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(Information)

COUNCIL

COMMON POSITION (EC) No 41/1999
adopted by the Council on 22 October 1999

with a view to the adoption of a Directive 1999/…/EC of the European Parliament and of the
Council establishing a framework for Community action in the field of water policy
(1999/C 343/01)

THE EUROPEAN PARLIAMENT AND THE COUNCIL
OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 175(1) thereof,

Having regard to the proposal from the Commission (1),

Having regard to the opinion of the Economic and Social Committee (2),

Having regard to the opinion of the Committee of the Regions (3),

Acting in accordance with the procedure laid down in Article 251 of the Treaty (4),

Whereas:

(1) the conclusions of the Community Water Policy Ministerial Seminar in Frankfurt in 1988 highlighted the
need for action to avoid long-term deterioration of freshwater quality and quantity and called for a
programme of actions to be implemented by the year 2000 aiming at sustainable management and protection of freshwater resources; in its Resolutions of 25 February 1992 (5) and 20 February 1995 (6), the Council requested
the protection of groundwater against pollution caused by certain dangerous substances (8), as part of an overall
policy on freshwater protection;

(2) the declaration of the Ministerial Seminar on groundwater held at The Hague in 1991 recognised the
waters in the Community are under increasing pressure from the continuous growth in demand for sufficient
quantities of good quality water for all purposes; on 10 November 1995, the European Environment Agency in
its report on 'Environment in the European Union – 1995' presented an updated state of the environment
report, confirming the need for action to protect Community waters in qualitative as well as in
quantitative terms;

(3) on 18 December 1995, the Council adopted conclusions requiring, inter alia, the drawing up of a new framework
Directive establishing the basic principles of sustainable water policy in the European Union and inviting the
Commission to come forward with a proposal;

(4) on 21 February 1996, the Commission adopted a communication to the European Parliament and the
Council on 'European Community water policy' setting out the principles for a Community water policy;

(5) on 30 November 1999, C 343/1 Official Journal of the European Communities

(4) OJ C 150, 28.5.1999, p. 419. Council common position of 22 October
1999 and Decision of the European Parliament of ... (not yet
published in the Official Journal).
(6) On 9 September 1996, the Commission presented a proposal for a Decision of the European Parliament and of the Council on an action programme for integrated protection and management of groundwater (1); in that proposal the Commission pointed to the need to establish procedures for the regulation of abstraction of freshwater and for the monitoring of freshwater quality and quantity;

(7) On 29 May 1995, the Commission adopted a 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;

(8) It is necessary to develop an integrated Community policy on water;


(10) As set out in Article 174 of the Treaty, the Community policy on the environment is to contribute to pursue 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;

(11) Pursuant to Article 174 of the Treaty, in preparing its policy on the environment, the Community is to take account of available scientific and technical data, environmental conditions in the various regions of the Community, and the economic and social development of the Community as a whole and the balanced development of its regions as well as the potential benefits and costs of action or lack of action;

(12) There are diverse conditions and needs in the Community which require different specific solutions; this diversity should be taken into account in the planning and execution of measures to ensure protection and sustainable use of water in the framework of the river basin; decisions should be taken as close as possible to the locations where water is affected or used; priority should be given to action within the responsibility of Member States through the drawing up of programmes of measures adjusted to regional and local conditions;

(13) The success of this Directive relies upon close cooperation and coherent action at Community, Member States and local level as well as on information, consultation and involvement of the public, including users;

(14) The supply of water is a service of general interest as defined in the Commission communication on services of general interest in Europe (2);

(15) 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);

(16) 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, 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;

(17) This Directive aims at maintaining and improving the aquatic environment in the Community; this purpose is primarily concerned with the quality of the waters concerned; control of quantity is an ancillary element in securing good water quality and therefore measures on quantity, serving the objective of ensuring good quality, should also be established;

(18) 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;


(4) OJ C 343/2, 30.11.1999.
Atlantic, signed in Paris on 22 September 1992 and approved by Council Decision 98/249/EC (1), 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 (2), 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 (3); this Directive is to make a contribution towards enabling the Community and Member States to meet those obligations;

(20) this Directive is to contribute to the progressive reduction of emissions of hazardous substances to water;

(21) common principles are needed in order to coordinate Member States’ efforts to improve the protection of Community waters in terms of quantity and quality, to promote sustainable water use, to contribute to the control of transboundary water problems, to protect aquatic ecosystems, and terrestrial ecosystems and wetlands directly depending on them, and to safeguard and develop the potential uses of Community waters;

(22) common definitions of the status of water in terms of quality and, where relevant for the purpose of the environmental protection, quantity should be established; environmental objectives should be set to ensure that good status of surface water and groundwater is achieved at Community level;

(23) Member States should aim to achieve the objective of at least good water status by defining and implementing the necessary measures within integrated programmes of measures, taking into account existing Community requirements; where good water status already exists, it should be maintained; for groundwater, in addition to the requirements of good status, any significant and sustained upward trend in the concentration of any pollutant should be identified and reversed;

(24) surface waters and groundwaters are in principle renewable natural resources; in particular, the task of ensuring good status of groundwater requires early action and stable long-term planning of protective measures, owing to the natural time lag in its formation and renewal; such time lag for improvement should be taken into account in timetables when establishing measures for the achievement of good status of groundwater and reversing any significant and sustained upward trend in the concentration of any pollutant in groundwater;

(25) in aiming to achieve the objectives set out in this Directive, and in establishing a programme of measures to that end, Member States may phase implementation of the programme of measures in order to spread the costs of implementation;

(26) 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;

(27) in cases where a body of water is so affected by human activity or its natural condition is such that it may be infeasible 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;

(28) 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;

(29) the objective of achieving good water status should be pursued for each river basin, so that measures in respect of surface water and groundwaters belonging to the same ecological and hydrological system are coordinated;

(30) for the purposes of environmental protection there is a need for a greater integration of qualitative and quantitative aspects of both surface waters and groundwaters, taking into account the natural flow conditions of water within the hydrological cycle;

(31) 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

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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 (1) and any succeeding agreements on its application;

(32) it is necessary to undertake analyses of the characteristics of a river basin and the impacts of human activity as well as an economic analysis of water use; the development in water status should be monitored by Member States on a systematic and comparable basis throughout the Community; this information is necessary in order to provide a sound basis for Member States to develop programmes of measures aimed at achieving the objectives established under this Directive;

(33) Member States should identify waters used for the abstraction of drinking water and ensure compliance with Council Directive 80/778/EEC of 15 July 1980 relating to the quality of water intended for human consumption (2);

(34) 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;

(35) there is a need to prevent or reduce the impact of incidents in which water is accidentally polluted; measures with the aim of doing so should be included in the programme of measures;

(36) 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;

(37) for water quantity, overall principles should be laid down for control on abstraction and impoundment in order to ensure the environmental sustainability of the affected water systems;

(38) common environmental quality standards and emission limit values for certain groups or families of pollutants should be laid down as minimum requirements in Community legislation; provisions for the adoption of such standards at Community level should be ensured;

(39) there is a need to combat pollution through the discharge of various dangerous substances; the Council should, on a proposal from the Commission, agree on the substances to be considered for action as a priority and on specific measures to be taken against pollution of water by those substances, taking into account all significant sources and identifying the cost-effective and proportionate level and combination of controls;

(40) Member States should adopt measures to eliminate pollution of surface water by the priority substances and progressively to reduce pollution by other substances which would otherwise prevent Member States from achieving the objectives for the bodies of surface water;

(41) to ensure the participation of the general public including users of water in the establishment and updating of river basin management plans, it is necessary to provide proper information of planned measures and to report on progress with their implementation with a view to the involvement of the general public before final decisions on the necessary measures are adopted;

(42) 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;

(43) the Commission should present annually an updated plan for any initiatives which it intends to propose for the water sector;

(44) technical specifications should be laid down to ensure a coherent approach in the Community as part of this Directive; criteria for evaluation of water status are an important step forward; adaptation of certain technical elements to technical development and the standardisation of monitoring, sampling and analysing methods should be adopted by committee procedure; to promote a thorough understanding and consistent application of the criteria for characterisation of the river basin districts and evaluation of water status, the Commission may adopt guidelines on the application of these criteria;

the implementation of this Directive is to achieve a level of protection of waters at least equivalent to that provided in certain earlier acts, which should therefore be repealed once the relevant provisions of this Directive have been fully implemented;

the provisions of this Directive take over the framework for control of pollution by dangerous substances established under Council Directive 76/464/EEC (1); that Directive should therefore be repealed once the relevant provisions of this Directive have been fully implemented;

full implementation and enforcement of existing environmental legislation for the protection of waters should be ensured; it is necessary to ensure the proper application of the provisions implementing this Directive throughout the Community by appropriate penalties provided for in Member States' legislation; such penalties should be effective, proportionate and dissuasive;

HAVE ADOPTED THIS DIRECTIVE:

Article 1

Purpose

The purpose of this Directive is to establish a framework for the protection of inland surface water, transitional waters, coastal waters and groundwater which:

(a) 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;

(b) promotes sustainable water use based on a long-term protection of available water resources;

(c) contributes to mitigating the effects of floods and droughts and thereby contributes to:

— the provision of the sufficient supply of good quality surface water and groundwater as needed for sustainable, balanced and equitable water use;

— achieving the objectives of relevant international agreements including those which aim to prevent and eliminate pollution of the marine environment, and

— the progressive reduction of emissions of hazardous substances.

Article 2

Definitions

For the purpose of this Directive the following definitions shall apply:

(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.

(3) 'Inland water' means all standing or flowing water on the surface of the land, and all groundwater on the landward side of the baseline from which the breadth of territorial waters is measured.

(4) 'River' means 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.

(5) ‘Lake’ means a body of standing inland surface water.

(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 provisions of Annex II.

'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.

'Aquifer' means a subsurface layer or layers of rock or other geological strata of sufficient porosity and permeability to allow either a significant flow of groundwater or the abstraction of significant quantities of groundwater.

'Body of groundwater' means a distinct volume of groundwater within an aquifer or aquifers.

'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.

'Sub-basin' means the area of land from which all surface run-off flows through a series of streams, rivers and, possibly, lakes to a particular point in a water course (normally a lake or a river confluence).

'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 Article 3(1) as the main unit for management of river basins.

'Competent authority' means an authority or authorities identified under Article 3(2) or 3(3).

'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.

'Good ecological status' is the status of a body of surface water, so classified in accordance with Annex V.

'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.

'Good surface water chemical status' means 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 Article 16(5), and under other relevant Community legislation setting environmental quality standards at Community level.

'Good groundwater chemical status' is the status defined in Table 2.3.2 of Annex V.

'Quantitative status' is an expression of the degree to which a body of groundwater is affected by direct and indirect abstractions.

'Available groundwater resource' means the long-term annual average rate of overall recharge of the body of groundwater less the long-term annual rate of flow required to achieve the ecological quality objectives for associated surface water specified under Article 4, to avoid any significant diminution in the ecological status of such waters and to avoid any significant damage to associated terrestrial ecosystems.

'Good quantitative status' is the status defined in Table 2.1.2 of Annex V.

'Pollutant' means any substance liable to cause pollution, in particular those listed in Annex VIII.

'Pollution' means the direct or indirect introduction, as a result of human activity, of substances or heat into the air, water or land which may be harmful to human health or the quality of aquatic ecosystems or terrestrial ecosystems directly depending on aquatic ecosystems, which result in damage to material property, or which impair or interfere with amenities and other legitimate uses of the environment.

'Environmental objectives' means the objectives set out in Article 4.

'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.
1. Member States shall identify the individual river basins lying within their national territory and, for the purposes of this Directive, shall assign them to individual river basin districts. Small river basins may be combined with larger river basins or joined with neighbouring small basins to form individual river basin districts where appropriate. Where groundwaters do not fully follow a particular river basin, they shall be identified and assigned to the nearest or most appropriate river basin district. Coastal waters shall be identified and assigned to the nearest or most appropriate river basin district or districts.

2. Member States shall ensure that appropriate administrative arrangements, including the identification of the appropriate competent authority, for the application of the rules of this Directive within each river basin district lying within their territory.

3. Member States shall ensure that a river basin covering the territory of more than one Member State is assigned to an international river basin district. At the request of the Member States involved, the Commission shall act to facilitate the assigning to such international river basin districts.

Each Member State shall ensure the appropriate administrative arrangements, including the identification of the appropriate competent authority, for the application of the rules of this Directive within the portion of any international river basin district lying within its territory.

4. Member States shall ensure that the requirements of this Directive for the achievement of the environmental objectives established under Article 4, and in particular all programmes of measures are coordinated for the whole of the river basin district. For international river basin districts the Member States concerned shall together ensure this coordination. At the request of the Member States involved, the Commission shall act to facilitate the establishment of the programmes of measures.

5. Where a river basin district extends beyond the territory of the Community, the Member State or Member States concerned shall endeavour to establish appropriate coordination with the relevant non-Member States, with the aim of achieving the objectives of this Directive throughout the river basin district. Member States shall ensure the application of the rules of this Directive within their territory.

6. Member States may identify an existing national or international body as competent authority for the purposes of this Directive.

7. Member States shall identify the competent authority by the date mentioned in Article 23.

8. Member States shall provide the Commission with a list of their competent authorities and of the competent authorities of all the international bodies in which they participate at the latest six months after the date mentioned in Article 23. For each competent authority the information set out in Annex I shall be provided.
9. Member States shall inform the Commission of any changes to the information provided according to paragraph 8 within three months of the change coming into effect.

**Article 4**

**Environmental objectives**

1. Member States shall aim to achieve the objectives of:

(a) preventing deterioration of ecological status and pollution of surface waters and restoring surface waters, with the aim of achieving good surface water status or, for heavily modified and artificial bodies, good ecological potential and good surface water chemical status, at the latest 16 years after the date of entry into force of this Directive, in all bodies of surface water, in accordance with the provisions laid down in Annex V, subject to the application of extensions determined in accordance with paragraph 3 and to the application of paragraphs 4, 5 and 6 and without prejudice to the relevant international agreements referred to in Article 1 for the parties concerned;

(b) preventing deterioration of groundwater status, restoring bodies of groundwater, and ensuring a balance between abstraction and recharge of groundwater, with the aim of achieving good groundwater status in all bodies of groundwater, in accordance with the provisions laid down in Annex V, at the latest 16 years after the date of entry into force of this Directive and reversing any significant and sustained upward trend in the concentration of any pollutant resulting from the impact of human activity, subject to the application of extensions determined in accordance with paragraph 3 and to the application of paragraphs 4, 5 and 6;

(c) achieving compliance with any standards and objectives relating to protected areas, at the latest 16 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, through phased implementation of measures taken under Article 11.

2. Where more than one of the objectives under paragraph 1 relates to a given body of water, the most stringent shall apply.

3. The deadlines established under points (a) and (b) of paragraph 1 may be extended for the purposes of phased achievement of the objectives under paragraph 1 for bodies of water when all the following conditions are met:

(a) Member States determine that all necessary improvements in the status of bodies of water cannot reasonably be achieved within the timescales set out in that paragraph;

(b) the extension of the deadline, and the reasons for it, are specifically set out and explained in the river basin management plan required under Article 13;

(c) extensions are limited to periods which do not exceed the period covered by three further updates of the river basin management plan except in cases where the natural conditions are such that the objectives cannot be achieved within this period. Other than in these latter cases, a request for the third extension must be submitted to the Commission, which shall take a decision on such request within three months;

(d) a summary of the measures required under Article 11 which are envisaged as necessary to bring the bodies of water progressively to the required status by the extended deadline and the expected timetable for their implementation is set out in the river basin management plan. A review of the implementation of these measures and a summary of any additional measures shall be included in updates of the river basin management plan.

4. Member States may aim to achieve less stringent environmental objectives than those required under paragraph 1(a) and (b) for specific bodies of water when both the following conditions are met:

(a) Member States determine that the body of water is so affected by human activity or its natural condition is such that improvements in status would be infeasible or unreasonably expensive;

and

(b) the establishment of less stringent environmental objectives, and the reasons for it, are specifically mentioned in the river basin management plan required under Article 13 and those objectives are reviewed every six years.

