Regulations made under s. 337 of the Public Health Act.

PUBLIC HEALTH (WATER FRAMEWORK) RULES 2004

(LN. 2004/098)

7.10.2004

Amending enactments	Relevant current provisions	Commencement date
LN. 2010/168	rr. 2(1), 10A-10B, 11A, 17A, 19 Sch.9-10	25.11.2010

Transposing:
Directive 2000/60/EC
Directive 2008/105/EC

Subsidiary 2004/098

PUBLIC HEALTH (WATER FRAMEWORK) RULES 2004

This version is out of date

ARRANGEMENT OF RULES

SCHEDULE 6
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PUBLIC HEALTH (WATER FRAMEWORK) RULES 2004

Subsidiary 2004/098

In exercise of the powers conferred on him by section 337 of the Public Health Act and all other enabling powers and in order to transpose Council Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy, the Governor has made the following Rules:

Title.

1. These Rules may be cited as the Public Health (Water Framework) Rules 2004.

Interpretation.

2.(1) In These Rules–

"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 one or more aquifers;

"body of surface water" means a stretch of coastal water;

"body of water" means a body of groundwater or a body of surface water;

"coastal water" means surface water on the landward side of a line every point of which is at a distance of 1 nautical mile on the seaward side from the nearest point of the baseline from which the breadth of the territorial waters is measured;

"Competent Authority" means the Minister with responsibility for the environment;

"the Directive" means Directive 2000/60/EC of 23rd October 2000 establishing a framework for Community action in the field of water policy;

"Gibraltar River Basin District" has the meaning given by rule 4;

"groundwater" means water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil;

"priority substances" means the substances identified in accordance with Article 16(2) of the Directive and listed in Schedule 10 to these Rules;

"programme of measures" means the programme of measures required to comply with Article 11(2) to (6) of the Directive;

"protected area" has the meaning given by rule 8(2);

"river basin" means an area of land from which all surface run-off water flows through a connected sequence of streams, rivers or other watercourses or lakes into the sea at a single river mouth, estuary or delta and includes any body of transitional water in the vicinity of that river mouth, estuary or delta;

"river basin district" means the area of land and sea together with its associated bodies of water which taken together is the unit for the management of the river basin, and in these Rules unless otherwise specified any reference to a river basin district shall be taken to be a reference to the Gibraltar River Basin District;

"river basin management plan" means such a plan approved by the Competent Authority under rule 13;

"supplementary plan" has the meaning given by rule 15;

"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) Any other expression used in both these Rules and the Directive has the same meaning for the purposes of these rules as it has for the purposes of the Directive unless the contrary is stated.

Duties.

3.(1) The Competent Authority must exercise its functions under these Rules and the enactments listed in Schedule 1 so as to secure compliance with the requirements of the Directive.

(2) The Competent Authority may appoint such persons as it deems appropriate to enable it to discharge any duty or obligation imposed by these Rules or for the achievement of the objectives of the Directive.

Designation of river basin districts.

4. The area within the River Basin District Boundary as delineated in the map in Schedule 2 is designated the Gibraltar River Basin District.

Characterisation of river basin district.

5.(1) The Competent Authority must in accordance with the provisions of Annex II of the Directive as set out in Schedule 3–

(a) carry out an analysis of the characteristics of the river basin district; and

(b) conduct a review of the impact of human activity on the status of surface water and groundwater in the river basin district,

by 22nd December 2004.

(2) The work required by paragraph (1) shall be updated by 22nd December 2013 and every six years after that date.

Economic analysis of water use in river basin district.

6.(1) The Competent Authority must carry out an economic analysis of water use in the river basin district by 22nd December 2004 in accordance with the requirements of Schedule 4.

(2) That analysis must be reviewed and updated by the Competent Authority by 22nd December 2013 and every six years after that date.

Bodies of water used for the abstraction of drinking water.

7.(1) The Competent Authority must identify any body of water within the river basin district which–

(a) is used for the abstraction of water intended for human consumption and either-

(i) provides more than 10 cubic metres of such water per day, or

(ii) serves more than 50 persons, or

(b) is intended to be used as mentioned in paragraph (a).

(2) Where a body of water provides more than 100 cubic metres per day of water intended for human consumption that body of water shall be monitored in accordance with rule 9.

Register of protected areas.

8.(1) The Competent Authority must for the river basin district-

(a) by 22nd December 2004 prepare; and

(b) thereafter review and keep up to date,

a register of the protected areas lying (whether wholly or partly) within the river basin district.

(2) An area is a protected area if it falls within any of the classifications at subparagraphs 1(i) to 1(v) of Schedule 5.

Monitoring programmes.

9.(1) The Competent Authority must–

(a) establish programmes for monitoring water status in order to establish a coherent and comprehensive overview of water status within the river basin district; and

(b) take such other measures as may be necessary to give effect to the relevant monitoring provisions of the Directive.

(2) For surface water the monitoring programmes must cover–

(a) the volume and level or rate of flow to the extent relevant for ecological and chemical status and ecological potential; and

(b) the ecological and chemical status and ecological potential.

(3) For groundwater the monitoring programmes must cover monitoring of chemical and quantitative status.

(4) The monitoring programmes must be–

(a) established and carried out in accordance with the requirements of Schedule 6; and

(b) made operational by 22nd December 2006.

Environmental objectives and programmes of measures.

10.(1) For the purposes of the river basin management plan for the river basin district the Competent Authority must prepare proposals for–

(a) the environmental objectives for the river basin district; and

(b) a programme of measures to be applied in order to achieve those objectives.

(2) In preparing proposals under paragraph (1), the Competent Authority must–

(a) take account of the characterisation of and economic analysis of water used in the river basin district (and any review of the same) carried out under rules 5 and 6; and

(b) take such steps as it thinks fit to–

(i) provide opportunities for the general public and those persons likely to be interested in or affected by its proposals to participate in discussion and the exchange of information or views in relation to the preparation of those proposals;

(ii) publicise its draft proposals to those persons; and

(iii) consult those persons in respect of those proposals.

