 'Good ecological status' is the status of a body of surface water, so classified in accordance with Annex V. 23. 'Good ecological potential' is the status of a heavily modified or an artificial body of water, so classified in accordance with the relevant provisions of Annex V. 24. 'Good surface water chemical status' means the chemical status required to meet the environmental objectives for surface waters established in Art. 4(1)(a), that is the chemical status achieved by a body of surface water in which concentrations of pollutants do not exceed the environmental quality standards established in Annex IX and under Art. 16(7), and under other relevant Community legislation setting environmental quality standards at Community level. 34. 'Environmental objectives' means the objectives set out in Art. 4. 35. 'Environmental quality standard' means the concentration of a particular pollutant or group of pollutants in water, sediment or biota which should not be exceeded in order to protect human health and the environment. 38. 'Water services' means all services which provide, for households, public institutions or any economic activity: (a) abstraction, impoundment, storage, treatment and distribution of surface water or groundwater, (b) waste-water, collection and treatment facilities which subsequently discharge into surface water. 39. 'Water use' means water services together with any other activity identified under Art. 5 and Annex II having a significant impact on the status of water.

Some examples of frequently used abbreviations in the context of the WFD: RBMP: River basin management plan; RBD: River basin district; PoM: Programme of measures; GES / GEP: Good Environmental Status / Good Environmental Potential.

Derogations

Exemptions are possible on the basis of natural conditions of the water body (Art. 4.4(c)) or if the achievement of good status is technically infeasible or disproportionately costly (Art. 4.4, 4.5 and 4.7). The deadline for reaching good status can be extended up to 2027 or beyond. Where exemptions are applied, the WFD requires MS to justify and explain the reasons in the RBMPs.

Preamble (30): "In order to ensure a full and consistent implementation of this Directive any extensions of timescale should be made on the basis of appropriate, evident and transparent criteria and be justified by the Member States in the river basin management plans"

Preamble (31): "In cases where a body of water is so affected by human activity or its natural condition is such that it may be unfeasible or unreasonably expensive to achieve good status, less stringent environmental objectives may be set on the basis of appropriate, evident and transparent criteria, and all practicable steps should be taken to prevent any further deterioration of the status of waters."

Preamble (32): "There may be grounds for exemptions from the requirement to prevent further deterioration or to achieve good status under specific conditions, if the failure is the result of unforeseen or exceptional circumstances, in particular floods and droughts, or, for reasons of overriding public interest, of new modifications to the physical characteristics of a surface water body or alterations to the level of bodies of groundwater, provided that all practicable steps are taken to mitigate the adverse impact on the status of the body of water."

Art. 4.3 allows the designation of artificial and heavily modified water bodies which have different environmental objectives

Types of management measures

The WFD foresees two different types of measures: basic and supplementary measures.

Basic measures are the minimum requirements to be complied with and include (Art. 11.3): Measures required to implement already existing Community legislation for the protection of water (including for example the urban wastewater treatment directive and the nitrates directive); Measures to ensure the recovery of costs for water services; Measures to promote an efficient and sustainable water use; Measures to ensure the quality of drinking water and to reduce the level of purification treatment required for the production of drinking water; Controls over the abstraction of fresh water and groundwater, and impoundment of fresh surface water; Controls and prior authorization of artificial groundwater recharge; Regulation of point source discharges; Prevention and control of diffuse pollution; Measures against any other significant adverse impacts on the status of water, in particular measures to ensure that the hydromorphological conditions of the bodies of water are consistent with the achievement of the good ecological status or potential; Prohibition of direct discharges of pollutants into groundwater; Measures against pollution with priority substances; Measures required to prevent significant losses of pollutants from technical installations, and to prevent and/or to reduce the impact of accidental pollution incidents for example as a result of floods, including through systems to detect or give warning of such events including, in the case of accidents which could not reasonably have been foreseen, all appropriate measures to reduce the risk to aquatic ecosystems.