5. Deterioration in the status of bodies of water shall not be in breach of the requirements of this Directive if this is the result of unforeseen or exceptional circumstances, in particular floods and droughts, when all of the following conditions have been met:

(a) all practicable steps are taken with the aim of preventing further deterioration in status and in order not to compromise the achievement of the objectives of this Directive in other bodies of water not affected by those circumstances;

(b) the conditions under which such unforeseen or exceptional circumstances may be declared, including the adoption of the appropriate indicators, are stated in the river basin management plan;
(c) the measures to be taken under such exceptional circumstances are included in the programme of measures and will not compromise the recovery of the quality of the body of water once the circumstances are over;

(d) the effects of the unforeseen or exceptional circumstances are reviewed annually and, for situations other than floods and droughts, any practicable measures are taken with the aim of restoring the body of water to its status prior to the effects of those circumstances as soon as reasonably practicable;

and

(e) a summary of the effects of the circumstances and of the measures taken or to be taken in accordance with paragraphs (a) and (d) are included in the next update of the river basin management plan.

6. Failure to achieve good groundwater status, good ecological status or, where relevant, good ecological potential or to prevent deterioration in the status of a body of surface water or groundwater shall not be in breach of this Directive where this is the result of new modifications to the physical characteristics of a surface water body or alterations to the level of bodies of groundwater where Member States determine that there are reasons of overriding public interest for making these modifications or alterations for the purposes given in Sections 1.6 (designation of artificial or heavily modified bodies) or 2.4 (review of the impact of changes in groundwater levels) of Annex II, and the following conditions are met:

(a) all practicable steps are taken to mitigate the adverse impact on the status of the body of water;

(b) the reasons for the modifications are specifically set out and explained in the river basin management plan required under Article 13 and the objectives are reviewed every six years.

7. When applying paragraphs 3, 4, 5 and 6, a Member State shall ensure that the application does not compromise the achievement of the objectives of this Directive in other bodies of water within the same river basin district and is consistent with the implementation of other Community environmental legislation.

Article 5

Characteristics of the river basin district, review of the environmental impact of human activity and economic analysis of water use

1. Each Member State shall ensure that for each river basin district or for the portion of an international river basin district falling within its territory:

— 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

is undertaken according to the technical specifications set out in Annexes II and III and that it is completed at the latest five years after the date of entry into force of this Directive.

2. The analyses and reviews mentioned under paragraph 2 shall be reviewed, and if necessary updated at the latest 13 years after the date of entry into force of this Directive and every six years thereafter.

Article 6

Register of protected areas

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. They shall ensure that the register is completed at the latest five years after the date of entry into force of this Directive.

2. The register or registers shall include all bodies of water identified under Article 7(1) and all protected areas covered by Annex IV.

3. For each river basin district, the register or registers of protected areas shall be kept under review and up to date.

Article 7

Waters used for the abstraction of drinking water

1. Member States shall identify, within each river basin district:

— all bodies of water used for the abstraction of water intended for human consumption providing more than 10 m³ a day as an average or serving more than fifty persons,

and

— those bodies of water intended for such future use.

Member States shall monitor, in accordance with Annex V, those bodies of water which according to Annex V, provide more than 100 m³ a day as an average.
2. For each body of water identified under paragraph 1, in addition to meeting the objectives of Article 4 in accordance with the requirements of this Directive, for surface water bodies including the quality standards established at Community level under Article 16, Member States shall ensure that under the water treatment regime applied, and in accordance with Community legislation, the resulting water will meet the requirements of Directive 80/778/EEC as amended by Directive 98/83/EC.

3. Member States shall ensure the necessary protection for the bodies of water identified with the aim of avoiding deterioration in their status and may establish safeguard zones for those bodies of water.

**Article 8**

**Monitoring of surface water status, groundwater status and protected areas**

1. Member States shall ensure the establishment of programmes for the monitoring of water status in order to establish a coherent and comprehensive overview of water status within each river basin district:

   — for surface waters such programmes shall cover monitoring of the ecological and chemical status,

   — for groundwaters such programmes shall cover monitoring of the chemical and quantitative status,

   — for protected areas the above programmes shall be supplemented by those specifications contained in Community legislation under which the individual protected areas have been established.

2. These programmes shall be operational at the latest seven years after the date of entry into force of this Directive unless otherwise specified in the legislation concerned. Such monitoring shall be in accordance with the requirements of Annex V.

**Article 9**

**Recovery of costs for water services**

1. Member States shall take account of the principles 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. Member States may in doing so have regard to the social, environmental and economic effects of the recovery as well as the geographic and climatic conditions of the region or regions affected.

2. Member States shall report in the river basin management plans on the practical steps and measures taken to apply this principle.

3. Nothing in this Article shall prevent the funding of particular preventative or remedial measures in order to achieve the objectives of this Directive.

**Article 10**

**The combined approach for point and diffuse sources**

1. Member States shall ensure that relevant discharges subject to control as specified under paragraph 2 are controlled according to the approach set out in this Article.

2. Member States shall ensure the establishment and/or implementation of:

   (a) the emission controls based on best available techniques;

   or

   (b) the relevant emission limit values;

   or

   (c) in the case of diffuse impacts the controls including, as appropriate, best environmental practices;

   set out in:


   — the Directives adopted pursuant to Article 16 of this Directive,

   — the Directives listed in Annex IX,

   — any other relevant Community legislation,

   at the latest 13 years after the date of entry into force of this Directive, unless otherwise specified in the legislation concerned.

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3. Where a quality objective or quality standard, whether established pursuant to this Directive, in the Directives listed in Annex IX, or pursuant to any other Community legislation, requires stricter conditions than those which would result from the application of paragraph 2, more stringent emission controls shall be set accordingly.

Article 11

Programme of measures

1. Each Member State shall ensure the establishment for each river basin district, or for the part of an international river basin district within its territory, of a programme of measures, taking account of the results of the analyses required under Article 5, with the aim of moving progressively towards achieving the objectives established under Article 4. Where appropriate, a Member State may adopt measures applicable to all river basin districts and/or the portions of international river basin districts falling within its territory.

2. Each programme of measures shall include the ‘basic’ measures specified in paragraph 3 and, where necessary, ‘supplementary’ measures.

3. ‘Basic measures’ are the minimum requirements to be complied with and shall consist of:

(a) those measures required to implement Community legislation for the protection of water, including measures required under the legislation specified in Article 10 and in Part A of Annex VI;

(b) measures deemed appropriate for the purposes of Article 9;

(c) measures to meet the requirements of Article 7;

(d) controls over the abstraction of fresh surface water and groundwater, and impoundment of fresh surface water, including a register or registers of water abstractions and a requirement of prior authorisation for abstraction and impoundment. These controls shall be periodically reviewed and, where necessary, updated. Member States can exempt from these controls, abstractions or impoundments which have no significant impact on water status;

(e) for point source discharges liable to cause pollution, a requirement for prior authorisation, or registration based on general binding rules, laying down emission controls for the pollutants concerned. These controls shall be periodically reviewed and, where necessary, updated;

(f) measures to ensure, where practicable, the control and, where necessary, prevention of any other significant adverse impacts on the status of water identified under Article 5 and Annex II which would prevent the achievement of the objectives under Article 4 by, for example, a requirement for prior regulation, such as a prohibition on the entry of pollutants into water, prior authorisation or registration based on general binding rules where such a requirement is not otherwise provided for under Community legislation. These controls shall be periodically reviewed and, where necessary, updated;

(g) a prohibition of direct discharges of pollutants into groundwater subject to the following provisions.

Member States may authorise re-injection into the same aquifer of water used for geothermal purposes.

They may also authorise, specifying the conditions for:

— injection of water containing substances resulting from the operations for exploration and extraction of hydrocarbons or mining activities, and injection of water for technical reasons, into geological formations from which hydrocarbons or other substances have been extracted or into geological formations which for natural reasons are permanently unsuitable for other purposes. Such injections shall not contain substances other than those resulting from the above operations,

— re-injection of pumped groundwater from mines and quarries or associated with the construction or maintenance of civil engineering works,

— injection of natural gas or liquefied petroleum gas (LPG) for storage purposes into geological formations which for natural reasons are permanently unsuitable for other purposes,

— injection of natural gas or liquefied petroleum gas (LPG) for storage purposes into other geological formations where there is an overriding need for security of gas supply, and where the injection is such as to prevent any present or future danger of deterioration in the quality of any receiving groundwater,

— construction, civil engineering and building works and similar activities on or in the ground which come into contact with groundwater. For these purposes, Member States may determine that such activities are to be treated as having been authorised provided that they are conducted in accordance with general binding rules developed by the Member State in respect of such activities,
— discharges of small quantities of substances for scientific purposes for characterisation, protection or remediation of water bodies limited to the amount strictly necessary for the purposes concerned.

provided such discharges do not compromise the achievement of the environmental objectives established for that body of groundwater.

Member States may authorise artificial recharge or augmentation of groundwater bodies. The water used may be derived from any surface water or groundwater, provided that the use of the source does not compromise the achievement of the environmental objectives established for the source or the recharged or augmented body of groundwater;

(h) in accordance with action taken pursuant to Article 16, measures to eliminate pollution of surface waters by those substances specified in the priority list agreed pursuant to Article 16(2) and to progressively reduce pollution by other substances which would otherwise prevent Member States from achieving the objectives for the bodies of surface waters as set out in Article 4;

(i) any measures required to prevent significant leakage 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.

4. ‘Supplementary’ measures are those measures designed and implemented in addition to the basic measures, with the aim of achieving the objectives established pursuant to Article 4. Part B of Annex VI contains a non-exclusive list of such measures.

Member States may also adopt further supplementary measures in order to provide for additional protection or improvement of the waters covered by this Directive, including in implementation of the relevant international agreements referred to in Article 1.

5. Where monitoring or other data indicate that the objectives set under Article 4 for the body of water are unlikely to be achieved, the Member State shall ensure that:

— the causes of the possible failure are investigated,

and

— such additional measures as may be practicable in order to achieve those objectives are established.

Where those causes are unforeseen or due to exceptional circumstances, including floods or droughts, the Member State may determine that additional measures are not practicable.

6. In implementing measures pursuant to paragraphs 3(e) and 3(f), Member States shall take all appropriate steps not to increase pollution of marine waters. Without prejudice to existing legislation, the application of measures taken pursuant to paragraph 3 may on no account lead, either directly or indirectly to increased pollution of surface waters. This requirement shall not apply where it would result in increased pollution of the environment as a whole.

7. The programmes of measures shall be established at the latest ten years after the date of entry into force of this Directive and all the measures shall be made operational at the latest 13 years after that date.

8. The programmes of measures shall be reviewed, and if necessary updated at the latest 16 years after the date of entry into force of this Directive and every six years thereafter. Any new or revised measures established under an updated programme shall be made operational within three years of their establishment.

Article 12

Issues which can not be dealt with at Member State level

1. Where a Member State identifies an issue which has an impact on the management of its water but cannot be resolved by that Member State, it may report the issue to the Commission and any other Member State concerned and may make recommendations for the resolution of it.

2. The Commission shall respond to any report or recommendations from Member States within a period of six months.

Article 13

River basin management plans

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.

3. In the case of an international river basin district extending beyond the boundaries of the Community, Member States shall endeavour to produce a single river basin management plan, and, where this is not possible, the plan shall at least cover the portion of the international river basin district lying within the territory of the Member State concerned.

4. The river basin management plan shall include the information detailed in Annex VII.

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.

6. River basin management plans shall be published at the latest ten years after the date of entry into force of this Directive.

7. River basin management plans shall be reviewed and updated at the latest 16 years after the date of entry into force of this Directive and every six years thereafter.

**Article 14**

**Public information and consultation**

1. Member States shall encourage the active involvement of all interested parties in the implementation of this Directive, in particular in the production, review and updating of the river basin management plans. Member States shall ensure that, for each river basin district, they publish and make available for comments to the public, including users:

   (a) a timetable and work programme for the production of the plan, including a statement of the consultation measures to be taken, at least three years before the beginning of the period to which the plan refers;

   (b) an interim overview of the significant water management issues identified in the river basin, at least two years before the beginning of the period to which the plan refers;

   (c) draft copies of the river basin management plan, at least one year before the beginning of the period to which the plan refers.

   Upon request access shall be given to background documents and information used for the development of the draft river basin management plan.

2. Member States shall allow at least six months to comment in writing on those documents in order to allow active involvement and consultation.

3. Paragraphs 1 and 2 shall apply equally to updated river basin management plans.

**Article 15**

**Reporting**

1. Member States shall send copies of the river basin management plans and all subsequent updates to the Commission and to any other Member State concerned within three months of their publication:

   (a) for river basin districts falling entirely within the territory of a Member State, all river management plans covering that national territory and published pursuant to Article 13;

   (b) for international river basin districts, at least the part of the river basin management plans covering the territory of the Member State.

2. Member States shall submit summary reports of:

   — the analyses required under Article 5,

   and

   — the monitoring programmes designed under Article 8,

   undertaken for the purposes of the first river basin management plan within three months of their completion.

3. Member States shall, within three years of the publication of each river basin management plan or update under Article 13, submit an interim report describing progress in the implementation of the planned programme of measures.

**Article 16**

**Strategies against pollution of water**

1. The Council shall adopt specific measures against pollution of water by individual pollutants or groups of pollutants presenting an unacceptable risk to or via the aquatic
environment, including such risks to waters used for the abstraction of drinking water. Such measures shall be adopted acting on the proposals presented by the Commission in accordance with the procedures laid down in the Treaty.

2. The Commission shall submit a proposal setting out a first priority list of substances by 31 December 1999. Substances shall be prioritised for action on the basis of risk to or via the aquatic environment, identified by:


(b) targeted risk-based assessment (following the methodology of Regulation (EEC) No 793/93) focusing solely on aquatic ecotoxicity and on human toxicity via the aquatic environment;

or, where this proves impracticable within the timescale:

(c) a simplified risk-based assessment procedure based on scientific principles taking particular account of:

(i) evidence regarding the intrinsic hazard of the substance concerned, and in particular its aquatic ecotoxicity and human toxicity via aquatic exposure routes; and

(ii) evidence from monitoring of widespread environmental contamination; and

(iii) other proven factors which may indicate the possibility of widespread environmental contamination, such as production or use volume of the substance concerned, and use patterns.

The Commission shall review the adopted priority list at the latest six years after the date of entry into force of this Directive and at least every six years thereafter, and come forward with proposals as appropriate.

3. In preparing its proposal, the Commission shall take account of recommendations from the Scientific Committee on toxicity, ecotoxicity and the environment, Member States, the European Parliament, the European Environment Agency, Community research programmes, international organisations to which the Community is a party, European business organisations including those representing small and medium-sized enterprises, European environmental organisations, and of other relevant information which comes to its attention.

4. For the substances on the priority list, the Commission shall submit proposals for controls on the principle sources of the emissions concerned. In doing so it shall take account of both point and diffuse sources and shall identify the cost-effective and proportionate level and combination of product controls and emission values for process controls. Where appropriate, action at Community level for process controls may be established on a sector-by-sector basis. Where product controls include a review of the relevant authorisations issued under Directive 91/414/EEC and Directive 98/8/EC, such reviews shall be carried out in accordance with the provisions of those Directives. Each proposal for controls shall specify arrangements for their review, updating and for assessment of their effectiveness.

5. The Commission shall submit proposals for quality standards applicable to the concentrations of the priority substances in surface water, sediments or biota.

6. The Commission shall submit proposals, in accordance with paragraphs 4 and 5, and at least for emission controls for point sources and environmental quality standards within two years of the inclusion of the substance concerned on the priority list. For substances included in the first priority list, in the absence of agreement at Community level seven years after the date of entry into force of this Directive, Member States shall establish environmental quality standards for these substances for all surface waters affected by discharges of those substances and controls on the principal sources of such discharges, based, inter alia, on consideration of all technical reduction options. For substances subsequently included in the priority list, in the absence of agreement at Community level, Member States shall take such action five years after the date of inclusion in the list.

7. The Commission may prepare strategies against pollution of water by any other pollutants or groups of pollutants, including any pollution which occurs as a result of accidents.

8. In preparing its proposals under paragraphs 4 and 5, the Commission shall also review all the Directives listed in Annex IX. It shall propose, by the deadline in paragraph 6, a revision of the controls in Annex IX for all those substances which are included in the priority list and shall propose the appropriate measures including the possible repeal of the controls under Annex IX for all other substances.

All the controls in Annex IX for which revisions are proposed shall be repealed by the date of entry into force of those revisions.

9. The priority list of substances proposed by the Commission shall, on its adoption by the European Parliament and the Council, become Annex X to this Directive.