(3) The Competent Authority may, having considered any representations received in relation to those proposals–

(a) approve them, or any of them, in the form submitted;

(b) approve them, or any of them, with modifications; or

(c) reject them, or any of them;

and, in any case falling within sub-paragraph (b) or (c), must state its reasons for doing so.

(4) The Competent Authority must in accordance with Article 11 of the Directive ensure that a programme of measures is–

(a) established by 22nd December 2009;

(b) made operational by 22nd December 2012; and

(c) reviewed and if necessary updated by 22nd December 2015 and every six years after that date.

Environmental quality standards.

10A.(1) The Competent Authority must apply the Environmental Quality Standards(EQS) listed in Part A of Schedule 9 to these Rules for bodies of surface water in accordance with the requirements laid down in Part B of that Schedule.

(2) The Competent Authority may opt to apply EQS for sediment or biota or both instead of those laid down in Part A of Schedule 9 in certain categories of surface water.

(3) Where the Competent Authority decides to apply the option mentioned in subrule (2), it must–

(a) apply, for mercury and its compounds, an EQS of 20 µg/kg, and/or for hexachlorobenzene, an EQS of 10 µg/kg, and/or for hexachlorobutadiene, an EQS of 55 µg/kg, these EQS being for prey tissue (wet weight), choosing the most appropriate indicator from among fish, molluscs, crustaceans and other biota;

(b) establish and apply EQS other than those mentioned in paragraph (a) for sediment or biota or both for specified substances and these EQS must offer at least the same level of protection as the EQS for water set out in Part A of Schedule 9;

(c) determine, for the substances mentioned in paragraphs (a) and (b), the frequency of monitoring in biota or sediment or both and such monitoring must take place at least once every year, unless technical knowledge and expert judgment justify another interval; and

(d) ensure that the Commission and Member States are notified of–

(i) the substances for which EQS have been established in accordance with paragraph (b);

(ii) the reasons and basis for using this approach;

(iii) the alternative EQS established, including the data and the methodology by which alternative EQS were derived;

(iv) the categories of surface water to which they would apply; and

(v) the frequency of monitoring planned, together with the justification for that frequency.

(4) The Competent Authority must arrange for the long-term trend analysis of concentrations of those priority substances listed in Part A of Schedule 9 that tend to accumulate in sediment or biota or in both, giving particular consideration to substances numbers 2, 5, 6, 7, 12, 15, 16, 17, 18, 20, 21, 26, 28 and 30, on the basis of monitoring of water status carried out in accordance with rule 9 and they shall take measures aimed at ensuring, subject to Schedule 7, that such concentrations do not significantly increase in sediment or relevant biota or in both.

(5) The Competent Authority must determine the frequency of monitoring in sediment or biota or in both so as to provide sufficient data for a reliable long-term trend analysis and, as a guideline, such monitoring must take place every three years, unless technical knowledge and expert judgment justify another interval.

Transboundary pollution.

10B.(1) The Competent Authority shall not be in breach of its obligations under these Rules as a result of the exceedance of an EQS if it can demonstrate that–

(a) the exceedance was due to a source of pollution outside Gibraltar;

(b) it was unable, as a result of such transboundary pollution, to take effective measures to comply with the relevant EQS; and

(c) it had applied the coordination mechanisms set out in Article 3 of the Directive and, as appropriate, taken advantage of the provisions of Article 4(4), (5) and (6) of the Directive for those water bodies affected by transboundary pollution.

(2) In a situation under subrule (1), the Competent Authority must use the mechanism laid down in Article 12 of the Directive to ensure that the

Commission is provided with necessary information and a summary of the measures taken in relation to any transboundary pollution in the relevant river basin management plan in accordance with the reporting requirements under Article 15(1) of the Directive".

River basin management plans.

11.(1) The Competent Authority must prepare a river basin management plan for the Gibraltar River Basin District which includes the matters specified in Part 1 of Schedule 8.

(2) The river basin management plan referred to in subrule (1) shall–

(a) be published by 22nd December 2009;

(b) reviewed and updated by 22nd December 2015 and every six years after that date.

Mixing zones.

11A.(1) The Competent Authority may designate mixing zones adjacent to points of discharge.

(2) Concentrations of one or more substances listed in Part A of Schedule 9 may exceed the relevant EQS within such mixing zones if they do not affect the compliance of the rest of the body of surface water with those standards.

(3) In designating the mixing zones, the Competent Authority must include in river basin management plans produced in accordance with rule 11 a description of–

(a) the approaches and methodologies applied to define such zones; and

(b) measures taken with a view to reducing the extent of the mixing zones in the future, such as those measures taken pursuant to Article 11(3)(k) of the Directive or by reviewing relevant permits or prior regulations as referred to in Article 11(3)(g) of the Directive.

(4) In designating mixing zones the Competent Authority must ensure that the extent of any such zone is–

(a) restricted to the proximity of the point of discharge; and

(b) proportionate, having regard to the concentrations of pollutants at the point of discharge and to the conditions on emissions of pollutants contained in the prior regulations, in accordance with the application of best available techniques and Article 10 of the Directive, in particular after those prior regulations are reviewed.

River basin district management plans: public information and consultation.

12.(1) The Competent Authority must in respect of the production of a river basin management plan–

(a) not less than three years before the beginning of the plan period, publish a statement of–

(i) the steps and consultation measures it is to take; and

(ii) the dates by which those steps and measures are to be taken;

(b) not less than two years before the beginning of the plan period, publish a summary of the significant water management issues which it considers arise in relation to the river basin district; and

(c) not less than one year before the beginning of the plan period, publish a draft plan.