Supplementary measures are those measures designed and implemented in addition to the basic measures, with the aim of achieving the objectives of the directive (Art. 11.4). Annex VI Part B lists an non-exclusive list of supplementary measures: (i) legislative instruments, (ii) administrative instruments, (iii) economic or fiscal instruments, (iv) negotiated environmental agreements, (v) emission controls, (vi) codes of good practice, (vii) recreation and restoration of wetlands areas, (viii) abstraction controls, (ix) demand management measures, inter alia, promotion of adapted agricultural production such as low water requiring crops in areas affected by drought, (x) efficiency and reuse measures, inter alia, promotion of water-efficient technologies in industry and water-saving irrigation techniques, (xi) construction projects, (xii) desalination plants, (xiii) rehabilitation projects, (xiv) artificial recharge of aquifers, (xv) educational projects, (xvi) research, development and demonstration projects, (xvii) other relevant measures.

No explicit impact assessment of the measures is foreseen by the WFD. However: The selection of measures shall take their cost-effectiveness into account; The WFD foresees "a review of the impact of human activity on the status of surface waters and on groundwater"

(Art. 5.1.) to check whether water bodies will fail to meet the environmental quality objectives (Annex II 1.5); According to Annex VII, the "first update of the river basin management plan and all subsequent updates shall also include", amongst others "an assessment of the progress made towards the achievement of the environmental objectives, including presentation of the monitoring results for the period of the previous plan (…) and explanation for any environmental objectives which have not been reached".

Spatial coverage

In the context of the WFD, the 'water environment' includes: rivers, lakes, estuaries, groundwater and coastal waters out to one nautical mile (12 nautical miles for chemical status). These waters are divided into units called water bodies. It is important to note that small water bodies are not covered by the WFD. This is one of the main elements where the WFD and the Habitats Directive can potentially complement each other to increase protection of aquatic ecosystems.

Reporting units – what are the specific transposition requirements

The main reporting unit for river basin management plans are the River Basin Districts (RBDs)

Art. 13: 1. Member States shall ensure that a river basin management plan is produced for each river basin district lying entirely within their territory. 2. In the case of an international river basin district falling entirely within the Community, Member States shall ensure coordination with the aim of producing a single international river basin management plan. Where such an international river basin management plan is not produced, Member States shall produce river basin management plans covering at least those parts of the international river basin district falling within their territory to achieve the objectives of this Directive. 5. River basin management plans may be supplemented by the production of more detailed programmes and management plans for sub-basin, sector, issue, or water type, to deal with particular aspects of water management. Implementation of these measures shall not exempt Member States from any of their obligations under the rest of this Directive.

In reality, in the 1st planning cycle, the geographical scope of the RBMPs does not correspond exactly to the number of RBDs, and a number of different models can be identified: Most Member States have prepared one RBMP for each RBD exclusively within their territory ; Most Member States who have part of an international RBD within their territory have produced one RBMP for the national part of the international RBD. In some cases they have also reported international RBMPs produced for the whole international RBD ; Some Member States have prepared one plan covering all of their territory (for instance in Slovakia or in Slovenia) but which includes sections on each of the relevant RBDs; Some Member States have prepared several RBMPs for each RBD and for sub-basins. For instance, in Romania all of the territory falls within the Danube RBD and is covered by the Danube International RBMP (A-level), as well as by the national Romanian Danube RBMP (B-level). In addition, and fully in accordance with the Directive (Art. 13.5 WFD), more detailed sub-RBMPs have been prepared for each of the 11 sub-basins; In Denmark, 15 RBMPs were reported for the Jutland and Funen RBD, and 7 RBMPs were reported for the Sjaelland RBD, but no overall single RBMP for the whole respective RBD was submitted; In Germany, where most of the territory is covered by international RBDs for which international RBMPs exist

(Danube, Elbe, Rhine, Ems, Odra), no RBMP for the national parts of these RBDs were adopted. Instead RBMPs were adopted at the Federal State level. A similar situation applies in Belgium, where the RBMPs are adopted by the respective regions, and where the three regions have different timetables relating to the implementation of the Directive due to serious delays in Wallonia and the Brussels Region.