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Article 17

Commission report

1. The Commission shall publish a report on the implementation of this Directive at the latest 12 years after the date of entry into force of this Directive and every six years thereafter, and shall submit it to the European Parliament and to the Council.

2. The report shall include the following:

(a) a review of progress in the implementation of the Directive;

(b) a review of the status of surface water and groundwater in the Community undertaken in coordination with the European Environment Agency;

(c) a survey of the river basin management plans submitted in accordance with Article 15, including suggestions for the improvement of future plans;

(d) a summary of the response to each of the reports or recommendations to the Commission made by Member States pursuant to Article 12;

(e) a summary of any proposals, control measures and strategies developed under Article 16;

(f) a summary of the responses to comments made by the European Parliament and the Council on previous implementation reports.

3. The Commission shall also publish a report on progress in implementation based on the summary reports that Member States submit under Article 15(2), and submit it to the European Parliament and the Member States, at the latest two years after the dates referred to in Articles 5 and 8.

4. The Commission shall, within three years of the publication of each report under paragraph 1, publish an interim report describing progress in implementation on the basis of the interim reports of the Member States as mentioned in Article 15(3). This shall be submitted to the European Parliament and to the Council.

5. The Commission shall convene when appropriate in line with the reporting cycle a conference of interested parties on Community water policy from each of the Member States, to comment on the Commission’s implementation reports and to share experiences.

Participants should include representatives from the competent authorities, the European Parliament, NGOs, the social and economic partners, consumer bodies, academics and other experts.

Article 18

Plans for future Community measures

1. Once a year, the Commission shall for information purposes present to the Committee referred to in Article 20 an indicative plan of measures having an impact on water legislation which it intends to propose in the near future, including any emerging from the proposals, control measures and strategies developed under Article 16. The Commission shall make the first such presentation at the latest two years after the date of entry into force of this Directive.

2. The Commission will review this Directive at the latest 19 years after the date of its entry into force and will propose any necessary amendments to it.

Article 19

Technical adaptations to the Directive

1. Annexes I, III and Section 1.3.6 of Annex V may be adapted to scientific and technical progress in accordance with the procedures laid down in Article 20, taking account of the periods for review and updating of the river basin management plans as referred to in Article 13. Where necessary, the Commission may adopt guidelines on the implementation of Annexes II and V in accordance with the procedures laid down in Article 20.

2. For the purpose of transmission and processing of data, including statistical and cartographic data, technical formats for the purpose of paragraph 1 may be adopted in accordance with the procedures laid down in Article 20.

Article 20

Regulatory committee

1. The Commission shall be assisted by a regulatory committee composed of the representatives of the Member States and chaired by the representative of the Commission.

2. The representative of the Commission shall submit to the committee a draft of the measures to be taken. The committee shall deliver its opinion on the draft within a time limit which the chairman may lay down according to the urgency of the matter. The opinion shall be delivered by the majority laid down in Article 205(2) of the Treaty in the case of decisions which the Council is required to adopt on a proposal from the Commission. The votes of the representatives of the Member States within the committee shall be weighted in the manner set out in that Article. The chairman shall not vote.
3. If the European Parliament indicates, in a resolution setting out the grounds on which it is based, that draft implementing measures, the adoption of which is contemplated and which have been submitted to the committee pursuant to this Directive would exceed the implementing powers provided for in this Directive, the Commission shall re-examine the draft measures. Taking the resolution into account and within the time limits of the procedure under way, the Commission may submit new draft measures to the committee, continue with the procedure or submit a proposal to the European Parliament and the Council on the basis of the Treaty.

The Commission shall inform the European Parliament and the committee of the action which it intends to take on the resolution of the European Parliament and of its reasons for doing so.

4. The Commission shall, without prejudice to paragraph 3, adopt the measures envisaged if they are in accordance with the opinion of the committee.

5. If the measures envisaged are not in accordance with the opinion of the committee, or if no opinion is delivered, the Commission shall, without delay, submit to the Council a proposal relating to the measures to be taken and shall inform the European Parliament.

6. If the European Parliament considers that a proposal submitted by the Commission pursuant to this Directive exceeds the implementing powers provided for in this Directive, it shall inform the Council of its position.

7. The Council may, where appropriate, in view of any such position, act by qualified majority on the proposal, within a period of three months from the date of referral to the Council.

If within that period the Council has indicated by qualified majority that it opposes the proposal, the Commission shall re-examine it. It may submit an amended proposal to the Council, resubmit its proposal or present a legislative proposal on the basis of the Treaty.

If on the expiry of that period the Council has neither adopted the proposed implementing act nor indicated its opposition to the proposal for implementing measures, the proposed implementing act shall be adopted by the Commission.

Article 21

Repeals and transitional provisions

1. The following shall be repealed with effect from seven years after the date of entry into force of this Directive:


2. The following shall be repealed with effect from 13 years after the date of entry into force of this Directive:


— Directive 76/464/EEC, with the exception of Article 6, which shall be repealed with effect from the entry into force of this Directive.

3. The following transitional provisions shall apply for Directive 76/464/EEC:

(a) the priority list adopted under Article 16 of this Directive shall replace the list of substances prioritised in the Commission communication to the Council of 22 June 1982;

(b) for the purposes of Article 7 of Directive 76/464/EEC, Member States may apply the principles for the identification of pollution problems and the substances causing them, the establishment of quality standards, and the adoption of measures, laid down in this Directive.

4. The environmental objectives in Article 4 and environmental quality standards established in Annex IX and pursuant to Article 16(5), and by Member States under Annex V for substances not on the priority list and under Article 16(6) in respect of priority substances for which Community standards have not been set, shall be regarded as environmental quality standards for the purposes of point 7 of Article 2 and Article 10 of Directive 96/61/EC.

5. Where a substance on the priority list adopted under Article 16 is not included in Annex VIII to this Directive or in Annex III to Directive 96/61/EC, it shall be added thereto.

6. For bodies of surface water, environmental objectives established under the first river basin management plan required by this Directive shall, as a minimum, give effect to quality standards at least as stringent as those required to implement Directive 76/464/EEC.

Article 22

Penalties

Member States shall determine penalties applicable to breaches of the national provisions adopted pursuant to this Directive. The penalties thus provided for shall be effective, proportionate and dissuasive.

Article 23

Implementation

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive at the latest ... (*) They shall forthwith inform the Commission thereof.

When Member States adopt these measures, they shall contain a reference to this Directive or shall be accompanied by such a reference on the occasion of their official publication. The methods of making such a reference shall be laid down by the Member States.

2. Member States shall communicate to the Commission the texts of the main provisions of national law which they adopt in the field governed by this Directive. The Commission shall inform the other Member States thereof.

Article 24

Entry into force

This Directive shall enter into force on the day of its publication in the Official Journal of the European Communities.

Article 25

Addressees

This Directive is addressed to the Member States.

Done at ...

For the European Parliament

... 

The President

For the Council

... 

The President

(*) Three years after the date of entry into force of this Directive.
ANNEX I

INFORMATION REQUIRED FOR THE LIST OF COMPETENT AUTHORITIES

As required under Article 3(8), the Member States shall provide the following information on all competent authorities within each of its river basin districts as well as the portion of any international river basin district lying within their territory.

(i) Name and address of the competent authority — the official name and address of the authority identified under Article 3(2).

(ii) Geographical coverage of the river basin district — the names of the main rivers within the river basin district together with a precise description of the boundaries of the river basin district. This information should as far as possible be available for introduction into a geographic information system (GIS) and/or the geographic information system for the Commission (GISCO).

(iii) Legal status of competent authority — a description of the legal status of the competent authority and, where relevant, a summary or copy of its statute, founding treaty or equivalent legal document.

(iv) Responsibilities — a description of the legal and administrative responsibilities of each competent authority and of its role within each river basin district.

(v) Membership — where the competent authority acts as a coordinating body for other competent authorities, a list is required of these bodies together with a summary of the institutional relationships established in order to ensure coordination.

(vi) International relationships — where a river basin district covers the territory of more than one Member State or includes the territory of non-Member States, a summary is required of the institutional relationships established in order to ensure coordination.
ANNEX II

1. SURFACE WATERS

1.1. Characterisation of surface water body types

Member States shall identify the location and boundaries of bodies of surface water and shall carry out an initial characterisation of all such bodies in accordance with the following methodology. Member States may group surface water bodies together for the purposes of this initial characterisation.

(i) The surface water bodies within the river basin district shall be identified as falling within either one of the following surface water categories — rivers, lakes, transitional waters or coastal waters — or as artificial surface water bodies or heavily modified surface water bodies.

(ii) For each surface water category, the relevant surface water bodies within the river basin district shall be differentiated according to type. These types are those defined using either ‘system A’ or ‘system B’ identified in Section 1.2.

(iii) If system A is used, the surface water bodies within the river basin district shall first be differentiated by the relevant ecoregions in accordance with the geographical areas identified in Section 1.2 and shown on the relevant map in Annex XI. The water bodies within each ecoregion shall then be differentiated by surface water body types according to the descriptors set out in the tables for system A.

(iv) If system B is used, Member States must achieve at least the same degree of differentiation as would be achieved using System A. Accordingly, the surface water bodies within the river basin district shall be differentiated into types using the values for the obligatory descriptors and such optional descriptors, or combinations of descriptors, as are required to ensure that type-specific biological reference conditions can be reliably derived.

(v) For artificial and heavily modified surface water bodies the differentiation shall be undertaken in accordance with the descriptors for whichever of the surface water categories must closely resembles the heavily modified or artificial water body concerned.

(vi) Member States shall submit to the Commission a map or maps (in a GIS format) of the geographical location of the types consistent with the degree of differentiation required under system A.

1.2. Ecoregions and surface water body types

1.2.1. Rivers

System A

<table>
<thead>
<tr>
<th>Type</th>
<th>Altitude typology:</th>
<th>Size typology based on catchment area:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>high: &gt; 800 m</td>
<td>small: 10 — 100 km²</td>
</tr>
<tr>
<td></td>
<td>mid-altitude: 200 to 800 m</td>
<td>medium: &gt; 100 to 1 000 km²</td>
</tr>
<tr>
<td></td>
<td>lowland: &lt; 200 m</td>
<td>large: &gt; 1 000 to 10 000 km²</td>
</tr>
<tr>
<td></td>
<td></td>
<td>very large: &gt; 10 000 km²</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Geology:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>calcareous</td>
</tr>
<tr>
<td></td>
<td></td>
<td>siliceous</td>
</tr>
<tr>
<td></td>
<td></td>
<td>organic</td>
</tr>
</tbody>
</table>

Ecoregion Ecoregion shown on Map A in Annex XI
### System B

<table>
<thead>
<tr>
<th>Alternative characterisation</th>
<th>Physical and chemical factors that determine the characteristics of the river or part of the river and hence the biological population structure and composition</th>
</tr>
</thead>
</table>
| **Obligatory factors**      | Altitude  
Latitude  
Longitude  
Geology  
Size |
| **Optional factors**        | Distance from river source  
Energy of flow (function of flow and slope)  
Mean water width  
Mean water depth  
Mean water slope  
Form and shape of main river bed  
River discharge (flow) category  
Valley shape  
Transport of solids  
Acid neutralising capacity  
Mean substratum composition  
Chloride  
Air temperature range  
Mean air temperature  
Precipitation |

#### 1.2.2. Lakes

### System A

<table>
<thead>
<tr>
<th>Fixed typology</th>
<th>Descriptors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ecoregion</strong></td>
<td>Ecoregions shown on Map A in Annex XI</td>
</tr>
</tbody>
</table>
| **Type**      | Altitude typology:  
high: > 800 m  
mid-altitude: 200 to 800 m  
lowland: < 200 m  
Depth typology based on mean depth:  
< 3 m  
3 m to 15 m  
> 15 m  
Size typology based on surface area:  
0.5 to 1 km²  
1 to 10 km²  
10 to 100 km²  
> 100 km²  
Geology:  
calcareous  
siliceous  
organic |
### System B

<table>
<thead>
<tr>
<th>Alternative characterisation</th>
<th>Physical and chemical factors that determine the characteristics of the lake and hence the biological population structure and composition</th>
</tr>
</thead>
</table>
| **Obligatory factors**       | Altitude  
Latitude  
Longitude  
Depth  
Geology  
Size |
| **Optional factors**         | Mean water depth  
Lake shape  
Residence time  
Mean air temperature  
Air temperature range  
Mixing characteristics (e.g. monomictic, dimictic, polymictic)  
Acid neutralising capacity  
Background nutrient status  
Mean substratum composition  
Water level fluctuation |

### 1.2.3. Transitional waters

#### System A

<table>
<thead>
<tr>
<th>Fixed typology</th>
<th>Descriptors</th>
</tr>
</thead>
</table>
| **Ecoregion**  | The following as identified on Map B in Annex XI:  
Baltic Sea  
Barents Sea  
Norwegian Sea  
North Sea  
North Atlantic Ocean  
Mediterranean Sea |
| **Type**       | Based on mean annual salinity:  
<0.5‰: freshwater  
0.5 to <5‰: oligohaline  
5 to <18‰: mesohaline  
18 to <30‰: polyhaline  
30 to <40‰: euhaline  
Based on mean tidal range:  
<2 m: microtidal  
2 to 4 m: mesotidal  
>4 m: macrotidal |
### System B

<table>
<thead>
<tr>
<th>Alternative characterisation</th>
<th>Physical and chemical factors that determine the characteristics of the transitional water and hence the biological population structure and composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obligatory factors</td>
<td>Latitude, Longitude, Tidal range, Salinity</td>
</tr>
<tr>
<td>Optional factors</td>
<td>Depth, Current velocity, Wave exposure, Residence time, Mean water temperature, Mixing characteristics, Turbidity, Mean substratum composition, Shape, Water temperature range</td>
</tr>
</tbody>
</table>

### 1.2.4. Coastal waters

### System A

<table>
<thead>
<tr>
<th>Fixed typology</th>
<th>Descriptors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecoregion</td>
<td>The following as identified on Map B in Annex XI: Baltic Sea, Barents Sea, Norwegian Sea, North Sea, North Atlantic Ocean, Mediterranean Sea</td>
</tr>
<tr>
<td>Type</td>
<td>Based on mean annual salinity: &lt;0.5‰ freshwater, 0.5 to &lt;5‰ oligohaline, 5 to &lt;18‰ mesohaline, 18 to &lt;30‰ polyhaline, 30 to &lt;40‰ euhaline. Based on mean depth: shallow waters: &lt;30 m, intermediate: (30 to 200 m), deep: &gt;200 m</td>
</tr>
</tbody>
</table>
### System B

<table>
<thead>
<tr>
<th>Alternative characterisation</th>
<th>Physical and chemical factors that determine the characteristics of the coastal water and hence the biological community structure and composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obligatory factors</td>
<td>Latitude, Longitude, Tidal range, Salinity</td>
</tr>
<tr>
<td>Optional factors</td>
<td>Current velocity, Wave exposure, Mean water temperature, Mixing characteristics, Turbidity, Retention time (of enclosed bays), Mean substratum composition, Water temperature range</td>
</tr>
</tbody>
</table>

#### 1.3. Establishment of type-specific reference conditions for surface water body types

(i) For each surface water body type characterised in accordance with Section 1.1, type-specific hydromorphological and physico-chemical conditions shall be established representing the values of the hydromorphological and physico-chemical quality elements specified in Section 1.1 in Annex V for that surface water body type at high ecological status as defined in the relevant table in Section 1.2 in Annex V. Type-specific biological reference conditions shall be established, representing the values of the biological quality elements specified in Section 1.1 in Annex V for that surface water body type at high ecological status as defined in the relevant table in Section 1.2 in Annex V.

(ii) In applying the procedures set out in this section to heavily modified or artificial surface water body references to high ecological status shall be construed as references to maximum ecological potential as defined in Table 1.2.5 in Annex V. The values for maximum ecological potential for a water body shall be reviewed every six years.

(iii) Type-specific conditions for the purposes of points (i) and (ii) and type-specific biological reference conditions may be either spatially based or based on modelling, or may be derived using a combination of these methods. Where it is not possible to use these methods, Member States may use expert judgement to establish such conditions. In defining high ecological status in respect of concentrations of specific synthetic pollutants, the detection limits are those which can be achieved in accordance with the available techniques at the time when the type-specific conditions are to be established.

(iv) For spatially based type-specific biological reference conditions, Member States shall develop a reference network for each surface water body type. The network shall contain a sufficient number of sites of high status to provide a sufficient level of confidence about the values for the reference conditions, given the variability in the values of the quality elements corresponding to high ecological status for that surface water body type and the modelling techniques which are to be applied under point (v).