(2) The Competent Authority must publish any matter required by subrule (1) to be published in a way calculated to bring it to the attention of persons likely to be affected by it and must–

(a) make copies of the statement, summary or draft plan accessible to the public;

(b) publish a notice–

(i) stating the fact of publication;

(ii) specifying the arrangements made for making copies of the statement, summary or draft plan available for public inspection; and

(iii) stating that any person may within the period of six months beginning with the date of publication, or such longer period as the Competent Authority may direct, make representations to the Competent Authority in relation to the statement, summary or draft plan;

(3) The Competent Authority must take into account any representations relating to a statement, summary or draft plan published in accordance with subrule (1) which is received within such period as the Competent Authority has notified.

River basin management plans: approval.

13.(1) The Competent Authority may, having considered any representations received in relation to a river basin district management plan–

(a) approve it, in whole or in part and with or without modifications; or

(b) reject it,

and must state its reasons for doing so.

(2) Where the Competent Authority approves a plan it must publish the approved plan in a way calculated to bring it to the attention of persons likely to be affected by it and, in particular, must–

(a) make copies of the approved plan accessible to the public;

(b) publish a notice–

(i) stating that the plan has been approved; and

(ii) specifying the arrangements made for making copies of the plan accessible to the public.

River basin management plans: review.

14.(1) The Competent Authority must review and update a river basin management plan by no later than six years from the date on which it was approved under rule 13.

(2) The revised plan must include the matters specified in Part 2 of Schedule 8, in addition to the matters required to be included by rule 11.

(3) Rules 11(1), 12 and 13 apply in relation to the preparation, submission and approval of a revised river basin management plan.

Supplementary plans.

15.(1) The Competent Authority may prepare such supplementary plans in relation to the river basin district as it thinks fit.

(2) A plan prepared under paragraph (1) may in particular relate to–

(a) a particular description of body of water;

(b) a particular catchment or geographical area;

(c) a particular matter relating to, or aspect of, the water environment;

(d) a particular description of user of water resources; or

(e) any combination of the above.

(3) The Competent Authority must consult such persons as it thinks fit about a proposed supplementary plan and must take into account any views expressed by those consulted.

Duty to have regard to river basin management plans and supplementary plans.

16. The Competent Authority, a person appointed under rule 3(2) and every other public body and officeholder must, in exercising any functions affecting the river basin district, have regard to–

(a) the river basin management plan as approved under rule 13;

(b) so far as relevant, any plan prepared under rule 15 for the purpose of supplementing the river basin management plan.

Publication of information.

17.(1) The Competent Authority must make accessible to the public–

(a) the results of the work required by rule 5;

(b) the results of the analysis conducted under rule 6;

(c) maps showing areas identified under rule 7;

(d) the registers prepared under rule 8;

(e) the results of the programmes established under rule 9;

(f) the environmental objectives and programmes of measures proposed or approved under rule 10; and

(g) any supplementary plan prepared under rule 15.

(2) Where the Competent Authority receives a request for access to documents and information used for the development of the draft river basin management plan it shall make those documents in its possession accessible.

Inventory of emissions, discharges and losses.

17A.(1) The Competent Authority must, on the basis of the information collected in accordance with rules 5 to 7, Regulation (EC) No 166/2006 and other available data, establish an inventory, including maps, if available, of emissions, discharges and losses of all priority substances and pollutants listed in Part A of Schedule 9 for the Gibraltar River Basin District or part of a river basin district lying within Gibraltar including their concentrations in sediment and biota, as appropriate.

(2) The Competent Authority must–

(a) ensure that the inventories established under subrule (1) are communicated to the Commission;

(b) update those inventories as part of reviews under rule 5(2); and

(c) publish those updated inventories in its updated river basin plans under rule 11(2).

(3) The reference period for the establishment of –

(a) pollutant values to be entered in the inventories referred to in subrule (1) shall be one year between 2008 and 2010; and

(b) values in the updated inventories under subrule (2) shall be the year before the analysis is to be completed.

Recovery of costs.

18. The Competent Authority must ensure that by no later than 1 January 2010–

(a) the water-pricing policies provide adequate incentives for users to use water resources efficiently; and

(b) that such water-pricing policies have regard to the different effects on consumption and pollution by commercial and non-commercial users as identified in the economic analysis conducted in accordance with Schedule 4.

International coordination.

19. For the purposes of Article 13(2) of the Directive the Competent Authority–

(a) shall be responsible for receiving and transmitting requests relating to any matter concerning these Rules; and

(b) is designated the contact point for any international information or coordination issues.

(rule 3)