Management unit

The River Basin (District) (RB(D)) is the water management unit and the central entity for WFD implementation. The Water Bodies are the management units within each river basin district. River basins covering the territory of more than one MS are assigned to an International River Basin District.

Key planning steps

The planning process starts with the transposition and the administrative arrangements, followed by the characterisation of the river basin district, the monitoring and the assessment of status, the objective setting, and finally the programme of measures and their implementation. Monitoring and evaluation of the effectiveness of measures links one planning cycle with the next. The programme of measures is the tool to respond to the identified pressures, thus enabling the river basin/water body to reach good status. The characterization of the river basin district includes the pressures and impacts analysis, the economic analysis, the delineation of water bodies and the establishment of the typology and reference conditions for surface water bodies, and the basis for the ecological status assessment. The whole planning process is accompanied by public participation and stakeholder involvement.

Timelines

The Water Framework Directive sets out clear deadlines for each of the requirements which add up to an ambitious overall timetable. The key milestones are listed below.

Year	Issue	Reference
2000	Directive entered into force	Art. 25
2003	Transposition in national legislation	Art. 23
	Identification of River Basin Districts and Authorities	Art. 3
2004	Characterisation of river basin: pressures, impacts and economic analysis	Art. 5
2006	Establishment of monitoring network	Art. 8
	Start public consultation (at the latest)	Art. 14
2008	Present draft river basin management plan	Art. 13

2009	Finalise river basin management plan including progamme of measures	Art. 13 & 11
2010	Introduce pricing policies	Art. 9
2012	Make operational programmes of measures	Art. 11
2015	Meet environmental objectives; First management cycle ends; Second river basin management plan & first flood risk management plan.	Art. 4
2021	Second management cycle ends	Art. 4 & 13
2027	Third management cycle ends, final deadline for meeting objectives	Art. 4 & 13

Integration/coordination issues with other related pieces of legislation

The establishment of integrated water resource management is one of the basic concepts of the WFD. Coordination and integration with other Community legislation can therefore be found at several places in the text of the WFD.

Preamble WFD (16): "Further integration of protection and sustainable management of water into other Community policy areas such as energy, transport, agriculture, fisheries, regional policy and tourism is necessary. This Directive should provide a basis for a continued dialogue and for the development of strategies towards a further integration of policy areas. This Directive can also make an important contribution to other areas of cooperation between Member States, inter alia, the European spatial development perspective (ESDP)."

Preamble WFD (21): "The Community and Member States are party to various international agreements containing important obligations on the protection of marine waters from pollution, in particular the Convention on the Protection of the Marine Environment of the Baltic Sea Area, signed in Helsinki on 9 April 1992 and approved by Council Decision 94/157/EC (1), the Convention for the Protection of the Marine Environment of the North-East Atlantic, signed in Paris on 22 September 1992 and approved by Council Decision 98/249/EC (2), and the Convention for the Protection of the Mediterranean Sea Against Pollution, signed in Barcelona on 16 February 1976 and approved by Council Decision 77/585/EEC (3), and its Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources, signed in Athens on 17 May 1980 and approved by Council Decision 83/101/EEC (4). This Directive is to make a contribution towards enabling the Community and Member States to meet those obligations."

Preamble WFD (35): "Within a river basin where use of water may have transboundary effects, the requirements for the achievement of the environmental objectives established under this Directive, and in particular all programmes of measures, should be coordinated for the whole of the river basin district. For river basins extending beyond the boundaries of the Community, Member States should endeavour to ensure the appropriate coordination with the relevant non-member States. This Directive is to contribute to the implementation of Community obligations under international conventions on water protection and management, notably the United Nations Convention on the protection and use of

transboundary water courses and international lakes, approved by Council Decision 95/308/EC [...] and any succeeding agreements on its application."

Preamble WFD (47): "This Directive should provide mechanisms to address obstacles to progress in improving water status when these fall outside the scope of Community water legislation, with a view to developing appropriate Community strategies for overcoming them."