(v) Type-specific biological reference conditions based on modelling may be derived using either predictive models or hindcasting methods. The methods shall use historical, paleological and other available data and shall provide a sufficient level of confidence about the values for the reference conditions to ensure that the conditions so derived are consistent and valid for each surface water body type.
(vi) Where it is not possible to establish reliable type-specific reference conditions for a quality element in a surface water body type due to high degrees of natural variability in that element, not just as a result of seasonal variations, then that element may be excluded from the assessment of ecological status for that surface water type. In such circumstances Member States shall state the reasons for this exclusion in the river basin management plan.

1.4. **Identification of pressures**

Member States shall collect and maintain information on the type and magnitude of the significant anthropogenic pressures to which the surface water bodies in each river basin district are liable to be subject, in particular:

- estimation and identification of significant point source pollution, in particular by substances listed in Annex VIII, from urban, industrial, agricultural and other installations and activities, based *inter alia*, on information gathered under:
  - (i) Articles 15 and 17 of Directive 91/271/EEC (\(^1\));
  - (ii) Articles 9 and 15 of Directive 96/61/EC;

and for the purposes of the initial river basin management plan:

- (iii) Article 11 of Directive 76/464/EEC; and

- estimation and identification of significant diffuse source pollution, in particular by substances listed in Annex VIII, from urban, industrial, agricultural and other installations and activities; based, *inter alia*, on information gathered under:
  - (i) Articles 3, 5 and 6 of Directive 91/676/EEC (\(^4\));
  - (ii) Articles 7 and 17 of Directive 91/414/EEC;
  - (iii) Directive 98/8/EC;

and for the purposes of the first river basin management plan:


- Estimation and identification of significant water abstraction for urban, industrial, agricultural and other uses, including seasonal variations and total annual demand, and of loss of water in distribution systems.

- Estimation and identification of the impact of significant water flow regulation, including water transfer and diversion, on overall flow characteristics and water balances.

- Identification of significant morphological alterations to water bodies.

- Estimation and identification of other significant anthropogenic impacts on the status of surface waters.

- Estimation of land use patterns, including identification of the main urban, industrial and agricultural areas and, where relevant, fisheries and forests.

1.5. **Assessment of impact**

Member States shall carry out an assessment of the susceptibility of the surface water status of bodies to the pressures identified above.

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Member States shall use the information collected above, and any other relevant information including existing environmental monitoring data, to carry out an assessment of the likelihood that surface waters bodies within the river basin district will fail to meet the environmental quality objectives set for the bodies under Article 4. Member States may utilise modelling techniques to assist in such an assessment.

For those bodies identified as being at risk of failing the environmental quality objectives, further characterisation shall, where relevant, be carried out to optimise the design of both the monitoring programmes required under Article 8, and the programmes of measures required under Article 11.

1.6. **Designation of artificial and heavily modified bodies**

Member States may designate a body of surface water as artificial or heavily modified where making changes to artificial or modified characteristics of that body would affect:

(i) the wider environment;

(ii) navigation or recreation;

(iii) activities for the purposes of which water is stored (for example, power generation, drinking-water supply);

(iv) water regulation, flood protection, irrigation or land drainage;

(v) human development.

2. **GROUNDWATERS**

2.1. **Initial characterisation**

Member States shall carry out an initial characterisation of all groundwater bodies to assess their uses and the degree to which they are at risk of failing to meet the objectives for each groundwater body under Article 4. Member States may group groundwater bodies together for the purposes of this initial characterisation. This analysis may employ existing hydrological, geological, pedological, land use, discharge, abstraction and other data but shall identify:

— the location and boundaries of the groundwater body or bodies,

— the pressures to which the groundwater body or bodies are liable to be subject including:

  — diffuse sources of pollution,

  — point sources of pollution,

  — abstraction,

  — artificial recharge,

— the general character of the overlying strata in the catchment area from which the groundwater body receives its recharge,

— those groundwater bodies for which there are directly dependent surface water ecosystems or terrestrial ecosystems.

2.2. **Further characterisation**

Following this initial characterisation, Member States shall carry out further characterisation of those groundwater bodies or groups of bodies which have been identified as being at risk in order to establish a more precise assessment of the significance of such risk and identification of any measures to be required under Article 11. Accordingly, this characterisation shall include relevant information on the impact of human activity and, where relevant, information on:

— geological characteristics of the groundwater body including the extent and type of geological units,
— hydrogeological characteristics of the groundwater body including hydraulic conductivity, porosity and confinement,

— characteristics of the superficial deposits and soils in the catchment from which the groundwater body receives its recharge, including the thickness, porosity, hydraulic conductivity, and absorptive properties of the deposits and soils,

— stratification characteristics of the groundwater within the groundwater body,

— an inventory of associated surface systems, including terrestrial ecosystems and bodies of surface water, with which the groundwater body is dynamically linked,

— estimates of the directions and rates of exchange of water between the groundwater body and associated surface systems, and

— sufficient data to calculate the long-term annual average rate of overall recharge.

2.3. **Review of the impact of human activity on groundwaters**

For those bodies of groundwater which cross the boundary between two or more Member States or are identified following the initial characterisation undertaken in accordance with point 2.1 as being at risk of failing to meet the objectives set for each body under Article 4, the following information shall, where relevant, be collected and maintained for each groundwater body:

— the location of points in the groundwater body used for the abstraction of water intended for human consumption providing more than an average of 10 m³ per day or serving more than 50 persons,

— the annual average rates of abstraction from such points,

— the chemical composition of water abstracted from the groundwater body,

— the location of points in the groundwater body into which water is directly discharged,

— the rates of discharge at such points,

— the chemical composition of discharges to the groundwater body, and

— land use in the catchment or catchments from which the groundwater body receives its recharge, including anthropogenic alterations to the recharge characteristics such as rainwater and run-off diversion through land sealing, artificial recharge, damming or drainage.

2.4. **Review of the impact of changes in groundwater levels**

Member States shall also identify those bodies of groundwater for which lower objectives are to be specified under Article 4 including as a result of consideration of the effects of the status of the body on:

(i) surface water and associated terrestrial ecosystems;

(ii) water regulation, flood protection and land drainage;

(iii) human development.
The economic analysis shall contain enough information in sufficient detail (taking account of the costs associated with the collection of relevant data) in order to:

(a) make the relevant calculations necessary for taking into account under Article 9 the principle of recovery of the costs of water services, taking account of long-term forecasts of supply and demand for water in the river basin district and, where necessary:
   — estimates of the volume, prices and costs associated with water services, and
   — estimates of relevant investment including forecasts of such investments;

(b) make judgements about the most cost-effective combination of measures in respect of water uses to be included in the programme of measures under Article 11 based on estimates of the potential costs of such measures.
ANNEX IV

PROTECTED AREAS

1. The register of protected areas required under Article 6 shall include the following types of protected areas:
   (i) areas designated for the abstraction of water intended for human consumption under Article 7;
   (ii) areas designated for the protection of economically significant aquatic species;
   (iii) bodies of water designated as recreational waters, including areas designated as bathing waters under Directive 76/160/EEC;
   (iv) nutrient-sensitive areas, including areas designated as vulnerable zones under Directive 91/676/EEC and areas designated as sensitive areas under Directive 91/271/EEC; and
   (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 Natura 2000 sites designated under Council Directive 92/43/EEC (1) and Directive 79/409/EEC (2).

2. The summary of the register required as part of the river basin management plan shall include maps indicating the location of each protected area and a description of the Community, national or local legislation under which they have been designated.

ANNEX V

1. SURFACE WATER STATUS

1.1. Quality elements for the classification of ecological status

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1.1.2. Lakes

1.1.3. Transitional waters

1.1.4. Coastal waters

1.1.5. Artificial and heavily modified surface water bodies

1.2. Normative definitions of ecological status classifications

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2. GROUNDWATER

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2.1.1. Parameter for the classification of quantitative status

2.1.2. Definition of quantitative status

2.2. Monitoring of groundwater quantitative status

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2.4.2. Surveillance monitoring

2.4.3. Operational monitoring

2.4.4. Identification of trends in pollutants

2.4.5. Interpretation and presentation of groundwater chemical status

2.5. Presentation of groundwater status
1. SURFACE WATER STATUS

1.1. Quality elements for the classification of ecological status

1.1.1. Rivers

Biological elements

Composition and abundance of aquatic flora
Composition and abundance of benthic invertebrate fauna
Composition, abundance and age structure of fish fauna

Hydromorphological elements supporting the biological elements

Hydrological regime:
— quantity and dynamics of water flow,
— connection to ground water bodies.

River continuity

Morphological conditions:
— river depth and width variation,
— structure and substrate of the river bed,
— structure of the riparian zone.

Chemical and physico-chemical elements supporting the biological elements

General:
— thermal conditions,
— oxygenation conditions,
— salinity,
— acidification status,
— nutrient conditions.

Specific pollutants:
— pollution by all priority substances identified as being discharged into the body of water,
— pollution by other substances identified as being discharged in significant quantities into the body of water.

1.1.2. Lakes

Biological elements

Composition, abundance and biomass of phytoplankton
Composition and abundance of other aquatic flora
Composition and abundance of benthic invertebrate fauna
Composition, abundance and age structure of fish fauna
Hydromorphological elements supporting the biological elements

Hydrological regime:
— quantity and dynamics of water flow,
— residence time,
— connection to the ground water body.

Morphological conditions:
— lake depth variation,
— quantity, structure and substrate of the lake bed,
— structure of the lake shore.

Chemical and physico-chemical elements supporting the biological elements

General:
— transparency,
— thermal conditions,
— oxygenation conditions,
— salinity,
— acidification status,
— nutrient conditions.

Specific pollutants:
— pollution by all priority substances identified as being discharged into the body of water,
— pollution by other substances identified as being discharged in significant quantities into the body of water.

1.1.3. Transitional waters

Biological elements

Composition, abundance and biomass of phytoplankton
Composition and abundance of other aquatic flora
Composition and abundance of benthic invertebrate fauna
Composition and abundance of fish fauna

Hydromorphological elements supporting the biological elements

Morphological conditions:
— depth variation,
— quantity, structure and substrate of the bed,
— structure of the inter-tidal zone.
Tidal regime:
— freshwater flow,
— wave exposure.

Chemical and physico-chemical elements supporting the biological elements

General:
— transparency,
— thermal conditions,
— oxygenation conditions,
— salinity,
— nutrient conditions.

Specific pollutants:
— pollution by all priority substances identified as being discharged into the body of water,
— pollution by other substances identified as being discharged in significant quantities into the body of water.

1.1.4. Coastal waters

Biological elements

Composition, abundance and biomass of phytoplankton
Composition and abundance of other aquatic flora
Composition and abundance of benthic invertebrate fauna

Hydromorphological elements supporting the biological elements

Morphological conditions:
— depth variation,
— structure and substrate of the coastal bed,
— structure of the inter-tidal zone.

Tidal regime:
— direction of dominant currents,
— wave exposure.

Chemical and physico-chemical elements supporting the biological elements

General:
— transparency,
— thermal conditions,
— oxygenation conditions,
— salinity,
— nutrient conditions.
Specific pollutants:

— pollution by all priority substances identified as being discharged into the body of water,
— pollution by other substances identified as being discharged in significant quantities into the body of water.

1.1.5. Artificial and heavily modified surface water bodies

The quality elements applicable to artificial and heavily modified surface water bodies shall be those applicable to whichever of the four natural surface water categories above most closely resembles the heavily modified or artificial water body concerned.
1.2. Normative definitions of ecological status classifications

Table 1.2.

General definition for rivers, lakes transitional waters and coastal waters

The following text provides the general definition of ecological quality. For the purposes of classification the values for the quality elements for ecological status for each surface water category are those given in Tables 1.2.1-1.2.4 below.

<table>
<thead>
<tr>
<th>Element</th>
<th>High status</th>
<th>Good status</th>
<th>Moderate status</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>There are no, or only very minor, anthropogenic alterations to the values of</td>
<td>The values of the biological quality elements for the surface water body type</td>
<td>The values of the biological quality elements for the surface water body type</td>
</tr>
<tr>
<td></td>
<td>the physico-chemical and hydromorphological quality elements for the surface</td>
<td>show low levels of distortion resulting from human activity, but deviate only</td>
<td>deviate moderately from those normally associated with the surface water body</td>
</tr>
<tr>
<td></td>
<td>water body type from those normally associated with that type under undisturbed</td>
<td>slightly from those normally associated with the surface water body type under</td>
<td>type under undisturbed conditions. The values show moderate signs of distortion</td>
</tr>
<tr>
<td></td>
<td>conditions.</td>
<td>undisturbed conditions.</td>
<td>resulting from human activity and are significantly more disturbed than under</td>
</tr>
<tr>
<td></td>
<td>The values of the biological quality elements for the surface water body</td>
<td>show no, or only very minor, evidence of distortion.</td>
<td>conditions of good status.</td>
</tr>
<tr>
<td></td>
<td>type reflect those normally associated with that type under undisturbed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>conditions, and show no, or only very minor, evidence of distortion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>These are the type-specific conditions and communities.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Waters achieving a status below moderate shall be classified as poor or bad.

Waters showing evidence of major alterations to the values of the biological quality elements for the surface water body type and in which the relevant biological communities deviate substantially from those normally associated with the surface water body type under undisturbed conditions, shall be classified as poor.

Waters showing evidence of severe alterations to the values of the biological quality elements for the surface water body type and in which large portions of the relevant biological communities normally associated with the surface water body type under undisturbed conditions are absent, shall be classified as bad.
**Table 1.2.1.**

Definitions for high, good and moderate ecological status in rivers

<table>
<thead>
<tr>
<th>Biological quality elements</th>
<th>High status</th>
<th>Good status</th>
<th>Moderate status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phytoplankton</strong></td>
<td>The taxonomic composition of phytoplankton corresponds totally or nearly totally to undisturbed conditions. The average phytoplankton abundance is wholly consistent with the type-specific physico-chemical conditions and is not such as to significantly alter the type-specific transparency conditions. Planktonic blooms occur at a frequency and intensity which is consistent with the type-specific physico-chemical conditions.</td>
<td>There are slight changes in the composition and abundance of planktonic taxa compared to the type-specific communities. Such changes do not indicate any accelerated growth of algae resulting in undesirable disturbances to the balance of organisms present in the water body or to the physico-chemical quality of the water or sediment. A slight increase in the frequency and intensity of the type-specific planktonic blooms may occur.</td>
<td>The composition of planktonic taxa differs moderately from the type-specific communities. Abundance is moderately disturbed and may be such as to produce a significant undesirable disturbance in the values of other biological and physico-chemical quality elements. A moderate increase in the frequency and intensity of planktonic blooms may occur. Persistent blooms may occur during summer months.</td>
</tr>
<tr>
<td><strong>Macrophytes and phytobenthos</strong></td>
<td>The taxonomic composition corresponds totally or nearly totally to undisturbed conditions. There are no detectable changes in the average macrophytic and the average phytobenthic abundance.</td>
<td>There are slight changes in the composition and abundance of macrophytic and phytobenthic taxa compared to the type-specific communities. Such changes do not indicate any accelerated growth of phytobenthos or higher forms of plant life resulting in undesirable disturbances to the balance of organisms present in the water body or to the physico-chemical quality of the water or sediment. The phytobenthic community is not adversely affected by bacterial tufts and coats present due to anthropogenic activity.</td>
<td>The composition of macrophytic and phytobenthic taxa differs moderately from the type-specific community and is significantly more distorted than at good status. Moderate changes in the average macrophytic and the average phytobenthic abundance are evident. The phytobenthic community may be interfered with and, in some areas, displaced by bacterial tufts and coats present as a result of anthropogenic activities.</td>
</tr>
<tr>
<td><strong>Benthic invertebrate fauna</strong></td>
<td>The taxonomic composition and abundance correspond totally or nearly totally to undisturbed conditions. The ratio of disturbance sensitive taxa to insensitive taxa shows no signs of alteration from undisturbed levels. The level of diversity of invertebrate taxa shows no sign of alteration from undisturbed levels.</td>
<td>There are slight changes in the composition and abundance of invertebrate taxa from the type-specific communities. The ratio of disturbance sensitive taxa to insensitive taxa shows slight alteration from type-specific levels. The level of diversity of invertebrate taxa shows slight signs of alteration from type-specific levels.</td>
<td>The composition and abundance of invertebrate taxa differ moderately from the type-specific communities. Major taxonomic groups of the type-specific community are absent. The ratio of disturbance sensitive taxa to insensitive taxa, and the level of diversity, are substantially lower than the type-specific level and significantly lower than for good status.</td>
</tr>
<tr>
<td>Element</td>
<td>High status</td>
<td>Good status</td>
<td>Moderate status</td>
</tr>
<tr>
<td>------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 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 structures 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. |
|                              | There are slight changes in species composition and abundance from the type-specific communities attributable to anthropogenic impacts on physico-chemical and hydromorphological quality elements.  
The age structures of the fish communities show signs of disturbance attributable to anthropogenic impacts on physico-chemical or hydromorphological quality elements, and, in a few instances, are indicative of a failure in the reproduction or development of a particular species, to the extent that some age classes may be missing. |
|                              | The composition and abundance of fish species differ moderately from the type-specific communities attributable to anthropogenic impacts on physico-chemical or hydromorphological quality elements.  
The age structure of the fish communities shows major signs of anthropogenic disturbance, to the extent that a moderate proportion of the type-specific species are absent or of very low abundance. |