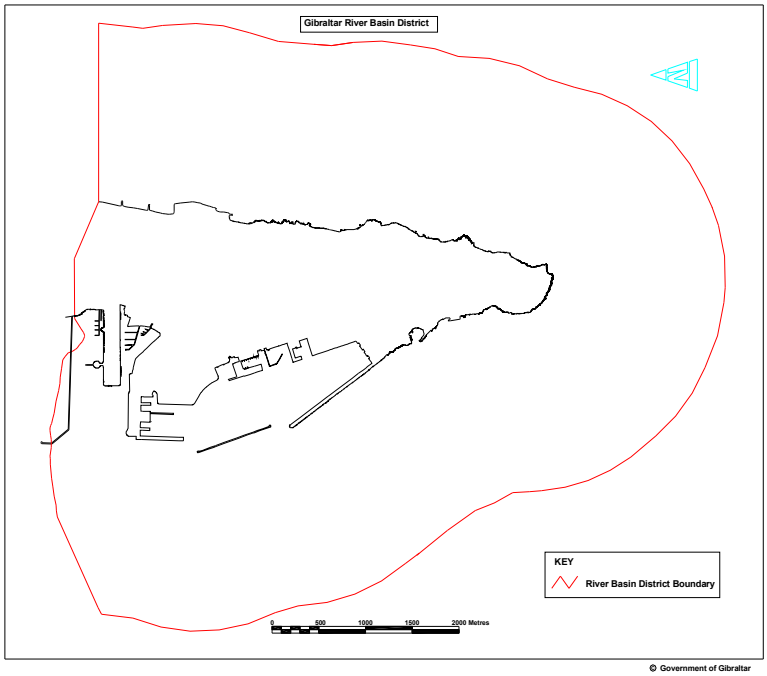
SCHEDULE 1

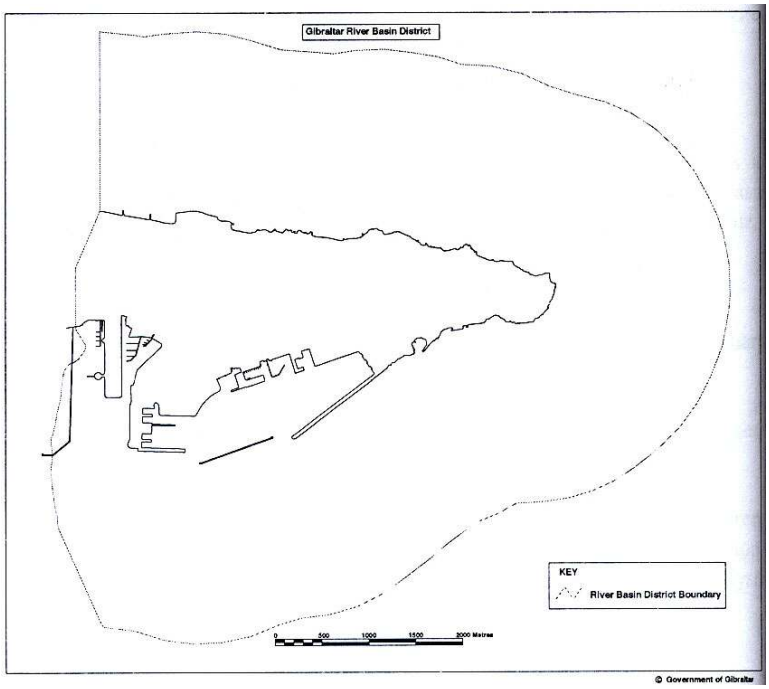
Functional enactments

1. Part III of the Public Health Act
2. Pollution Prevention and Control Act 2001
3. Landfill Act 2002
4. Public Health (Urban Waste Water Collection and Treatment) Regulations 1999
5. Public Health (Quality of Bathing Water) Rules 1992
6. Public Health (Pollution of the Aquatic Environment) Rules 1994
7. Public Health (Potable Water) Rules 1994
8. Public Health (Groundwater) Rules1995

(rule 4)

SCHEDULE 2





(rule 5(1))

SCHEDULE 3

Characterisation etc.

This Schedule reproduces Annex II of the Directive.

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 most 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

Coastal Waters.

System A.

Fixed typology	Descriptors
Ecoregion	Ecoregions shown on map A in Annex XI
Type	Altitude typology high: >800 m

	mid-altitude: 200 to 800 m lowland: <200 m Size typology based on catchment area small: 10 to 100 km2 medium: >100 to 1 000 km2 large: >1 000 to 10 000 km2 very large: >10 000 km2 Geology calcareous siliceous organic

System B.

Alternative characterisation	Physical and chemical factors that determine the characteristics of the river or part of the river and hence the biological population structure and composition
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.

Fixed typology	Descriptors
Ecoregion	Ecoregions shown on map A in Annex XI
Type	Altitude typology high: >800 m mid-altitude: 200 to 800 m lowland: <200 m Size typology based on catchment area small: 10 to 100 km$_2$ medium: >100 to 1 000 km$_2$ large: >1 000 to 10 000 km$_2$ very large: >10 000 km$_2$ Geology calcareous siliceous organic

System B.

Alternative characterisation	Physical and chemical factors that determine the characteristics of the lake and hence the biological population structure and composition
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.

Fixed typology	Descriptors
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.

Alternative characterisation	Physical and chemical factors that determine the characteristics of the transitional water and hence the biological population structure and composition
Obligatory factors	latitude longitude tidal range salinity
Optional factors	depth current velocity wave exposure residence time mean water temperature mixing characteristics turbidity mean substratum composition shape water temperature range

1.2.4. Coastal Waters.

System A.

Fixed typology	Descriptors
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	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 depth shallow waters: <30 m intermediate: (30 to 200 m) deep: >200 m

System B.

Alternative characterisation	Physical and chemical factors that determine the characteristics of the coastal water and hence the biological community structure and composition
Obligatory factors	latitude longitude tidal range salinity
Optional factors	current velocity wave exposure mean water temperature mixing characteristics turbidity retention time (of enclosed bays)

	mean substratum composition water temperature range

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

(ii) In applying the procedures set out in this section to heavily modified or artificial surface water bodies references to high ecological status shall be construed as references to maximum ecological potential as defined in table 1.2.5 of 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 paragraph (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, palaeological 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 the following.

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;

(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

(iv) Directives 75/440/EC, 76/160/EEC (2), 78/659/EEC and 79/923/EEC.

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;

(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:

(iv) Directives 75/440/EEC, 76/160/EEC, 76/464/EEC, 78/659/EEC and 79/923/EEC.

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.

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.

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,

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

- characterisation of the chemical composition of the groundwater, including specification of the contributions from human activity. Member States may use typologies for groundwater characterisation when establishing natural background levels for these bodies of groundwater.

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 paragraph 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:

(a) the location of points in the groundwater body used for the abstraction of water with the exception of:

- points for the abstraction of water providing less than an average of 10 m^3 per day, or,

- points for the abstraction of water intended for human consumption providing less than an average of 10 m^3 per day or serving less than 50 persons,

(b) the annual average rates of abstraction from such points,

(c) the chemical composition of water abstracted from the groundwater body,

(d) the location of points in the groundwater body into which water is directly discharged,

(e) the rates of discharge at such points,

(f) the chemical composition of discharges to the groundwater body, and

(g) and use in the catchment or catchments from which the groundwater body receives its recharge, including pollutant inputs and 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.