Preamble WFD (47): "The provisions of this Directive take over the framework for control of pollution by dangerous substances established under Directive 76/464/EEC [...]. That Directive should therefore be repealed once the relevant provisions of this Directive have been fully implemented."

10 on the combined approach for point and diffuse sources sets out that emission controls and limit values fixed in other Community legislation have to be established or implemented. The following Directives are mentioned: Directive 96/61/EC on integrated pollution prevention and control; Directive 91/271/EEC on urban waste-water treatment ; Directive 76/464/EEC on pollution caused by certain dangerous substances discharged into the aquatic environment + Daughter directives ; Any other relevant Community legislation.

Art. 11: Programme of measures: Each programme of measures shall include 'basic' measures, which amongst others are those measures required to implement Community legislation for the protection of water, including the ones mentioned in Art. 10, and the following ones (part A of Annex VI): The Bathing Water Directive (76/160/EEC); The Birds Directive (79/409/EEC); The Drinking Water Directive (80/778/EEC) as amended by Directive (98/83/EC); The Major Accidents (Seveso) Directive (96/82/EC); The Environmental Impact Assessment Directive (85/337/EEC); The Sewage Sludge Directive (86/278/EEC); The Urban Waste-water Treatment Directive (91/271/EEC); The Plant Protection Products Directive (91/414/EEC); The Nitrates Directive (91/676/EEC); The Habitats Directive (92/43/EEC); The Integrated Pollution Prevention Control Directive (96/61/EC)

Annex IV (Art. 6): The register of protected areas shall include areas designated for the birds and habitats directive; areas designated as bathing waters under the Bathing water directive; vulnerable zones under the nitrates directive and sensitive areas under the urban wastewater treatment directive.

Furthermore, the WFD requires that objectives for protected areas established under Community legislation should also be met. Thus while the WFD introduces the new concept of good ecological status, it also incorporates the numerical limits of earlier legislation (e.g. the mandatory upper limit value for nitrates stemming from the nitrates directive or the drinking water directive). (Source: CIS guidance no. 3)

Annex V 1.3.5 foresees specific monitoring requirements for protected areas for drinking water purposes as well as for habitat and species protection areas.

Coordination issues with the EU Biodiversity Strategy

Increasing the integration of water and other environmental and sectoral policy objectives (including nature) is part of the objectives of the current CIS working programme. The WFD aims at reaching good status for all water bodies and does not allow a deterioration of the current status. In general it can be assumed that this is in line with and contributes to target

2 of the Biodiversity strategy "Maintain and restore ecosystems and their services", in particular Action 7 on ensuring no net loss of biodiversity and ecosystem services. Some relevant elements of the WFD text:

Art. 4.1(c): Environmental objectives for protected areas: "Member States shall achieve compliance with any standards and objectives at the latest 15 years after the date of entry into force of this Directive, unless otherwise specified in the Community legislation under which the individual protected areas have been established."

Art. 6: Register of protected areas: Art. 6.1: "Member States shall ensure the establishment of a register or registers of all areas lying within each river basin district which have been designated as requiring special protection under specific Community legislation for the protection of their surface water and groundwater or for the conservation of habitats and species directly depending on water."

Art. 8.1: Amongst other, monitoring programmes shall – for protected areas – "be supplemented by those specifications contained in Community legislation under which the individual protected areas have been established"

Art. 11: Programme of measures: It is foreseen that the PoM contains measures required to implement Community legislation for the protection of water, including measures required under the Birds and the Habitats Directive.

Also some of the supplementary measures proposed (Annex VI Part B) are directly relevant for the Biodiversity Strategy:(v) emission controls, (vii) recreation and restoration of wetlands areas, (xiii) rehabilitation projects

Annex IV: Protected areas: "The register of protected areas required under Art. 6 shall include the following types of protected areas: (ii) areas designated for the protection of economically significant aquatic species; (v) areas designated for the protection of habitats or species where the maintenance or improvement of the status of water is an important factor in their protection, including relevant natural 2000 sites designated under Directive 92/43/EEC and Directive 79/409/EEC.