**Hydromorphological quality elements**

<table>
<thead>
<tr>
<th>Element</th>
<th>High status</th>
<th>Good status</th>
<th>Moderate status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrological regime</td>
<td>The quantity and dynamics of flow, and the resultant connection to groundwaters, reflect totally, or nearly totally, undisturbed conditions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>River continuity</td>
<td>The continuity of the river is not disturbed by anthropogenic activities and allows undisturbed migration of aquatic organisms and sediment transport.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morphological conditions</td>
<td>Channel patterns, width and depth variations, flow velocities, substrate conditions and both the structure and condition of the riparian zones correspond totally or nearly totally to undisturbed conditions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Physico-chemical quality elements

<table>
<thead>
<tr>
<th>Element</th>
<th>High status</th>
<th>Good status</th>
<th>Moderate status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General conditions</strong></td>
<td>The values of the physico-chemical elements correspond totally or nearly totally to undisturbed conditions. Nutrient concentrations remain within the range normally associated with undisturbed conditions. Levels of salinity, pH, oxygen balance, acid neutralising capacity and temperature do not show signs of anthropogenic disturbance and remain within the range normally associated with undisturbed conditions.</td>
<td>Temperature, oxygen balance, pH, acid neutralising capacity and salinity do not reach levels outside the range established so as to ensure the functioning of the type-specific ecosystem and the achievement of the values specified above for the biological quality elements. Nutrient concentrations do not exceed the levels established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
<tr>
<td><strong>Specific synthetic pollutants</strong></td>
<td>Concentrations close to zero and at least below the limits of detection of the most advanced analytical techniques in general use.</td>
<td>Concentrations not in excess of the standards set in accordance with the procedure detailed in Section 1.2.6 without prejudice to Directive 91/414/EEC and Directive 98/8/EC (&lt; eqs).</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
<tr>
<td><strong>Specific non-synthetic pollutants</strong></td>
<td>Concentrations remain within the range normally associated with undisturbed conditions (background levels = bgl).</td>
<td>Concentrations not in excess of the standards set in accordance with the procedure detailed in Section 1.2.6 without prejudice to Directive 91/414/EEC and Directive 98/8/EC (&lt; eqs).</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
</tbody>
</table>

\(^{(1)}\) The following abbreviations are used: bgl = background level, eqs = environmental quality standard.

\(^{(2)}\) Application of the standards derived under this Protocol shall not require reduction of pollutant concentrations below (eqs > bgl).
### Biological quality elements

<table>
<thead>
<tr>
<th>Element</th>
<th>High status</th>
<th>Good status</th>
<th>Moderate status</th>
</tr>
</thead>
</table>
| **Phytoplankton**            | The taxonomic composition and abundance of phytoplankton correspond totally or nearly totally to undisturbed conditions.  
The average phytoplankton biomass is consistent with the type-specific physico-chemical conditions and is not such as to significantly alter the type specific transparency conditions.  
Planktonic blooms occur at a frequency and intensity which is consistent with the type specific physico-chemical conditions. | There are slight changes in the composition and abundance of planktonic taxa compared to the type-specific communities. Such changes do not indicate any accelerated growth of algae resulting in undesirable disturbance to the balance of organisms present in the water body or to the physico-chemical quality of the water or sediment.  
A slight increase in the frequency and intensity of the type specific planktonic blooms may occur. | The composition and abundance of planktonic taxa differ moderately from the type-specific communities.  
Biomass is moderately disturbed and may be such as to produce a significant undesirable disturbance in the condition of other biological quality elements and the physico-chemical quality of the water or sediment.  
A moderate increase in the frequency and intensity of planktonic blooms may occur. Persistent blooms may occur during summer months. |
| **Macrophytes and phytobenthos** | The taxonomic composition corresponds totally or nearly totally to undisturbed conditions.  
There are no detectable changes in the average macrophytic and the average phytobenthic abundance. | There are slight changes in the composition and abundance of macrophytic and phytobenthic taxa compared to the type-specific communities. Such changes do not indicate any accelerated growth of phytobenthos or higher forms of plant life resulting in undesirable disturbance to the balance of organisms present in the water body or to the physico-chemical quality of the water.  
The phytobenthic community is not adversely affected by bacterial tufts and coats present due to anthropogenic activity. | The composition of macrophytic and phytobenthic taxa differ moderately from the type-specific communities and are significantly more distorted than those observed at good quality.  
Moderate changes in the average macrophytic and the average phytobenthic abundance are evident.  
The phytobenthic community may be interfered with and, in some areas, displaced by bacterial tufts and coats present as a result of anthropogenic activities. |
| **Benthic invertebrate fauna** | The taxonomic composition and abundance correspond totally or nearly totally to the undisturbed conditions.  
The ratio of disturbance sensitive taxa to intensive taxa shows no signs of alteration from undisturbed levels.  
The level of diversity of invertebrate taxa shows no sign of alteration from undisturbed levels. | There are slight changes in the composition and abundance of invertebrate taxa compared to the type-specific communities.  
The ratio of disturbance sensitive taxa to insensitive taxa shows slight signs of alteration from type specific levels.  
The level of diversity of invertebrate taxa shows slight signs of alteration from type-specific levels. | The composition and abundance of invertebrate taxa differ moderately from the type-specific conditions.  
Major taxonomic groups of the type-specific community are absent.  
The ratio of disturbance sensitive to insensitive taxa, and the level of diversity, are substantially lower than the type specific level and significantly lower than for good status. |
### Fish fauna

<table>
<thead>
<tr>
<th>Element</th>
<th>High status</th>
<th>Good status</th>
<th>Moderate status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species composition and abundance</td>
<td>Species composition and abundance correspond totally or nearly totally to undisturbed conditions. All the type-specific sensitive species are present. The age structures of the fish communities show little sign of anthropogenic disturbance and are not indicative of a failure in the reproduction or development of a particular species.</td>
<td>There are slight changes in species composition and abundance from the type specific communities attributable to anthropogenic impacts on physico-chemical or hydromorphological quality elements. The age structures of the fish communities show signs of disturbance attributable to anthropogenic impacts on physico-chemical or hydromorphological quality elements, and, in a few instances, are indicative of a failure in the reproduction or development of a particular species, to the extent that some age classes may be missing.</td>
<td>The composition and abundance of fish species differ moderately from the type specific communities attributable to anthropogenic impacts on physico-chemical or hydromorphological quality elements. The age structure of the fish communities shows major signs of disturbance, attributable to anthropogenic impacts on physico-chemical or hydromorphological quality elements, to the extent that a moderate proportion of the type specific species are absent or of very low abundance.</td>
</tr>
</tbody>
</table>

### Hydromorphological quality elements

<table>
<thead>
<tr>
<th>Element</th>
<th>High status</th>
<th>Good status</th>
<th>Moderate status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrological regime</td>
<td>The quantity and dynamics of flow, level, residence time, and the resultant connection to groundwaters, reflect totally or nearly totally undisturbed conditions.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
<tr>
<td>Morphological</td>
<td>Lake depth variation, quantity and structure of the substrate, and both the structure and condition of the lake shore zone correspond totally or nearly totally to undisturbed conditions.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
</tbody>
</table>

**30.11.1999 C 343/39 Official Journal of the European Communities**
<table>
<thead>
<tr>
<th>Element</th>
<th>High status</th>
<th>Good status</th>
<th>Moderate status</th>
</tr>
</thead>
<tbody>
<tr>
<td>General conditions</td>
<td>The values of physico-chemical elements correspond totally or nearly totally to undisturbed conditions. Nutrient concentrations remain within the range normally associated with undisturbed conditions. Levels of salinity, pH, oxygen balance, acid neutralising capacity, transparency and temperature do not show signs of anthropogenic disturbance and remain within the range normally associated with undisturbed conditions.</td>
<td>Temperature, oxygen balance, pH, acid neutralising capacity, transparency and salinity do not reach levels outside the range established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements. Nutrient concentrations do not exceed the levels established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
<tr>
<td>Specific synthetic pollutants</td>
<td>Concentrations close to zero and at least below the limits of detection of the most advanced analytical techniques in general use.</td>
<td>Concentrations not in excess of the standards set in accordance with the procedure detailed in Section 1.2.6 without prejudice to Directive 91/414/EEC and Directive 98/8/EC (&lt; eqs).</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
<tr>
<td>Specific non-synthetic pollutants</td>
<td>Concentrations remain within the range normally associated with undisturbed conditions (background levels = bgl).</td>
<td>Concentrations not in excess of the standards set in accordance with the procedure detailed in Section 1.2.6 (2) without prejudice to Directive 91/414/EEC and Directive 98/8/EC (&lt; eqs).</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
</tbody>
</table>

(1) The following abbreviations are used: bgl = background level, eqs = environmental quality standard.
(2) Application of the standards derived under this Protocol shall not require reduction of pollutant concentrations below background levels.
Table 1.2.3.
Definitions for high, good and moderate ecological status in transitional waters

<table>
<thead>
<tr>
<th>Biological quality elements</th>
<th>High status</th>
<th>Good status</th>
<th>Moderate status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phytoplankton</strong></td>
<td>The composition and abundance of the phytoplanktonic taxa are consistent with undisturbed conditions. The average phytoplankton biomass is consistent with the type-specific physico-chemical conditions and is not such as to significantly alter the type-specific transparency conditions. Planktonic blooms occur at a frequency and intensity which is consistent with the type-specific physico-chemical conditions.</td>
<td>There are slight changes in the composition and abundance of phytoplanktonic taxa. There are slight changes in biomass compared to the type-specific conditions. Such changes do not indicate any accelerated growth of algae resulting in undesirable disturbance to the balance of organisms present in the water body or to the physico-chemical quality of the water. A slight increase in the frequency and intensity of the type-specific planktonic blooms may occur.</td>
<td>The composition and abundance of phytoplanktonic taxa differ moderately from type-specific conditions. Biomass is moderately disturbed and may be such as to produce a significant undesirable disturbance in the condition of other biological quality elements. A moderate increase in the frequency and intensity of planktonic blooms may occur. Persistent blooms may occur during summer months.</td>
</tr>
<tr>
<td><strong>Macroalgae</strong></td>
<td>The composition of macroalgal taxa is consistent with undisturbed conditions. There are no detectable changes in macroalgal cover due to anthropogenic activities.</td>
<td>There are slight changes in the composition and abundance of macroalgal taxa compared to the type-specific communities. Such changes do not indicate any accelerated growth of phytobenthos or higher forms of plant life resulting in undesirable disturbance to the balance of organisms present in the water body or to the physico-chemical quality of the water.</td>
<td>The composition of macroalgal taxa differs moderately from type-specific conditions and is significantly more distorted than at good quality. Moderate changes in the average macroalgal abundance are evident and may be such as to result in an undesirable disturbance to the balance of organisms present in the water body.</td>
</tr>
<tr>
<td><strong>Angiosperms</strong></td>
<td>The taxonomic composition corresponds totally or nearly totally to undisturbed conditions. There are no detectable changes in angiosperm abundance due to anthropogenic activities.</td>
<td>There are slight changes in the composition of angiosperm taxa compared to the type-specific communities. Angiosperm abundance shows slight signs of disturbance.</td>
<td>The composition of the angiosperm taxa differs moderately from the type-specific communities and is significantly more distorted than at good quality. There are moderate distortions in the abundance of angiosperm taxa.</td>
</tr>
<tr>
<td>Element</td>
<td>High status</td>
<td>Good status</td>
<td>Moderate status</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Benthic invertebrate fauna</td>
<td>The level of diversity and abundance of invertebrate taxa is within the range normally associated with undisturbed conditions. All the disturbance sensitive taxa associated with undisturbed conditions are present.</td>
<td>The level of diversity and abundance of invertebrate taxa is slightly outside the range associated with the type-specific conditions. Most of the sensitive taxa of the type-specific communities are present.</td>
<td>The level of diversity and abundance of invertebrate taxa is moderately outside the range associated with the type-specific conditions. Taxa indicative of pollution are present. Many of the sensitive taxa of the type-specific communities are absent.</td>
</tr>
<tr>
<td>Fish fauna</td>
<td>Species composition and abundance is consistent with undisturbed conditions.</td>
<td>The abundance of the disturbance sensitive species shows slight signs of distortion from type-specific conditions attributable to anthropogenic impacts on physico-chemical or hydromorphological quality elements.</td>
<td>A moderate proportion of the type-specific disturbance sensitive species are absent as a result of anthropogenic impacts on physico-chemical or hydromorphological quality elements.</td>
</tr>
</tbody>
</table>

**Hydromorphological quality elements**

<table>
<thead>
<tr>
<th>Element</th>
<th>High status</th>
<th>Good status</th>
<th>Moderate status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tidal regime</td>
<td>The freshwater flow regime corresponds totally or nearly totally to undisturbed conditions.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
<tr>
<td>Morphological conditions</td>
<td>Depth variations, substrate conditions, and both the structure and condition of the inter-tidal zones correspond totally or nearly totally to undisturbed conditions.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
</tbody>
</table>
### Physico-chemical quality elements

<table>
<thead>
<tr>
<th>Element</th>
<th>High status</th>
<th>Good status</th>
<th>Moderate status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General conditions</strong></td>
<td>Physico-chemical elements correspond totally or nearly totally to undisturbed conditions. Nutrient concentrations remain within the range normally associated with undisturbed conditions. Temperature, oxygen balance and transparency do not show signs of anthropogenic disturbance and remain within the range normally associated with undisturbed conditions.</td>
<td>Temperature, oxygenation conditions and transparency do not reach levels outside the ranges established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements. Nutrient concentrations do not exceed the levels established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
<tr>
<td><strong>Specific synthetic pollutants</strong></td>
<td>Concentrations close to zero and at least below the limits of detection of the most advanced analytical techniques in general use.</td>
<td>Concentrations not in excess of the standards set in accordance with the procedure detailed in Section 1.2.6 without prejudice to Directive 91/414/EEC and Directive 98/8/EC (&lt;eqs).</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
<tr>
<td><strong>Specific non-synthetic pollutants</strong></td>
<td>Concentrations remain within the range normally associated with undisturbed conditions (background levels = bgI).</td>
<td>Concentrations not in excess of the standards set in accordance with the procedure detailed in Section 1.2.6 (2) without prejudice to Directive 91/414/EEC and Directive 98/8/EC (&lt;eqs).</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
</tbody>
</table>

(1) The following abbreviations are used: bgI = background level, eqs = environmental quality standard.
(2) Application of the standards derived under this Protocol shall not require reduction of pollutant concentrations below background levels.
### Biological quality elements