2.5. Review of the impact of pollution on groundwater quality.

Member States shall identify those bodies of groundwater for which lower objectives are to be specified under Article 4(5) where, as a result of the impact of human activity, as determined in accordance with Article 5(1), the body of groundwater is so polluted that achieving good groundwater chemical status is infeasible or disproportionately expensive.

SCHEDULE 4

(rules 6(1), 18(b))

Economic analysis

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

(a) make the relevant calculations necessary for taking into account under rule 19, 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 rule 10 based on estimates of the potential costs of such measures.

SCHEDULE 5

(rule 8(2))

Protected areas

1. The register of protected areas required under rule 8 shall include the following types of protected areas:

(i) areas designated for the abstraction of water intended for human consumption under rule 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 Directive76/160/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 Directive 92/43/EEC and Directive 79/409/EEC.

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 or national legislation under which they have been designated.

(rule 9(4)(a))

SCHEDULE 6

Water status

This Schedule reproduces Annex V of the Directive.

1. SURFACE WATER STATUS

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1.1.1. Rivers

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1.1.3. Transitional waters

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2.1. Groundwater quantitative status.

2.1.1. Parameters for the classification of quantitative status

2.1.2. Definition of quantitative status

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2.3. Groundwater chemical status.

2.3.1. Parameters for the determination of groundwater chemical status

2.3.2. Definition of good groundwater chemical status

2.4. Monitoring of groundwater chemical status.

2.4.1. Groundwater monitoring network

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 groundwater 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 groundwater 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

Hydro-morphological elements supporting the biological elements

Morphological conditions
depth variation
quantity, structure and substrate of the bed
structure of the intertidal 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 intertidal 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 waterbodies

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 classification.

Table 1.2. General definition for rivers, lakes, transitional waters and coastal waters. The following text provides a general definition of ecological quality. For the purposes of classification the values for the quality elements of ecological status for each surface water category are those given in tables 1.2.1 to 1.2.4 below.

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

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

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.

1.2.1. Definitions for high, good and moderate ecological status in rivers.

Biological quality elements

Element	High status	Good status	Moderate status
Phytoplankton	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 physicochemical 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 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.	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.
Macrophytes	The taxonomic	There are slight	The composition of

and phytobenthos	composition corresponds totally or nearly totally to undisturbed conditions. There are no detectable changes in the average macrophytic and the average phytobenthic abundance.	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.	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.
Benthic vertebrate fauna	The taxonomic composition and abundance correspond totally or nearly totally to undisturbed conditions. The ratio of disturbance sensitive taxa to	There are slight changes in the composition and abundance of invertebrate taxa from the type-specific communities. The ratio of disturbance-sensitive taxa to	The composition and abundance of invertebrate taxa differ moderately from the type-specific communities. Major taxonomic groups of the type-specific community are absent.

	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.	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.	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.
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	There are slight changes in species composition and abundance from the type-specific communities attributable to anthropogenic impacts on physicochemical 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	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.

	any particular species.	reproduction or development of a particular species, to the extent that some age classes may be missing.	

Hydromorphological quality elements

Element	High status	Good status	Moderate status
Hydrological regime	The quantity and dynamics of flow, and the resultant connection to groundwaters, reflect totally, or nearly totally, undisturbed conditions.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.
River continuity	The continuity of the river is not disturbed by anthropogenic activities and allows undisturbed migration of aquatic organisms and sediment transport.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.
Morphological conditions	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.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.

Physio-chemical quality elements[1]

Element	High status	Good status	Moderate status
General conditions	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 neutralizing capacity and temperature do not show signs of anthropogenic disturbance and remain within the range normally associated with undisturbed conditions.	Temperature, oxygen balance, pH, acid neutralizing 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.	Conditions consistent with the achievement of the values specified above for the biological quality elements.
Specific synthetic Pollutants	Concentrations close to zero and at least below the limits of detection of the most	Concentrations not in excess of the standards set in accordance with the procedure detailed in	Conditions consistent with the achievement of the values

[1] The following abbreviations are used: bgl = background level, EQS = environmental quality standard.

	advanced analytical techniques in general use.	section 1.2.6 without prejudice to Directive 91/414/EC and Directive 98/8/EC. (<EQS)	specified above for the biological quality elements.
Specific non-synthetic Pollutants	Concentrations remain within the range normally associated with undisturbed conditions (background levels = bgl).	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/EC and Directive 98/8/EC. (<EQS)	Conditions consistent with the achievement of the values specified above for the biological quality elements.

(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: (EQS >bgl).

1.2.2. Definitions for high, good and moderate ecological status in lakes.

Biological quality elements

Element	High status	Good status	Moderate status
Phytopla-nkton	Phytoplankton The taxonomic composition and abundance of phytoplankton correspond totally or nearly totally to undisturbed conditions. The average	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	The composition and abundance of planktonic taxa differ moderately from the type-specific communities. Biomass is moderately disturbed and may be such as to

	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 physicochemical conditions.	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.	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 phytobe-nthos	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	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.

		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 phytobenthic community may be interfered with, and, in some areas, displaced by bacterial tufts and coats present as a result of anthropogenic activities.
Benthic vertebrate fauna	The taxonomic composition and abundance correspond totally or nearly totally to the 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.	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	Species	There are slight	The composition

	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.	changes in species composition and abundance from the type-specific communities attributable to anthropogenic impacts on physicochemical 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.	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.

Hydromorphological quality elements

Element	High status	Good status	Moderate status
Hydrologi-cal regime	The quantity and dynamics of flow, level, residence time, and the resultant connection to groundwaters, reflect totally or nearly totally undisturbed	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.

	conditions.		
Morpholo-gical conditions	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.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.