The WFD implementation also contributes to target 5 of the Biodiversity strategy "combating invasive alien species". In the 1st reporting cycle, alien species was not a specific element of reporting under the WFD pressure and impact analysis. However, many Member States identified this as a major issue. In the WFD reporting for the 2nd planning cycle, invasive species are a new explicit element of reporting for all MS, as an explicit pressure "5.1 Introduced species and diseases" and as one of the Key Types of Measures KTM "18 Measures to prevent or control the adverse impacts of invasive alien species and introduced diseases".

Relevance to ecosystems/habitats?

River: "a body of inland water flowing for the most part on the surface of the land but which may flow underground for part of its course" (Art. 2.4 WFD)

Lake: "a body of standing inland surface water" (Art. 2.5 WFD)

Transitional waters: "bodies of surface water in the vicinity of river mouths which are partly saline in character as a result of their proximity to coastal waters but which are substantially influenced by freshwater flows." (Art. 2.6 WFD)

Coastal waters: "means surface water on the landward side of a line, every point of which is at a distance of one nautical mile on the seaward side from the nearest point of the baseline from which the breadth of territorial waters is measured, extending where appropriate up to the outer limit of transitional waters." (Art. 2.7 WFD)

Groundwater: "all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil" (Art. 2.2 WFD)

artificial water body: "a body of surface water created by human activity" (Art. 2.8 WFD)

Heavily modified water body: "a body of surface water which as a result of physical alteration by human activity is substantially changed in character" (Art. 2.9 WFD)

Preamble (20): "The quantitative status of a body of groundwater may have an impact on the ecological quality of surface waters and terrestrial ecosystems associated with that groundwater body."

Art. 1 (a): [Purpose of the directive:] "prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems"; "Member States shall protect, enhance and restore all bodies of surface water"... (Art. 4.1(a)(ii)) It can be assumed that the WFD has a positive effect on all surface water ecosystems. There are also impacts on the ecosystems of the marine environment and on the ecosystems of floodplains, which are not directly covered by the WFD. It can be assumed that the directive has a positive impact on aquatic biodiversity, amongst others through their measures against water pollution, measures to control water abstraction and measures to improve hydromorphology of water bodies. The term "Ecosystem Services" does not occur in the WFD. The supply of clean drinking water (as an ecosystem service) is directly mentioned in the directive:

Preamble (22): "This Directive is to contribute to securing the drinking water supply for the population."

Art. 1 (e): [the directive contributes to] "the provision of the sufficient supply of good quality surface water and groundwater as needed for sustainable, balanced and equitable water use"

Art. 7: Waters used for the abstraction of drinking water: Identification and monitoring of water bodies used for drinking water abstraction. Compliance with standards of the drinking water directive.

Art. 7.3: "Member States shall ensure the necessary protection for the bodies of water identified with the aim of avoiding deterioration in their quality in order to reduce the level of purification treatment required in the production of drinking water. Member States may establish safeguard zones for those bodies of water."

The provision of fresh water can be seen as an ecosystem service. The directive mentions abstractions of fresh surface water and groundwater (Art. 11.3 (e)). There is a clear link between the WFD and both Aquatic Biodiversity and Ecosystem Services. It can be assumed that all aquatic ecosystem services are influenced by the WFD. Part of the ecosystem services are (more or less directly) addressed in the economic analysis of water uses done within the

framework of the WFD (e.g. use of water for households, agriculture, industry; non-consumptive use for navigation, hydropower). An economic analysis of water use is foreseen in Art. 5.

If energy production through hydropower or industrial use of flowing water for cooling purposes is also an ecosystem service, then the WFD is also limiting the provision of ecosystem services. Construction of new dams for hydropower plants for example are against the principle of non-deterioration of the ecological status of water bodies.