<table>
<thead>
<tr>
<th>Element</th>
<th>High status</th>
<th>Good status</th>
<th>Moderate status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phytoplankton</strong></td>
<td>The composition and abundance of phytoplankton taxa are consistent with undisturbed conditions. The average phytoplankton biomass is consistent with the type-specific physico-chemical conditions and is not such as to significantly alter the type-specific transparency conditions. Planktonic blooms occur at a frequency and intensity which is consistent with the type-specific physico-chemical conditions.</td>
<td>The composition and abundance of phytoplankton taxa show slight signs of disturbance. There are slight changes in biomass compared to type-specific conditions. Such changes do not indicate any accelerated growth of algae resulting in undesirable disturbance to the balance of organisms present in the water body or to the quality of the water. A slight increase in the frequency and intensity of the type-specific planktonic blooms may occur.</td>
<td>The composition and abundance of planktonic taxa show signs of moderate disturbance. Algal biomass is substantially outside the range associated with type-specific conditions, and is such as to impact upon other biological quality elements. A moderate increase in the frequency and intensity of planktonic blooms may occur. Persistent blooms may occur during summer months.</td>
</tr>
<tr>
<td><strong>Macroalgae and angiosperms</strong></td>
<td>All disturbance sensitive macroalgal and angiosperm taxa associated with undisturbed conditions are present. The levels of macroalgal cover and angiosperm abundance are consistent with undisturbed conditions.</td>
<td>Most disturbance sensitive macroalgal and angiosperm taxa associated with undisturbed conditions are present. The level of macroalgal cover and angiosperm abundance show slight signs of disturbance.</td>
<td>A moderate number of the disturbance sensitive macroalgal and angiosperm taxa associated with undisturbed conditions are absent. Macroalgal cover and angiosperm abundance is moderately disturbed and may be such as to result in an undesirable disturbance to the balance of organisms present in the water body.</td>
</tr>
<tr>
<td><strong>Benthic invertebrate fauna</strong></td>
<td>The level of diversity and abundance of invertebrate taxa is within the range normally associated with undisturbed conditions. All the disturbance sensitive taxa associated with undisturbed conditions are present.</td>
<td>The level of diversity and abundance of invertebrate taxa is slightly outside the range associated with the type-specific conditions. Most of the sensitive taxa of the type-specific communities are present.</td>
<td>The level of diversity and abundance of invertebrate taxa is moderately outside the range associated with the type-specific conditions. Taxa indicative of pollution are present. Many of the sensitive taxa of the type-specific communities are absent.</td>
</tr>
</tbody>
</table>
### Hydromorphological quality elements

<table>
<thead>
<tr>
<th>Element</th>
<th>High status</th>
<th>Good status</th>
<th>Moderate status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tidal regime</td>
<td>The freshwater flow regime and the direction and speed of dominant currents correspond totally or nearly totally to undisturbed conditions.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
<tr>
<td>Morphological conditions</td>
<td>The depth variation, structure and substrate of the coastal bed, and both the structure and condition of the intertidal zones correspond totally or nearly totally to the undisturbed conditions.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
</tbody>
</table>

### Physico-chemical quality elements (1)

<table>
<thead>
<tr>
<th>Element</th>
<th>High status</th>
<th>Good status</th>
<th>Moderate status</th>
</tr>
</thead>
<tbody>
<tr>
<td>General conditions</td>
<td>The physico-chemical elements correspond totally or nearly totally to undisturbed conditions. Nutrient concentrations remain within the range normally associated with undisturbed conditions. Temperature, oxygenation conditions and transparency do not show signs of anthropogenic disturbance and remain within the ranges normally associated with undisturbed conditions. Nutrient concentrations do not exceed the levels established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements.</td>
<td>Temperature, oxygenation conditions and transparency do not reach levels outside the ranges established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements. Nutrient concentrations do not exceed the levels established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
<tr>
<td>Specific synthetic pollutants</td>
<td>Concentrations close to zero and at least below the limits of detection of the most advanced analytical techniques in general use.</td>
<td>Concentrations not in excess of the standards set in accordance with the procedure detailed in Section 1.2.6 without prejudice to Directive 91/414/EEC and Directive 98/8/EC (&lt; eqs).</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
<tr>
<td>Specific non-synthetic pollutants</td>
<td>Concentrations remain within the range normally associated with undisturbed conditions (background levels = bgl).</td>
<td>Concentrations not in excess of the standards set in accordance with the procedure detailed in Section 1.2.6 (2) without prejudice to Directive 91/414/EEC and Directive 98/8/EC (&lt; eqs).</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
</tbody>
</table>

1 The following abbreviations are used: bgl = background level, eqs = environmental quality standard.  
2 Application of the standards derived under this Protocol shall not require reduction of pollutant concentrations below background levels.
Table 1.2.5.

Definitions for maximum, good and moderate ecological potential for heavily modified or artificial water bodies (1)

<table>
<thead>
<tr>
<th>Element</th>
<th>Maximum ecological potential</th>
<th>Good ecological potential</th>
<th>Moderate ecological potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological quality</td>
<td>The values of the relevant biological quality elements reflect, as far as possible, those associated with the closest comparable surface water body type, given the physical conditions which result from the artificial or heavily modified characteristics of the water body.</td>
<td>There are slight changes in the values of the relevant biological quality elements as compared to the values found at maximum ecological potential.</td>
<td>There are moderate changes in the values of the relevant biological quality elements as compared to the values found at maximum ecological potential. These values are significantly more distorted than those found under good quality.</td>
</tr>
<tr>
<td>Hydromorphological</td>
<td>The hydromorphological conditions are consistent with the only impacts on the surface water body being those resulting from the artificial or heavily modified characteristics of the water body once all practicable mitigation measures having been taken.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
<tr>
<td>elements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physico-chemical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>elements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General conditions</td>
<td>Physico-chemical elements correspond totally or nearly totally to the undisturbed conditions associated with the surface water body type most closely comparable to the artificial or heavily modified body concerned. Nutrient concentrations remain within the range normally associated with such undisturbed conditions. The levels of temperature, oxygen balance and pH are consistent with the those found in the most closely comparable surface water body types under undisturbed conditions.</td>
<td>The values for physico-chemical elements are within the ranges established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements. Temperature and pH do not reach levels outside the ranges established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements. Nutrient concentrations do not exceed the levels established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements.</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
<tr>
<td>Element</td>
<td>Maximum ecological potential</td>
<td>Good ecological potential</td>
<td>Moderate ecological potential</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------</td>
</tr>
<tr>
<td>Specific synthetic pollutants</td>
<td>Concentrations close to zero and at least below the limits of detection of the most advanced analytical techniques in general use.</td>
<td>Concentrations not in excess of the standards set in accordance with the procedure detailed in Section 1.2.6 without prejudice to Directive 91/414/EEC and Directive 98/8/EC (&lt; eqs).</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
<tr>
<td>Specific non-synthetic pollutants</td>
<td>Concentrations remain within the range normally associated with the undisturbed conditions found in the surface water body type most closely comparable to the artificial or heavily modified body concerned (background levels = bgl).</td>
<td>Concentrations not in excess of the standards set in accordance with the procedure detailed in Section 1.2.6 (2) without prejudice to Directive 91/414/EEC and Directive 98/8/EC (&lt; eqs).</td>
<td>Conditions consistent with the achievement of the values specified above for the biological quality elements.</td>
</tr>
</tbody>
</table>

(1) The following abbreviations are used: bgl = background level, eqs = environmental quality standard.

(2) Application of the standards derived under this Protocol shall not require reduction of pollutant concentrations below background levels.
1.2.6. Procedure for the setting of chemical quality standards by Member States

In deriving environmental quality standards for pollutants listed in points 1–9 of Annex VIII for the protection of aquatic biota, Member States shall act in accordance with the following provisions. Standards may be set for water, sediment or biota.

Where possible, both acute and chronic data shall be obtained for the taxa set out below which are relevant for the water body type concerned as well as any other aquatic taxa for which data are available. The ‘base set’ of taxa are:

— algae and/or macrophytes,

— daphnia or representative organisms for saline waters,

— fish.

Setting the environmental quality standard

The following procedure applies to the setting of a maximum annual average concentration:

(i) Member States shall set appropriate safety factors in each case consistent with the nature and quality of the available data and the guidance given in Section 3.3.1 of Part II of 'Technical guidance document in support of Commission Directive 93/67/EEC on risk assessment for new notified substances and Commission Regulation (EC) No 1488/94 on risk assessment for existing substances' and the safety factors set out in the table below:

<table>
<thead>
<tr>
<th>Safety factor</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>At least one acute L(E)C50 from each of three trophic levels of the base-set</td>
<td>1 000</td>
</tr>
<tr>
<td>One chronic NOEC (either fish or daphnia or a representative organism for saline waters)</td>
<td>100</td>
</tr>
<tr>
<td>Two chronic NOECs from species representing two trophic levels (fish and/or daphnia or a representative organism for saline waters and/or algae)</td>
<td>50</td>
</tr>
<tr>
<td>Chronic NOECs from at least three species (normally fish, daphnia or a representative organism for saline waters and algae) representing three trophic levels</td>
<td>10</td>
</tr>
<tr>
<td>Other cases, including field data or model ecosystems, which allow more precise safety factors to be calculated and applied</td>
<td>Case by case assessment</td>
</tr>
</tbody>
</table>

(ii) where data on persistence and bioaccumulation are available, these shall be taken into account in deriving the final value of the environmental quality standard;

(iii) the standard thus derived should be compared with any evidence from field studies. Where anomalies appear, the derivation shall be reviewed to allow a more precise safety factor to be calculated;

(iv) the standard derived shall be subject to peer review and public consultation including to allow a more precise safety factor to be calculated.
1.3. Monitoring of ecological status and chemical status for surface waters

The surface water monitoring network shall be established in accordance with the requirements of Article 8. The monitoring network shall be designed so as to provide a coherent and comprehensive overview of ecological and chemical status within each river basin and shall permit classification of water bodies into five classes consistent with the normative definitions in Section 1.2. Member States shall provide a map or maps showing the surface water monitoring network in the river basin management plan.

On the basis of the characterisation and impact assessment carried out in accordance with Article 5 and Annex II, Member States shall for each period to which a river basin management plan applies, establish a surveillance monitoring programme and an operational monitoring programme. Member States may also need in some cases to establish programmes of investigative monitoring.

Member States shall monitor parameters which are indicative of the status of each relevant quality element. In selecting parameters for biological quality elements, Member States shall identify the appropriate taxonomic level required to achieve adequate confidence and precision in the classification of the quality elements. Estimates of the level of confidence and precision of the results provided by the monitoring programmes shall be given in the plan.

1.3.1. Design of surveillance monitoring

Objective

Member States shall establish surveillance monitoring programmes to provide information for:

— supplementing and validating the impact assessment procedure detailed in Annex II,
— the efficient and effective design of future monitoring programmes,
— the assessment of long-term changes in natural conditions, and
— the assessment of long-term changes resulting from widespread anthropogenic activity.

The results of such monitoring shall be reviewed and used, in combination with the impact assessment procedure described in Annex II, to determine requirements for monitoring programmes in the current and subsequent river basin management plans.

Selection of monitoring points

Surveillance monitoring shall be carried out of sufficient surface water bodies to provide an assessment of the overall surface water status within each catchment or sub catchments within the river basin district. In selecting these bodies, Member States shall ensure that, where appropriate, monitoring is carried out at points where:

— the rate of water flow is significant within the river basin district as a whole; including points on large rivers where the catchment area is greater than 2 500 km²,
— the volume of water present is significant within the river basin district, including large lakes and reservoirs,
— significant bodies of water cross a Member State boundary,
— sites are identified under the Information Exchange Decision 77/795/EEC, and
— at such other sites as are required to estimate the pollutant load which is transferred across Member State boundaries, and which is transferred into the marine environment.
Selection of quality elements

Surveillance monitoring shall be carried out for each monitoring site for a period of one year during the period covered by a river basin management plan for:

— parameters indicative of all biological quality elements,
— parameters indicative of all hydromorphological quality elements,
— parameters indicative of all general physico-chemical quality elements,
— priority list pollutants which are discharged into the river basin or sub-basin, and
— other pollutants discharged in significant quantities in the river basin or sub-basin,

unless the previous surveillance monitoring exercise showed that the body concerned reached good status and there is no evidence from the review of impact of human activity under Annex II that the impacts on the body have changed. In these cases, surveillance monitoring shall be carried out once every three river basin management plans.

1.3.2. Design of operational monitoring

Operational monitoring shall be undertaken in order to:

— establish the status of those bodies identified as being at risk of failing to meet their environmental objectives, and
— assess any changes in the status of such bodies resulting from the programmes of measures.

The programme may be amended during the period of the river basin management plan in the light of information obtained as part of the requirements of Annex II or as part of this Annex, in particular to allow a reduction in frequency where an impact is found not to be significant or the relevant pressure is removed.

Selection of monitoring sites

Operational monitoring shall be carried out for all those bodies of water which on the basis of either the impact assessment carried out in accordance with Annex II or surveillance monitoring are identified as being at risk of failing to meet their environmental objectives under Article 4 and for those bodies of water into which priority list substances are discharged. Monitoring points shall be selected for priority list substances as specified in the legislation laying down the relevant environmental quality standard. In all other cases, including for priority list substances where no specific guidance is given in such legislation, monitoring points shall be selected as follows:

— for bodies at risk from significant point source pressures, sufficient monitoring points within each body in order to assess the magnitude and impact of the point source. Where a body is subject to a number of point source pressures monitoring points may be selected to assess the magnitude and impact of these pressures as a whole,
— for bodies at risk from significant diffuse source pressures, sufficient monitoring points within a selection of the bodies in order to assess the magnitude and impact of the diffuse source pressures. The selection of bodies shall be made such that they are representative of the relative risks of the occurrence of the diffuse source pressures, and of the relative risks of the failure to achieve good surface water status,
— for bodies at risk from significant hydromorphological pressure, sufficient monitoring points within a selection of the bodies in order to assess the magnitude and impact of the hydromorphological pressures. The selection of bodies shall be indicative of the overall impact of the hydromorphological pressure to which all the bodies are subject.
Selection of quality elements

In order to assess the magnitude of the pressure to which bodies of surface water are subject, Member States shall monitor for those quality elements which are indicative of the pressures to which the body or bodies are subject. In order to assess the impact of these pressures, Member States shall monitor as relevant:

- parameters indicative of the biological quality element, or elements, most sensitive to the pressures to which the water bodies are subject,
- all priority substances discharged, and other pollutants discharged in significant quantities,
- parameters indicative of the hydromorphological quality element most sensitive to the pressure identified.

1.3.3. Design of investigative monitoring

Objective

Investigative monitoring shall be carried out:

- where the reason for any exceedances is unknown,
- where surveillance monitoring indicates that the objectives set under Article 4 for a body of water are not likely to be achieved and operational monitoring has not already been established, in order to ascertain the causes of a water body or water bodies failing to achieve the environmental objectives, or
- to ascertain the magnitude and impacts of accidental pollution,

and shall inform the establishment of a programme of measures for the achievement of the environmental objectives and specific measures necessary to remedy the effects of accidental pollution.

1.3.4. Frequency of monitoring

For the surveillance monitoring period, the frequencies for monitoring parameters indicative of physico-chemical quality elements given below should be applied unless greater intervals would be justified on the basis of technical knowledge and expert judgment. For biological or hydromorphological quality elements, monitoring shall be carried out at least once during the surveillance monitoring period.

For operational monitoring, the frequency of monitoring required for any parameter shall be determined by Member States so as to provide sufficient data for a reliable assessment of the status of the relevant quality element. As a guideline, monitoring should take place at intervals not exceeding those shown in the table below unless greater intervals would be justified on the basis of technical knowledge and expert judgment.

Frequencies shall be chosen so as to achieve an acceptable level of confidence and precision. Estimates of the confidence and precision attained by the monitoring system used shall be stated in the river basin management plan.

Monitoring frequencies shall be selected which take account of the variability in parameters resulting from both natural and anthropogenic conditions. The times at which monitoring is undertaken shall be selected so as to minimise the impact of seasonal variation on the results, and thus ensure that the results reflect changes
in the water body as a result of changes due to anthropogenic pressure. Additional monitoring during different season of the same year shall be carried out, where necessary, to achieve this objective.