Physio-chemical quality elements(1)

Element	High status	Good status	Moderate status
General conditions	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 neutralizing capacity, transparency and temperature do not show signs of anthropogenic disturbance and remain within	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	Conditions consistent with the achievement of the values specified above for the biological quality elements.

	the range normally associated with undisturbed conditions.	achievement of the values specified above for the biological quality elements.	
Specific synthetic Pollutants	Concentrations close to zero and at least below the limits of detection of the most advanced analytical techniques in general use.	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/EC and Directive 98/8/EC. (<EQS)	Conditions consistent with the achievement of the values specified above for the biological quality elements.
Specific non-synthetic Pollutants	Concentrations remain within the range normally associated with undisturbed conditions (background levels = bgl).	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/EC and Directive 98/8/EC. (<EQS)	Conditions consistent with the achievement of the values specified above for the biological quality elements.

(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: (EQS >bgl).

1.2.3. Definitions for high, good and moderate ecological status in transitional waters.

Biological quality elements

Element	High status	Good status	Moderate status
Phytoplankton	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 physicochemical conditions.	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.	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.
Macroalgae	The composition of macroalgal taxa is consistent with undisturbed conditions. There are no detectable changes in	There are slight changes in the composition and abundance of macroalgal taxa compared to the type-specific communities. Such changes do not	The composition of macroalgal taxa differs moderately from type-specific conditions and is significantly more distorted than at good quality.

	macroalgal cover due to anthropogenic activities.	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.	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.
Angiosp-erms	The taxonomic composition corresponds totally or nearly totally to undisturbed conditions. There are no detectable changes in angiosperm abundance due to anthropogenic activities.	There are slight changes in the composition of angiosperm taxa compared to the type-specific communities. Angiosperm abundance shows slight signs of disturbance.	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.
Benthic inverteb-rate fauna	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	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.	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

	conditions are present.		type-specific communities are absent.
Fish fauna	Species composition and abundance is consistent with undisturbed conditions.	The abundance of the disturbance-sensitive species shows slight signs of distortion from type-specific conditions attributable to anthropogenic impacts on physicochemical or hydromorphological quality elements.	A moderate proportion of the type-specific disturbance-sensitive species are absent as a result of anthropogenic impacts on physicochemical or hydromorphological quality elements.

Hydromorphological quality elements

Element	High status	Good status	Moderate status
Tidal regime	The freshwater flow regime corresponds totally or nearly totally to undisturbed conditions.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.
Morpholo-gical conditions	Depth variations, substrate conditions, and both the structure and condition of the intertidal zones correspond totally or nearly totally to undisturbed conditions.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.

Physio-chemical quality elements[1]

Element	High status	Good status	Moderate status
General conditions	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.	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.	Conditions consistent with the achievement of the values specified above for the biological quality elements.
Specific synthetic Pollutants	Concentrations close to zero and at least below the limits of detection of the most advanced analytical techniques in general use.	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/EC and Directive 98/8/EC. (<EQS)	Conditions consistent with the achievement of the values specified above for the biological quality elements.
Specific non-	Concentrations remain within the	Concentrations not in excess of the	Conditions consistent with

synthetic Pollutants	range normally associated with undisturbed conditions (background levels = bgl).	standards set in accordance with the procedure detailed in section 1.2.6 (2) without prejudice to Directive 91/414/EC and Directive 98/8/EC. (<EQS)	the achievement of the values specified above for the biological quality elements.

(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: (EQS >bgl).

1.2.4. Definitions for high, good and moderate ecological status in coastal waters.

Biological quality elements

Element	High status	Good status	Moderate status
Phytoplan-kton	The composition and abundance of 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	The composition and abundance of phytoplanktonic 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.	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

	frequency and intensity which is consistent with the type specific physicochemical conditions.	A slight increase in the frequency and intensity of the type-specific planktonic blooms may occur.	increase in the frequency and intensity of planktonic blooms may occur. Persistent blooms may occur during summer months.
Macroalgae and angiosperms	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.	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.	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.
Benthic invertebrate fauna	The level of diversity and abundance of invertebrate taxa is within the range	The level of diversity and abundance of invertebrate taxa is slightly outside the	The level of diversity and abundance of invertebrate taxa is

	normally associated with undisturbed conditions. All the disturbance-sensitive taxa associated with undisturbed conditions are present.	range associated with the type-specific conditions. Most of the sensitive taxa of the type-specific communities are present.	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.

Hydromorphological quality elements

Element	High status	Good status	Moderate status
Tidal regime	The freshwater flow regime and the direction and speed of dominant currents correspond totally or nearly totally to undisturbed conditions.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.
Morpholo-gical conditions	The depth variation, structure and substrate of the coastal bed, and both the structure and condition of the inter-tidal zones correspond totally or nearly totally to the undisturbed conditions.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.

Physio-chemical quality elements[1]

Element	High status	Good status	Moderate status
General conditions	The 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 ranges normally associated with undisturbed conditions.	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.	Conditions consistent with the achievement of the values specified above for the biological quality elements.
Specific synthetic Pollutants	Concentrations close to zero and at least below the limits of detection of the most advanced analytical techniques in general use.		

	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/EC and Directive 98/8/EC. (<EQS) Conditions consistent with the achievement of the values specified above for the biological quality elements.		
Specific non-synthetic Pollutants	Concentrations remain within the range normally associated with undisturbed conditions (background levels = bgl).	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/EC and Directive 98/8/EC. (<EQS)	Conditions consistent with the achievement of the values specified above for the biological quality elements.

(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: (EQS >bgl).