The normative definitions of high/good/moderate ecological status (which are the target of the directive) are provided in Annex V 1.2. The main criteria for water bodies at desirable status are based on the absence of anthropogenic alterations and "undisturbed conditions". It can be assumed that this is in line with the "optimal" situation with regards to biodiversity objectives. Under this assumption, all activities under the WFD aiming at GES are contributing as well to the objectives of the biodiversity strategy.

Drivers

The term "driver" is not defined in the legal text of the WFD. The guidance document no. 3 on Analysis of Pressures and Impacts uses the definition of the DPSIR framework: A driver is "an anthropogenic activity that may have an environmental effect (e.g. agriculture, industry)". The WFD addresses indirectly all drivers which put water bodies at risk of failing good ecological status. Art. 9 mentions water users, which should at least be disaggregated into industry, households and agriculture.

The list of drivers to report on as indicated in the new 2016 WFD reporting guidance: agriculture, climate change, energy (hydropower and non-hydropower), fisheries and aquaculture, flood protection, forestry, industry, tourism and recreation, transport, urban development.

The required economic analysis includes the development of a baseline scenario, which assesses forecasts in key economic drivers likely to influence pressures and thus water status. However, drivers in this sense are of a slightly different type. They include for example demography, climate, technological development or sector policies, like the common agricultural policy). (Source: CIS guidance no. 1 on Economics). There are no predefined indicators to describe drivers in the WFD legal text.

Pressures

The term "pressure" is mentioned, but not defined in the legal text of the WFD. The guidance document no. 3 on Analysis of Pressures and Impacts uses the definition of the DPSIR framework: A pressure is "the direct effect of the driver (for example, an effect that causes a change in flow or a change in the water chemistry)".

Preamble of the WFD: "Waters in the Community are under increasing pressure from the continuous growth in demand for sufficient quantities of good quality water for all purposes."

Art. 10: The combined approach for point and diffuse sources

Art. 11 on the PoM mentions abstraction of fresh surface water and groundwater, and impoundment of fresh surface water.

The new 2016 WFD reporting guidance indicates an extensive list of pressures to report on.

Assessment of Environmental State

The term "state" is not defined in the legal text of the WFD. The guidance document no. 3 on Analysis of Pressures and Impacts uses the definition of the DPSIR framework: The state is "the condition of the water body resulting from both natural and anthropogenic factors (i.e. physical, chemical and biological characteristics)".

Annex II 1.1 and 1.2 defines surface water body types for rivers, lakes, transitional or coastal waters as well as artificial water bodies and heavily modified water bodies; and Annex II 1.3 provides for the establishment of type-specific reference conditions for surface water body types. For each surface water body type, type-specific hydromorphological, physicochemical and biological reference conditions shall be defined which represent the values of the environmental quality elements for that water body type at high ecological status. The Quality elements for the classification of ecological status are defined in Annex V 1.1 for each surface water body type:

Indicators can be found in different CIS guidance documents (see also list under 8.5), for example in the guidance no. 27 "Technical Guidance for Deriving Environmental Quality Standards".

Assessment of Status

Ecological status as defined by the WFD is an expression of the quality of the structure and functioning of aquatic ecosystems. The WFD intercalibration exercise has compared Member States' methods for assessing ecological status to ensure that they are consistent with the WFD definitions ensuring comparability of results across Member States. Source: 3rd WFD implementation report: The CIS guidance documents no. 6, 14 and 30 are about the intercalibration exercise.

Surface water good status is defined in terms of biology, supported by chemistry and morphology. Good status is furthermore defined as a deviation from reference conditions.