<table>
<thead>
<tr>
<th>Quality element</th>
<th>Rivers</th>
<th>Lakes</th>
<th>Transitional</th>
<th>Coastal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biological</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phytoplankton</td>
<td>6 months</td>
<td>6 months</td>
<td>6 months</td>
<td>6 months</td>
</tr>
<tr>
<td>Other aquatic flora</td>
<td>3 years</td>
<td>3 years</td>
<td>3 years</td>
<td>3 years</td>
</tr>
<tr>
<td>Macro invertebrates</td>
<td>3 years</td>
<td>3 years</td>
<td>3 years</td>
<td>3 years</td>
</tr>
<tr>
<td>Fish</td>
<td>3 years</td>
<td>3 years</td>
<td>3 years</td>
<td></td>
</tr>
<tr>
<td><strong>Hydromorphological</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity</td>
<td>6 years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrology</td>
<td>continuous</td>
<td>1 month</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morphology</td>
<td>6 years</td>
<td>6 years</td>
<td>6 years</td>
<td>6 years</td>
</tr>
<tr>
<td><strong>Physico-chemical</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermal conditions</td>
<td>3 months</td>
<td>3 months</td>
<td>3 months</td>
<td>3 months</td>
</tr>
<tr>
<td>Oxygenation</td>
<td>3 months</td>
<td>3 months</td>
<td>3 months</td>
<td>3 months</td>
</tr>
<tr>
<td>Salinity</td>
<td>3 months</td>
<td>3 months</td>
<td>3 months</td>
<td>3 months</td>
</tr>
<tr>
<td>Nutrient status</td>
<td>3 months</td>
<td>3 months</td>
<td>3 months</td>
<td>3 months</td>
</tr>
<tr>
<td>Acidification status</td>
<td>3 months</td>
<td>3 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other pollutants</td>
<td>3 months</td>
<td>3 months</td>
<td>3 months</td>
<td>3 months</td>
</tr>
<tr>
<td>Priority substances</td>
<td>1 month</td>
<td>1 month</td>
<td>1 month</td>
<td>1 month</td>
</tr>
</tbody>
</table>

1.3.5. *Additional monitoring requirements for protected areas*

The monitoring programmes required above shall be supplemented in order to fulfil the following requirements.

**Drinking water abstraction points**

Bodies of surface water designated under Article 7 which provide more than 100 m³ a day as an average shall be designated as monitoring sites and shall be subject to such additional monitoring as may be necessary to meet the requirement of that Article. Such bodies shall be monitored for all priority substances discharged and all other substances discharged in significant quantities which could affect the status of the body of water and which are controlled under the provisions of the Drinking Water Directive. Monitoring shall be carried out in accordance with the frequencies set out below:

<table>
<thead>
<tr>
<th>Community served</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 10 000</td>
<td>4 per year</td>
</tr>
<tr>
<td>10 000 to 30 000</td>
<td>8 per year</td>
</tr>
<tr>
<td>&gt; 30 000</td>
<td>12 per year</td>
</tr>
</tbody>
</table>
Habitat and species protection areas

Bodies of water forming these areas shall be included within the operational monitoring programme referred to above where, on the basis of the impact assessment and the surveillance monitoring, they are identified as being at risk of failing to meet their environmental objectives under Article 4. Monitoring shall be carried out to assess the magnitude and impact of all relevant significant pressures on these bodies and, where necessary, to assess changes in the status of such bodies resulting from the programmes of measures. Monitoring shall continue until the areas satisfy the water-related requirements of the legislation under which they are designated and meet their objectives under Article 4.

1.3.6. Standards for monitoring of quality elements

Methods used for the monitoring of type parameters shall conform to the international standards listed below or such other national or international standards which will ensure the provision of data of an equivalent scientific quality and comparability.

Macroinvertebrate sampling


Macrophyte sampling

Relevant CEN/ISO standards when developed.

Fish sampling

Relevant CEN/ISO standards when developed.

Diatom sampling

Relevant CEN/ISO standards when developed.

Standards for physico-chemical parameters

Any relevant CEN/ISO standards.

Standards for hydromorphological parameters

Any relevant CEN/ISO standards.
Classification and presentation of ecological status

1.4.1. Comparability of biological monitoring results

(i) Member States shall establish monitoring systems for the purpose of estimating the values of the biological quality elements specified for each surface water category or for heavily modified and artificial bodies of surface water. In applying the procedure set out below to heavily modified or artificial water bodies, references to ecological status should be construed as references to ecological potential. Such systems may utilise particular species or groups of species which are representative of the quality element as a whole;

(ii) in order to ensure comparability of such monitoring systems, the results of the systems operated by each Member State shall be expressed as ecological quality ratios for the purposes of classification of ecological status. These ratios shall represent the relationship between the values of the biological parameters observed for a given body of surface water and the values for these parameters in the reference conditions applicable to that body. The ratio shall be expressed as a numerical value between zero and one, with high ecological status represented by values close to one and bad ecological status by values close to zero;

(iii) 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, as defined in Section 1.2, by assigning a numerical value to each of the boundaries between the classes. The value for the boundary between the classes of high and good status, and the value for the boundary between good and moderate status shall be established through the inter-calibration exercise described below;

(iv) the Commission shall facilitate this inter-calibration exercise in order to ensure that these class boundaries are established consistent with the normative definitions in Section 1.2 and are comparable between Member States;

(v) as part of this exercise the Commission shall facilitate an exchange of information between Member States leading to the identification of a range of sites in each ecoregion in the Community; these sites will form an inter-calibration network. The network shall consist of sites selected from a range of surface water body types present within each ecoregion. For each surface water body type selected, the network shall consist of at least two sites corresponding to the boundary between the normative definitions of high and good status, and at least two sites corresponding to the boundary between the normative definitions of good and moderate status. The sites shall be selected by expert judgement based on joint inspections and all other available information;

(vi) each Member State monitoring system shall be applied to those sites in the inter-calibration network which are both in the ecoregion and of a surface water body type to which the system will be applied pursuant to the requirements of this Directive. The results of this application shall be used to set the numerical values for the relevant class boundaries in each Member State monitoring system;

(vii) within three years of the date of entry into force of the Directive, the Commission shall prepare a draft register of sites to form the inter-calibration network which may be adapted in accordance with the procedures laid down in Article 20. The final register of sites shall be established within four years of the date of entry into force of the Directive and shall be published by the Commission;

(viii) the Commission and Member States shall complete the inter-calibration exercise within 18 months of the date on which the finalised register is published;

(ix) the results of the inter-calibration exercise and the values established for the Member State monitoring system classifications shall be published by the Commission within six months of the completion of the inter-calibration exercise.

1.4.2. Presentation of monitoring results and classification of ecological status and ecological potential

(i) for surface water categories, the ecological status classification for the body of water shall be represented by the lower of the values for the biological and physico-chemical monitoring results for the relevant quality elements classified in accordance with the first column of the table set out below. Member States shall provide a map for each river basin district illustrating the classification of the ecological status for
each body of water, colour-coded in accordance with the second column of the table set out below to reflect the ecological status classification of the body of water:

<table>
<thead>
<tr>
<th>Ecological status classification</th>
<th>Colour code</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Blue</td>
</tr>
<tr>
<td>Good</td>
<td>Green</td>
</tr>
<tr>
<td>Moderate</td>
<td>Yellow</td>
</tr>
<tr>
<td>Poor</td>
<td>Orange</td>
</tr>
<tr>
<td>Bad</td>
<td>Red</td>
</tr>
</tbody>
</table>

(ii) for heavily modified and artificial water bodies, the ecological status classification for the body of water shall be represented by the lower of the values for the biological and physico-chemical monitoring results for the relevant quality elements classified in accordance with the first column of the table set out below.

Member States shall provide a map for each river basin district illustrating the classification of the ecological potential for each body of water, colour-coded, in respect of artificial water bodies in accordance with the second column of the table set out below, and in respect of heavily modified water bodies the third column of that table:

<table>
<thead>
<tr>
<th>Ecological potential classification</th>
<th>Colour code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artificial water bodies</td>
<td>Heavily Modified</td>
</tr>
<tr>
<td>Good and above</td>
<td>Equal green and light grey stripes</td>
</tr>
<tr>
<td>Moderate</td>
<td>Equal yellow and light grey stripes</td>
</tr>
<tr>
<td>Poor</td>
<td>Equal orange and light grey stripes</td>
</tr>
<tr>
<td>Bad</td>
<td>Equal red and light grey stripes</td>
</tr>
</tbody>
</table>

(iii) Member States shall also indicate, by a black dot on the map, those bodies of water where failure to achieve good status or good ecological potential is due to non-compliance with one or more environmental quality standards which have been established for that body of water in respect of specific synthetic and non-synthetic pollutants (in accordance with the compliance regime established by the Member State).

1.4.3. Presentation of monitoring results and classification of chemical status

Where a body of water achieves compliance with all the environmental quality standards established in Annex IX, Article 16 and under other relevant Community legislation setting environmental quality standards it shall be recorded as achieving good chemical status. If not, the body shall be recorded as failing to achieve good chemical status.

Member States shall provide a map for each river basin district illustrating chemical status for each body of water, colour-coded in accordance with the second column of the table set out below to reflect the chemical status classification of the body of water:

<table>
<thead>
<tr>
<th>Chemical status classification</th>
<th>Colour code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Blue</td>
</tr>
<tr>
<td>Failing to achieve good</td>
<td>Red</td>
</tr>
</tbody>
</table>
2. GROUNDWATER

2.1. Groundwater quantitative status

2.1.1. Parameter for the classification of quantitative status

Groundwater level regime.

2.1.2. Definition of quantitative status

<table>
<thead>
<tr>
<th>Elements</th>
<th>Good status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwater level</td>
<td>The level of groundwater in the groundwater body is such that the available groundwater resource is not exceeded by the long-term annual average rate of abstraction.</td>
</tr>
</tbody>
</table>

Accordingly, the level of groundwater is not subject to anthropogenic alterations such as would result in:

— failure to achieve the environmental objectives specified under Article 4 for associated surface waters

— any significant diminution in the status of such waters

— any significant damage to terrestrial ecosystems which depend directly on the groundwater body

and alterations to flow direction resulting from level changes may occur temporarily, or continuously in a spatially limited area, but such reversals do not cause saltwater or other intrusion, and do not indicate a sustained and clearly identified anthropogenically induced trend in flow direction likely to result in such intrusions.

2.2. Monitoring of groundwater quantitative status

2.2.1. Groundwater level monitoring network

The groundwater monitoring network shall be established in accordance with the requirements of Articles 7 and 8. The monitoring network shall be designed so as to provide a reliable assessment of the quantitative status of all groundwater bodies or groups of bodies including assessment of the available groundwater resource. Member States shall provide a map or maps showing the groundwater monitoring network in the river basin management plan.

2.2.2. Density of monitoring sites

The network shall include sufficient representative monitoring points to estimate the groundwater level in each groundwater body or group of bodies taking into account short and long-term variations in recharge and in particular:

— for groundwater bodies identified as being at risk of failing to achieve environmental objectives under Article 4, ensure sufficient density of monitoring points to assess the impact of abstractions and discharges on the groundwater level,

— for groundwater bodies within which groundwater flows across a Member State boundary, ensure sufficient monitoring points are provided to estimate the direction and rate of groundwater flow across the Member State boundary.

2.2.3. Monitoring frequency

The frequency of observations shall be sufficient to allow assessment of the quantitative status of each groundwater body or group of bodies taking into account short and long-term variations in recharge. In particular:
— for groundwater bodies identified as being at risk of failing to achieve environmental objectives under Article 4, ensure sufficient frequency of measurement to assess the impact of abstractions and discharges on the groundwater level,

— for groundwater bodies within which groundwater flows across a Member State boundary, ensure sufficient frequency of measurement to estimate the direction and rate of groundwater flow across the Member State boundary.

2.2.4. Interpretation and presentation of groundwater quantitative status

The results obtained from the monitoring network for a groundwater body or group of bodies shall be used to assess the quantitative status of that body or those bodies. Subject to Section 2.5, Member States shall provide a map of the resulting assessment of groundwater quantitative status, colour-coded in accordance with the following regime:

Good: green

Poor: red.

2.3. Groundwater chemical status

2.3.1. Parameters for the determination of groundwater chemical status

Conductivity.

Concentrations of pollutants.

2.3.2. Definition of good groundwater chemical status

<table>
<thead>
<tr>
<th>Elements</th>
<th>Good status</th>
</tr>
</thead>
</table>
| General          | The chemical composition of the groundwater body is such that the concentrations of pollutants:
                  | — as specified below, do not exhibit the effects of saline or other intrusions
                  | — do not exceed the quality standards applicable under other relevant Community legislation
                  | — are not such as would result in failure to achieve the environmental objectives specified under Article 4 for associated surface waters nor any significant diminution of the ecological or chemical quality of such bodies nor in any significant damage to terrestrial ecosystems which depend directly on the groundwater body

Conductivity     | Changes in conductivity are not indicative of saline or other intrusion into the groundwater body |

2.4. Monitoring of groundwater chemical status

2.4.1. Groundwater monitoring network

The groundwater monitoring network shall be established in accordance with the requirements of Articles 7 and 8. The monitoring network shall be designed so as to provide a coherent and comprehensive overview of groundwater chemical status within each river basin and to detect the presence of long-term anthropogenically induced upward trends in pollutants.
On the basis of the characterisation and impact assessment carried out in accordance with Article 5 and Annex II, Member States shall for each period to which a river basin management plan applies, establish a surveillance monitoring programme. The results of this programme shall be used to establish an operational monitoring programme to be applied for the remaining period of the plan.

Estimates of the level of confidence and precision of the results provided by the monitoring programmes shall be given in the plan.

2.4.2. Surveillance monitoring

Objective

Surveillance monitoring shall be carried out in order to:

— supplement and validate the impact assessment procedure,
— provide information for use in the assessment of long-term trends both as a result of changes in natural conditions and through anthropogenic activity.

Selection of monitoring sites

Sufficient monitoring sites shall be selected for each of the following:

— bodies identified as being at risk following the characterisation exercise undertaken in accordance with Annex II,
— bodies which cross a Member State boundary.

Selection of parameters

The following set of core parameters shall be monitored in all the selected groundwater bodies:

— oxygen content,
— pH value,
— conductivity,
— nitrate,
— ammonium.

Bodies which are identified in accordance with Annex II as being at significant risk of failing to achieve good status shall also be monitored for those parameters which are indicative of the impact of these pressures.

Transboundary water bodies shall also be monitored for those parameters which are relevant for the protection of all of the use supported by the groundwater flow.

2.4.3. Operational monitoring

Objective

Operational monitoring shall be undertaken in the periods between surveillance monitoring programmes in order to:

— establish the chemical status of all groundwater bodies or groups of bodies determined as being at risk,
— establish the presence of any long-term anthropogenically induced upward trend in the concentration of any pollutant.
Selection of monitoring sites

Operational monitoring shall be carried out for all those groundwater bodies or groups of bodies which on the basis of both the impact assessment carried out in accordance with Annex II and surveillance monitoring are identified as being at risk of failing to meet objectives under Article 4. The selection of monitoring sites shall also reflect an assessment of how representative monitoring data from that site is of the quality of the relevant groundwater body or bodies.

Frequency of monitoring

Operational monitoring shall be carried out for the periods between surveillance monitoring programmes at a frequency sufficient to detect the impacts of relevant pressures but at a minimum of once per annum.

2.4.4. Identification of trends in pollutants

Member States shall use data from both surveillance and operational monitoring in the identification of long-term anthropogenically induced upward trends in pollutant concentrations and the reversal of such trends. The base year or period from which trend identification is to be calculated shall be identified. The calculation of trends shall be undertaken for a body or, where appropriate, group of bodies of groundwater. Reversal of a trend shall be demonstrated statistically and the level of confidence associated with the identification stated.

2.4.5. Interpretation and presentation of groundwater chemical status

In assessing status, the results of individual monitoring points within a groundwater body shall be aggregated for the body as a whole. Without prejudice to the Directives concerned, for good status to be achieved for a groundwater body, for those chemical parameters for which environmental quality standards have been set in Community legislation:

— the mean value of the results of monitoring at each point in the groundwater body or group of bodies shall be calculated, and

— the mean value of these calculations for all monitoring points in the groundwater body or group of bodies shall demonstrate compliance with those standards in the manner prescribed in the relevant Directive.

Subject to Section 2.5, Member States shall provide a map of groundwater chemical status, colour-coded as indicated below:

Good: green
Poor: red.

Member States shall also indicate by a black dot on the map, those groundwater bodies which are subject to a significant and sustained upward trend in the concentrations of any pollutant resulting from the impact of human activity. Reversal of a trend shall be indicated by a blue dot on the map.

These maps shall be included in the river basin management plan.