1.2.5. Definitions for maximum, good and moderate ecological potential for heavily modified or artificial waterbodies

Element	Element Maximum ecological potential	Good ecological potential	Moderate ecological potential
Biological quality	The values of the relevant biological quality	There are slight changes in the	There are moderate

elements	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.	values of the relevant biological quality elements as compared to the values found at maximum ecological potential.	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.
Hydromo-rphological Elements	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 mitigation measures have been taken to ensure the best approximation to ecological continuum, in particular with respect to migration of fauna and appropriate spawning and breeding grounds.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.
Physio-chemical quality	Physico-chemical elements correspond totally or nearly totally to	The values for physico-chemical elements are	Conditions consistent with the

elements General conditions	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.	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.	achievement of the values specified above for the biological quality elements.
Specific synthetic Pollutants	Concentrations close to zero and at least below the limits of detection of the most advanced analytical techniques in general use.	Concentrations not in excess of the standards set in accordance with the procedure	Conditions consistent with the achievement of the values

		detailed in section 1.2.6 without prejudice to Directive 91/414/EC and Directive 98/8/EC. (<EQS)	specified above for the biological quality elements.
Specific non-synthetic Pollutants	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).	Concentrations not in excess of the standards set in accordance with the procedure detailed in section 1.2.6(1) without prejudice to Directive 91/414/EC and Directive 98/8/EC. (< EQS)	Conditions consistent with the achievement of the values specified above for the biological quality elements.

(1) 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 to 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:

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

(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 subcatchments 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 km_2,

- 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 in 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 out in 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 judgement. 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 judgement.

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 seasons of the same year shall be carried out, where necessary, to achieve this objective.

QUALITY ELEMENT	RIVERS	LAKES	TRANSITIONAL	COASTAL
Biological				
Phytoplankton	6 months	6 months	6 months	6 months
Other aquatic flora	3 years	3 years	3 years	3 years
Macro invertebrates	3 years	3 years	3 years	3 years
Fish	3 years	3 years	3 years	
Hydromorphological				
Continuity	6 years			
Hydrology	continuous	1 month		
Morphology	6 years	6 years	6 years	6 years
Physico-chemical				
Thermal conditions	3 months	3 months	3 months	3 months
Oxygenation	3 months	3 months	3 months	3 months
Salinity	3 months	3 months	3 months	
Nutrient status	3 months	3 months	3 months	3 months
Acidification status	3 months	3 months		
Other pollutants	3 months	3 months	3 months	3 months
Priority substances	1 months	1 month	1 month	1 month

1.3.5. Additional monitoring requirements for protected areas.

The monitoring programmes required above shall be supplemented in order to fulfill the following requirements:

Drinking water abstraction points

Bodies of surface water designated in Article 7 which provide more than 100 m^3 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

requirements 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:

Community served	Frequency
<10 000	4 per year
10 000 to 30 000	8 per year
>30 000	12 per year.

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

ISO 5667-3:1995 Water quality - Sampling - Part 3: Guidance on the preservation and handling of samples

EN 27828:1994 Water quality - Methods for biological sampling - Guidance on hand net sampling of benthic macroinvertebrates

EN 28265:1994 Water quality - Methods of biological sampling - Guidance on the design and use of quantitative samplers for benthic macroinvertebrates on stony substrata in shallow waters

EN ISO 9391:1995 Water quality - Sampling in deep waters for macroinvertebrates - Guidance on the use of

	colonisation, qualitative and quantitative samplers
EN ISO 8689-1:1999	Biological classification of rivers PART I: Guidance on the interpretation of biological quality data from surveys of benthic macroinvertebrates in running waters
EN ISO 8689-2:1999	Biological classification of rivers PART II: Guidance on the presentation of biological quality data from surveys of benthic macroinvertebrates in running waters

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

1.4. 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 intercalibration exercise described below.

(iv) The Commission shall facilitate this intercalibration 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 Members States leading to the identification of a range of sites in each ecoregion in the Community; these sites will form an intercalibration 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 intercalibration 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 intercalibration network which may be adapted in accordance with the procedures laid down in Article 21. 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 intercalibration exercise within 18 months of the date on which the finalised register is published.

(ix) The results of the intercalibration 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 intercalibration 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:

Ecological status classification	Colour code
High	Blue
Good	Green
Moderate	Yellow
Poor	Orange
Bad	Red

(ii) or heavily modified and artificial water bodies, the ecological potential 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 in accordance with the third column of that table:

Ecological potential classification	Colour code	
	Artificial Water Bodies	Heavily Modified
Good and above	Equal green and light grey stripes	Equal green and dark grey stripes
Moderate	Equal yellow and light grey stripes	Equal yellow and dark grey stripes
Poor	Equal orange and light grey stripes	Equal orange and dark grey stripes
Bad	Equal red and light grey stripes	Equal red and dark grey stripes

(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:

Chemical status classification	Colour code
Good	Blue
Failing to achieve good	Red

2. GROUNDWATER.

2.1. Groundwater quantitative status

2.1.1. Parameter for t he classification of quantitative status

Groundwater level regime

2.1.2. Definition of quantitative status

Elements	Good status
Groundwater level	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. 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 point 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

Elements	Good status
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 in accordance with Article 17 - 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 uses 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

- in accordance with Article 17 these mean values shall be used to demonstrate compliance with good groundwater chemical status.

Subject to point 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 points 2.2.4 and 2.4.5. Member States may choose not to provide separate maps under

points 2.2.4 and 2.4.5 but shall in that case also provide an indication in accordance with the requirements of point 2.4.5 on the map required under this point, 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.