Surface water status is the general expression of the status of a body of surface water, determined by the poorer of its ecological status and its chemical status." (Art. 2.17 WFD)

Good surface water status means the status achieved by a surface water body when both its ecological status and its chemical status are at least good." (Art. 2.18 WFD)

Ecological status is an expression of the quality of the structure and functioning of aquatic ecosystems associated with surface waters, classified in accordance with Annex V." (Art. 2.21 WFD)

Good ecological status is the status of a body of surface water, so classified in accordance with Annex V." (Art. 2.22 WFD)

Good ecological potential is the status of a heavily modified or an artificial body of water, so classified in accordance with the relevant provisions of Annex V." (Art. 2.23 WFD)

Good surface water chemical status means the chemical status required to meet the environmental objectives for surface waters established in Art. 4(1)(a), that is the chemical

status achieved by a body of surface water in which concentrations of pollutants do not exceed the environmental quality standards established in Annex IX and under Art. 16(7), and under other relevant Community legislation setting environmental quality standards at Community level." (Art. 2.24 WFD)

No numerical limit values are provided by the WFD text itself.

Annex V 1.2 provides definitions for high, good and moderate status for all quality elements.

For example, the definition of high status in rivers with regards to fish fauna:

"Species composition and abundance correspond totally or nearly totally to undisturbed conditions.

All the type-specific disturbance-sensitive species are present.

The age structure of the fish communities show little sign of anthropogenic disturbance and are not indicative of a failure in the reproduction or development of any particular species."

Annex V 1.4 specifies how the comparability between member states shall be ensured, by expressing results of biological monitoring in terms of ecological quality ratios. Furthermore, each "Member State shall divide the ecological quality ratio scale for their monitoring system for each surface water category into five classes ranging from high to bad ecological status". Furthermore, the establishment of an *intercalibration network* is foreseen, consisting "of sites selected from a range of surface water body types present within each ecoregion.

Biological elements which determine the status of a surface water body are sub-divided in three components: flora, benthic invertebrates, and fish fauna (this component is excluded in coastal waters). Together these are used to place the water body in one of the five classes: high, good, moderate, poor and bad. Generally high is "undisturbed" or "nearly undisturbed", good indicates "slight disturbance", moderate indicates "moderate disturbance", poor indicates "major alterations", and bad indicates "severe alterations". (CIS guidance No.3)

Chemical and physico-chemical elements have two components: general and specific pollutants. While for specific pollutants, environmental quality standards can be set, numerical limits do not exist for the general components.

The components used for the assessment of hydromorphological elements vary between water body type, but the classification is as for the general chemical elements (i.e. high, good and moderate) with similar definitions of the classes (Table 2.4). The hydromorphological elements are not used in the determination of ecological status, but could be the cause of the failure to achieve good or high ecological status. (CIS guidance No. 3)

Several CIS guidance documents are relevant for the assessment of state and status within the WFD. These include for example: No.10: Rivers and Lakes – Typology, Reference Conditions and Classification Systems; No. 13: Overall Approach to the Classification of Ecological Status and Ecological Potential

Data

"The reporting requirements of the WFD are specified in the Art. 3 and 15. Art. 3 requires MS to provide information to the European Commission on the identification of River Basin Districts and Competent Authorities, whilst Art. 15 requires information to be provided to

the Commission on: The analysis carried out according to Art. 5; Monitoring programmes; River Basin Management Plans." (CIS guidance no. 21). Data issues were previously managed by the CIS working group D on reporting. Now data and information sharing are part of CIS cluster 3 on knowledge integration and dissemination (source: CIS Working programme 2013-2015). Reporting of MS consists of published plans and accompanying documentation as well as the electronic reporting through the Water Information System for Europe (WISE). Reporting includes a wide range of different data, for example: number of water bodies, % of water bodies in good status or potential (for 2009 or 2015, differentiated in ecological, chemical and quantitative status and ground- and surface water bodies), different parameters describing the state of the water bodies (chemical, biological, hydromorphological).

The CIS Guidance document No. 21 for reporting under the WFD specifies all reporting requirements for the purpose of compliance checking under the WFD. They are divided in big categories, including the following: Reporting requirements for river basin management planning, geographically referenced information, surface water bodies, groundwater bodies, pressures, impacts and programmes of measures, economic data. Although the WFD allowed the introduction of legally binding reporting formats (Art. 20.2), such formats have not been developed to allow for some flexibility and to respect the ambitious deadlines of the WFD. Instead, reporting guidance has been introduced through reporting sheets, which are informal arrangements between the Commission and MS: MS committed voluntary to submit information to WISE. Reporting sheets were made on an article by article basis. The CIS guidance document from 2009 "contains all the information originally in the Reporting sheets but presented in a clearer, object-related way with the ultimate focus being on fully reported and comparable RBMP".