2.5. Presentation of groundwater status

Member States shall provide in the river basin management plan a map showing for each groundwater body or groups of groundwater bodies both the quantitative status and the chemical status of that body or group of bodies, colour-coded in accordance with the requirements of Sections 2.2.4 and 2.4.5. Member States may choose not to provide separate maps under Sections 2.2.4 and 2.4.5 but shall in that case also provide an indication in accordance with the requirements of 2.4.5 on the map required under this section of those bodies which are subject to a significant and sustained upward trend in the concentration of any pollutant or any reversal in such a trend.
ANNEX VI

LISTS OF MEASURES TO BE INCLUDED WITHIN THE PROGRAMMES OF MEASURES

PART A

Measures required under the following Directives:

(i) the Bathing Water Directive 76/160/EEC;
(ii) the Birds Directive 79/409/EEC (1);
(iii) the Drinking Water Directive 80/778/EEC as amended by Directive 98/83/EC;
(iv) the Major Accidents (Seveso) Directive 96/82/EC (2);
(v) the Environmental Impact Assessment Directive 85/337/EEC (3);
(vi) the Sewage Sludge Directive 86/278/EEC (4);
(vii) the Urban Waste Water Treatment Directive 91/271/EEC;
(viii) the Plant Protection Products Directive 91/414/EEC;
(ix) the Nitrates Directive 91/676/EEC;
(x) the Habitats Directive 92/43/EEC (5);
(xi) the Integrated Pollution Prevention Control Directive 96/61/EC.

PART B

The following is a non-exclusive list of supplementary measures which Member States within each river basin district may choose to adopt as part of the programme of measures required under Article 11(4):

(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;

(xii) construction projects;
(xiii) desalination plants;
(xiv) rehabilitation projects;
(xv) artificial recharge of aquifers;
(xvi) educational projects;
(xvii) research, development and demonstration projects;
(xviii) other relevant measures.
ANNEX VII

RIVER BASIN MANAGEMENT PLANS

A. River basin management plans shall cover the following elements.

1. A general description of the characteristics of the river basin district required under Article 5 and Annex II. This shall include.

1.1. For surface waters:
   — mapping of the location and boundaries of water bodies,
   — mapping of the ecoregions and surface water body types within the river basin,
   — identification of reference conditions for the surface water body types.

1.2. For groundwaters:
   — mapping of the location and boundaries of groundwater bodies.

2. A summary of significant pressures and impact of human activity on the status of surface water and groundwater, including:
   — estimation of point source pollution,
   — estimation of diffuse source pollution, including a summary of land use,
   — estimation of pressures on the quantitative status of water including abstractions,
   — analysis of other impacts of human activity on the status of water.

3. Identification and mapping of protected areas as required by Article 6 and Annex IV.

4. A map of the monitoring networks established for the purposes of Article 8 and Annex V, and a presentation in map form of the results of the monitoring programmes carried out under those provisions for the status of.

4.1. Surface water (ecological and chemical).

4.2. Groundwater (chemical and quantitative).

4.3. Protected areas.

5. A list of the environmental objectives established under Article 4 for surface waters, groundwaters and protected areas, including in particular identification of instances where use has been made of Article 4(3), (4), (5) and (6), and the associated information required under that Article.

6. A summary of the economic analysis of water use as required by Article 5 and Annex III.

7. A summary of the programme or programmes of measures adopted under Article 11, including the ways in which the objectives established under Article 4 are thereby to be achieved.

7.1. A summary of the measures required to implement Community legislation for the protection of water.

7.2. A report on the practical steps and measures taken to apply the principle of recovery of the costs of water use in accordance with Article 9.

7.3. A summary of the measures taken to meet the requirements of Article 7.

7.4. A summary of the controls on abstraction and impoundment of water, including reference to the registers and identifications of the cases where exemptions have been made under Article 11(3)(d).

7.5. A summary of the controls adopted for point source discharges and other activities with an impact on the status of water in accordance with the provisions of Article 11(3)(e) and 11(3)(f).

7.6. An identification of the cases where direct discharges to groundwater have been authorised in accordance with the provisions of Article 11(3)(g).
7.7. A summary of the measures taken in accordance with Article 16 on priority substances.

7.8. A summary of the measures taken to prevent or reduce the impact of accidental pollution incidents.

7.9. Details of the supplementary measures identified as necessary in order to meet the environmental objectives established.

7.10. Details of the measures taken to avoid increase in pollution of marine waters in accordance with Article 11(6).

8. A register of any more detailed programmes and management plans for the river basin district dealing with particular sub-basins, sectors, issues or water types, together with a summary of their contents.

9. A summary of the public information and consultation measures taken, their results and the changes to the plan made as a consequence.

10. A list of competent authorities in accordance with Annex I.

11. The contact points and procedures for obtaining the background documentation and information referred to in Article 14(1), and in particular details of the control measures adopted in accordance with Article 11(3)(e) and 11(3)(f) and of the actual monitoring data gathered in accordance with Article 8 and Annex V.

B. The first update of the river basin management plan and all subsequent updates shall also include.

1. A summary of any changes or updates since the publication of the previous version of the river basin management plan, including a summary of the reviews to be carried out under Article 4(3), (4), (5) and (6).

2. 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 in map form, and an explanation for any environmental objectives which have not been reached.

3. A summary of, and an explanation for, any measures foreseen in the earlier version of the river basin management plan which have not been undertaken.

4. A summary of any additional interim measures adopted under Article 11(5) since the publication of the previous version of the river basin management plan.
ANNEX VIII

INDICATIVE LIST OF THE MAIN POLLUTANTS

1. Organohalogen compounds and substances which may form such compounds in the aquatic environment.
2. Organophosphorus compounds.
3. Organotin compounds.
4. Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment.
5. Persistent hydrocarbons and persistent and bioaccumulable organic toxic substances.
7. Metals and their compounds.
8. Arsenic and its compounds.
11. Substances which contribute to eutrophication (in particular, nitrates and phosphates).
12. Substances which have an unfavourable influence on the oxygen balance (and can be measured using parameters such as BOD, COD, etc.).
ANNEX IX

EMISSION LIMIT VALUES AND ENVIRONMENTAL QUALITY STANDARDS

The ‘limit values’ and ‘quality objectives’ established under the daughter Directives of Directive 76/464/EEC shall be considered emission limit values and environmental quality standards, respectively, for the purposes of this Directive. They are established in the following Directives:

(i) the Mercury Discharges Directive 82/176/EEC (\(^1\));
(ii) the Cadmium Discharges Directive 83/513/EEC (\(^2\));
(iii) the Mercury Directive 84/156/EEC (\(^3\));
(iv) the Hexachlorocyclohexane Discharges Directive 84/491/EEC (\(^4\));

and

(v) the Dangerous Substance Discharges Directive 86/280/EEC (\(^5\)).

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\(^1\) OJ L 81, 27.3.1982, p. 29.
\(^3\) OJ L 74, 17.3.1984, p. 49.
\(^4\) OJ L 274, 17.10.1984, p. 11.
\(^5\) OJ L 181, 4.7.1986, p. 16.
ANNEX XI

MAP A

System A: Ecoregions for rivers and lakes

1. Iberic — Macaronesian region
2. Pyrenees
3. Italy, Corsica and Malta
4. Alps
5. Dinaric Western Balkans
6. Hellenic Western Balkans
7. Eastern Balkans
8. Western highlands
9. Central highlands
10. The Carpathians
11. Hungarian lowlands
12. Pontic region
13. Western plains
14. Central plains
15. Baltic region
16. Eastern plains
17. Ireland and Northern Ireland
18. Great Britain
19. Iceland
20. Boreal uplands
21. Tundra
22. Fenno-Scandian shield
23. Taiga
24. The Caucasus
25. Caspic depression
MAP B

System A: Ecoregions for Transitional waters and Coastal waters

1. Atlantic Ocean
2. Norwegian Sea
3. Barents Sea
4. North Sea
5. Baltic Sea
6. Mediterranean Sea

Guadeloupe/Martinique
Guyana
Réunion
STATEMENT OF THE COUNCIL’S REASONS

I. INTRODUCTION

1. On 26 February 1997, the Commission sent the Council its initial proposal, based on Article 130s(1) of the EC Treaty, establishing a framework for Community action in the field of water policy (1). On 26 November 1997, the Commission sent its first (2) and on 17 February 1998 its second (3) amended proposal pursuant to Article 189a(2) of the EC Treaty.

2. The European Parliament (4), the Economic and Social Committee (5) and the Committee of the Regions (6) delivered their opinions on 11 February 1999, 1 October 1997 and 12—13 March 1998 respectively.

3. Following these opinions, on 17 June 1999 the Commission forwarded an amended proposal to the Council (7).

4. On 22 October 1999, the Council adopted its common position in accordance with Article 251(2) of the Treaty (former Article 189b).

II. OBJECTIVE

The Directive is in response to a request formulated by the Environment Committee of the European Parliament and the Council in June 1995 to fundamentally review the Community water policy. It establishes a framework for the protection of surface water, in particular inland, transitional and coastal waters, and groundwater.

The common position reached by Council essentially aims at preventing deterioration of ecological status and pollution and restoring all bodies of surface water and groundwater with the aim of achieving good status at the latest 16 years after the entry into force of the Directive. Taking the identification of river basin districts as a basis, Member States are to provide management plans (containing, inter alia, the river basin's characteristics, monitoring of the water status and coordinated programmes of measures) which are subject to public consultation and aim to achieve good water status through a phased implementation of the measures they envisage.

The common position takes into account the interaction between surface water and groundwater, the impact of human activity e.g. industry, agriculture, energy production and transport, the quality and quantity aspects and contributes to mitigating the effects of floods and droughts, to providing a sufficient supply of good quality water for users, to protecting territorial and marine waters, to achieving the objectives of relevant international agreements (e.g. aiming at the prevention and elimination of pollution) and to progressively reducing the emissions of hazardous substances.

III. ANALYSIS OF THE COMMON POSITION (8)

The text of the common position strikes an equitable and fair balance between, on the one hand, the need to essentially prevent deterioration and to improve the current status of surface water and groundwater bodies, and, on the other hand, to also take a realistic and reasonable view on the

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(4) OJ C 150, 28.5.1999, p. 419.
(7) Not yet published in the Official Journal.
(8) The numbering of the Articles follows those retained in the common position.
practical implications of doing so in terms of feasibility, the technical and scientific work to be done, effectiveness, long-term socio-economic repercussions and the involved operating costs.

A. **Amended Commission proposal**

The Council adopted either in full or in part, and occasionally implicitly, at least to some extent, 75 amendments proposed by the European Parliament, four of which had not been retained in the Commission's amended proposal (35, 179, 183 and 184).

The Council adopted:

(a) in full: all of the 14 compromise amendments (Nos 118, 121, 189, 190, 191, 192, 193, 194, 195 (in a more elaborate way), 196, 197, 198, 200 and 201 (with a more precise wording));

(b) fully or partly and occasionally with a different wording: 19 other amendments (Nos 9, 18, 20, 23, 24, 31, 50, 53, 54, 62, 63 (its second part in Annex V Section 1.1.1), 64 (Annex V), 79, 95, 103, 112, 117 (transferred to Annex II), 183, 184;

(c) implicitly: all or some of the concepts contained in 39 other amendments.

2, 4 and 5: reflected in recital 21;

179: contained implicitly in the Directive given the legal basis;

10: retained in recital 28;

11: covered by Article 17(4) however with a three-year time period (see also amendment 200);

13: retained through the combination of Articles 21 and 23;

25 and partly 39: the concept of the combined approach has been explicitly specified and developed in Article 10; other elements of the amendments are covered in Article 16;

27: covered in Annex V, Section 1.2.1 in the definition of high status for specific synthetic pollutants;

28: implied in Article 2(24);

29: elements are catered for in Article 4(1)(b), the combination of Articles 10 and 16, and Annex V, Section 2.3.2;

30 and 32: covered by Article 2(26), (27) and (28) and Annex V Section 2.1.2;

157: considering the restrictive wording of Article 11(3)(g) the intention of the amendment is covered;

35: the first part of this amendment is covered by Article 3(6) whereas the second part is taken account of in Article 3(3)(4) and (5);

123: Article 3(4) covers the idea contained in this amendment. Moreover, the Council added a provision that the Commission can, at the request of the Member State involved, act to facilitate the establishment of the programmes of measures;

48: included in Article 4(5);

56, 57, 58 and 60: generally covered in Annexes II and III which partly replace the former Articles 7 and 8;

158: covered implicitly by Article 7(2);
71: globally dealt with in Article 11(5) and Annex V, Section 1.3.3, albeit with a different wording;

75: diversion of water partially implied in the last subparagraph of Article 11(3)(d);

78: the measures provided for in Article 11 should achieve the environmental quality standards and thus part of the objectives of the Directive;

80 and 82: Article 13 and Annex VII cover these concepts although with a different wording (former Articles 16 and 18 have been deleted);

86: implicitly covered in Article 17(5) (see compromise amendment 198);

87: Article 16(6) provides that the Commission shall submit proposals for controls within two years of the inclusion of the priority list. The idea of inserting a deadline has thus been taken into account. The proposals for controls to be submitted by the Commission can contain EU-wide uniform emission standards if this institution judges them to be appropriate;

88: included with a different wording in Article 16(6);

93: the staged repeal with adapted timing of existing water legislation has been incorporated in Article 21;

97: Annex IV, 1(i) makes a reference to Article 7 in which under (1), second indent, the idea of this amendment is covered;

103, 108, 109 and 116: all of the ideas in these amendments have been taken account of in Annex V;

119 and 120: both included in principle in Annex VII and amendment 120 also in Article 14.

The Council retained to some extent the ideas contained in 3 amendments:

6: the concepts of elimination of hazardous pollutants and the presentation by the Commission of a priority list are retained in recitals 39, 40 and in Articles 11(3)(h) and 16;

19 and 47: although not covered as an objective as such, the purpose of the Directive, as mentioned in the ultimate and penultimate indents of Article 1, states that it will contribute to the elimination of pollutants in the marine environment and to the progressive reduction of emissions of hazardous substances but without an explicit mention of a deadline.

B. Amendments accepted by the Commission but not included in the common position

The Council did not accept amendments 8, 14, 41, 42, 44, 45, 49, 51, 55, 65, 66, 91, 96, 98, 113, 114 and 122.

8, 41, 42, 44 and 45: according to Article 4(1)(a) deterioration is essentially not permitted below good status waters; its paragraphs (5) and (6) provide however that, subject to strict conditions, deterioration (e.g. because of floods and droughts) or new developments of overriding public interest may be allowed.

14: given the explanation under amendment 8 the Council is of the opinion that including this amendment would be inconsistent and not realistic.

49: accepting this amendment would be inconsistent with Article 4(6).
51: although its first part is implicitly covered in Article 4, the second part, however, only applies to heavily modified bodies of water.

55 and 113: although Annex II, Sections 1.4 and 1.5 cover partially and more generally this amendment the assessment of the impact of human activity on adjoining maritime areas into which the river basin district waters flow are however not covered by the Directive.

65, 66: (Article 9) although the Council did follow partially the Commission’s amended proposal to take account of the principle of recovery of environmental and resource costs of water services, it could not agree on full cost recovery. Member States shall however conduct an economic analysis to do so and report on the practical steps they take to apply this principle in the river basin management plans.

91 and 92: given the political nature of most of the Annexes (which to a certain extent also replace some of the former Articles), not all of the Annexes mentioned in amendment 91 should be adapted through a Committee procedure. Given, however, the new Council Decision on Comitology according to which the European Parliament will, under certain conditions, be informed, Article 20 has been adapted to this new decision. Moreover, as the Directive is based on Article 175 of the Treaty, the European Parliament will co-decide on any new proposal concerning the Annexes which are not mentioned anymore, which when adopted will involve publication in the Official Journal of the European Communities.

96 and 98: the Council did not adopt these amendments because they do not necessarily provide an added value to the Directives referred to.

114: given the fact that the most appropriate statistical methods for analysing the inter-calibration data require further analysis, inserting amendment 114 would be premature; the Commission may however always adopt guidelines to implement Annex V, if need be (see Article 19).

122: the Council did not consider it appropriate to add radioactive substances to Annex VIII (which is of an indicative nature).

C. Innovations introduced by the Council

The Council added a number of recitals to motivate more specifically the content of the Articles and Annexes.

Annex II has been elaborated in a sense that it is now technically and scientifically more precise; moreover, former Annex III concerning review of the environmental impact of human activity has been transferred to Annex II.

Annex III concerns the information to be provided by Member States for the economic analysis asked for in Article 9 which possibly can be further elaborated through a Committee procedure.

Annex X, currently empty, is to contain the priority list of substances once it is adopted by the European Parliament and the Council.

Annex XI introduces two maps for geographical localisation one for ecoregions for rivers and lakes and another for ecoregions for transitional waters and coastal waters.

The Commission has accepted the common position agreed upon by the Council.