Funding

Member States' Programmes of Measures contain different instruments (legal, administrative, technical, infrastructure, training, etc.), and are potentially funded in different ways. Public budget is expected to cover part of the measures but also private operators are expected to provide funds e.g. through the cost recovery provisions. European funds – Structural cohesion or CAP funds – can also contribute to financing some WFD measures. The Commission's proposal for a new LIFE regulation 2014-2020 includes the possibility to co-finance projects which integrate different EU funds and other financial sources in a single, large scale project for the implementation of measures under the WFD. The Commission's proposal for 2014-2020 cohesion policy builds on key elements of the WFD proposing ex-ante conditionality for the use of cohesion and structural funds in the water sector. Cohesion policy provides an opportunity for joining water use management needs and implementation of water policy. In the current programming period of the **LIFE+** progamme, funding has been introduced for **integrated projects**. Within those, funding can be granted to RBMPs, Natura 2000 networks and cross-border flood protection strategies.

Other issues to be aware of relevant for AQUACROSS?

Art. 19 indicates that the Commission shall, once a year, for information purposes present to the 'Committee' (Art. 21) "an indicative plan of measures having an impact on water

legislation which it intends to propose in the near future". It could be interesting for the purpose of our project to be informed about these plans. The indicators used for the characterisation of the ecological status of the water bodies can be relevant indicators also in the context of Aquacross. They are particularly interesting by the fact that they should be widely available. See information on the "Impact of the European Water framework directive on knowledge of biodiversity".

About AQUACROSS

Knowledge, Assessment, and Management for AQUAtic Biodiversity and Ecosystem Services aCROSS EU policies (AQUACROSS) aims to support EU efforts to protect aquatic biodiversity and ensure the provision of aquatic ecosystem services. Funded by Europe's Horizon 2020 research programme, AQUACROSS seeks to advance knowledge and application of ecosystem-based management (EBM) for aquatic ecosystems to support the timely achievement of the EU 2020 Biodiversity Strategy targets.

Aquatic ecosystems are rich in biodiversity and home to a diverse array of species and habitats, providing numerous economic and societal benefits to Europe. Many of these valuable ecosystems are at risk of being irreversibly damaged by human activities and pressures, including pollution, contamination, invasive species, overfishing and climate change. These pressures threaten the sustainability of these ecosystems, their provision of ecosystem services and ultimately human well-being.

AQUACROSS responds to pressing societal and economic needs, tackling policy challenges from an integrated perspective and adding value to the use of available knowledge. Through advancing science and knowledge; connecting science, policy and business; and supporting the achievement of EU and international biodiversity targets, AQUACROSS aims to improve ecosystem-based management of aquatic ecosystems across Europe.

The project consortium is made up of sixteen partners from across Europe and led by Ecologic Institute in Berlin, Germany.

AQUACROSS PARTNERS

Ecologic Institute (ECOLOGIC) | Germany

Leibniz Institute of Freshwater Ecology and Inland Fisheries (FVB-IGB) | Germany

Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (IOC-UNESCO) | France

Wageningen Marine Research (WMR) | Netherlands

University of Natural Resources & Life Sciences, Institute of Hydrobiology and Aquatic Ecosystem Management Austria

Fundación IMDEA Agua (IMDEA) | Spain

Universidade de Aveiro (UAVR) | Portugal

ACTeon – Innovation, Policy, Environment (ACTeon) | France

University of Liverpool (ULIV) | United Kingdom

University College Cork, National University of Ireland (UCC) | Ireland

Royal Belgian Institute of Natural Sciences (RBINS) | Belgium

Stockholm University, Stockholm Resilience Centre (SU-SRC) | Sweden

Danube Delta National Institute for Research & Development (INCDDD) | Romania

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