(rule 2)

SCHEDULE 7

Environmental objectives

This Schedule reproduces Article 4 of the Directive:

1. In making operational the programmes of measures specified in the river basin management plans:

(a) for surface waters-

(i) Member States shall implement the necessary measures to prevent deterioration of the status of all bodies of surface water, subject to the application of paragraphs 6 and 7 and without prejudice to paragraph 8;

(ii) Member States shall protect, enhance and restore all bodies of surface water, subject to the application of subparagraph (iii) for artificial and heavily modified bodies of water, with the aim of achieving good surface water status at the latest 15 years after the date of entry into force of this Directive, in accordance with the provisions laid down in Annex V, subject to the application of extensions determined in accordance with paragraph 4 and to the application of paragraphs 5, 6 and 7 without prejudice to paragraph 8;

(iii) Member States shall protect and enhance all artificial and heavily modified bodies of water, with the aim of achieving good ecological potential and good surface water chemical status at the latest 15 years from the date of entry into force of this Directive, in accordance with the provisions laid down in Annex V, subject to the application of extensions determined in accordance with paragraph 4 and to the application of paragraphs 5, 6 and 7 without prejudice to paragraph 8;

(iv) Member States shall implement the necessary measures in accordance with Article 16(1) and (8), with the aim of progressively reducing pollution from priority substances and ceasing or phasing out emissions, discharges and losses of priority hazardous substances

without prejudice to the relevant international agreements referred to in Article 1 for the parties concerned;

(b) for groundwater

(i) Member States shall implement the measures necessary to prevent or limit the input of pollutants into groundwater and to prevent the deterioration of the status of all bodies of groundwater, subject to the application of paragraphs 6 and 7 and without prejudice to paragraph 8 of this Article and subject to the application of Article 11(3)(j);

(ii) Member States shall protect, enhance and restore all bodies of groundwater, ensure a balance between abstraction and recharge of groundwater, with the aim of achieving good groundwater status at the latest 15 years after the date of entry into force of this Directive, in accordance with the provisions laid down in Annex V, subject to the application of extensions determined in accordance with paragraph 4 and to the application of paragraphs 5, 6 and 7 without prejudice to paragraph 8 of this Article and subject to the application of Article 11(3)(j);

(iii) Member States shall implement the measures necessary to reverse any significant and sustained upward trend in the concentration of any pollutant resulting from the impact of human activity in order progressively to reduce pollution of groundwater.

Measures to achieve trend reversal shall be implemented in accordance with paragraphs 2, 4 and 5 of Article 17, taking into account the applicable standards set out in relevant Community legislation, subject to the application of paragraphs 6 and 7 and without prejudice to paragraph 8;

(c) for protected areas

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

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

3. Member States may designate a body of surface water as artificial or heavily modified, when:

(a) the changes to the hydromorphological characteristics of that body which would be necessary for achieving good ecological status would have significant adverse effects on:

(i) the wider environment;

(ii) navigation, including port facilities, or recreation;

(iii) activities for the purposes of which water is stored, such as drinking-water supply, power generation or irrigation;

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

(v) other equally important sustainable human development activities;

(b) the beneficial objectives served by the artificial or modified characteristics of the water body cannot, for reasons of technical feasibility or disproportionate costs, reasonably be achieved by other means, which are a significantly better environmental option.

Such designation and the reasons for it shall be specifically mentioned in the river basin management plans required under Article 13 and reviewed every six years.

4. The deadlines established under paragraph 1 may be extended for the purposes of phased achievement of the objectives for bodies of water, provided that no further deterioration occurs in the status of the affected body of water when all of 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 for at least one of the following reasons:

(i) the scale of improvements required can only be achieved in phases exceeding the timescale, for reasons of technical feasibility;

(ii) completing the improvements within the timescale would be disproportionately expensive;

(iii) natural conditions do not allow timely improvement in the status of the body of water.

(b) 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 shall be limited to a maximum of two 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.

(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, the reasons for any significant delay in making these measures operational, and the expected timetable for their implementation are 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.

5. Member States may aim to achieve less stringent environmental objectives than those required under paragraph 1 for specific bodies of water when they are so affected by human activity, as determined in accordance with Article 5(1), or their natural condition is such that the achievement of these objectives would be infeasible or disproportionately expensive, and all the following conditions are met:

(a) the environmental and socioeconomic needs served by such human activity cannot be achieved by other means, which are a significantly better environmental option not entailing disproportionate costs;

(b) Member States ensure,

- for surface water, the highest ecological and chemical status possible is achieved, given impacts that could not reasonably have been avoided due to the nature of the human activity or pollution,

- for groundwater, the least possible changes to good groundwater status, given impacts that could not reasonably have been avoided due to the nature of the human activity or pollution;

(c) no further deterioration occurs in the status of the affected body of water;

(d) 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.

6. Temporary 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 circumstances of natural cause or force majeure which are exceptional or could not reasonably have been foreseen, in particular extreme floods and prolonged droughts, or the result of circumstances due to accidents which could not reasonably have been foreseen, when all of the following conditions have been met:

(a) all practicable steps are taken to prevent 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 circumstances that are exceptional or that could not reasonably have been foreseen 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 circumstances that are exceptional or that could not reasonably have been foreseen are reviewed annually and, subject to the reasons set out in paragraph 4(a), all 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 such 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.

7. Member States will not be in breach of this Directive when:

- 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 is the result of new modifications to the physical characteristics of a surface water body or alterations to the level of bodies of groundwater, or

- failure to prevent deterioration from high status to good status of a body of surface water is the result of new sustainable human development activities

and all 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 those modifications or alterations are specifically set out and explained in the river basin management plan required under Article 13 and the objectives are reviewed every six years;

(c) the reasons for those modifications or alterations are of overriding public interest and/or the benefits to the environment and to society of achieving the objectives set out in paragraph 1 are outweighed by the benefits of the new modifications or alterations to human health, to the maintenance of human safety or to sustainable development, and

(d) the beneficial objectives served by those modifications or alterations of the water body cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option.

8. When applying paragraphs 3, 4, 5, 6 and 7, a Member State shall ensure that the application does not permanently exclude or 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.

9. Steps must be taken to ensure that the application of the new provisions,

including the application of paragraphs 3, 4, 5, 6 and 7, guarantees at least the same level of protection as the existing Community legislation.

(rules 11(1), 14(2))

SCHEDULE 8

River basin management plans

PART 1: MATTERS TO BE INCLUDED IN EVERY PLAN

1. A general description of the characteristics of the river basin arising from the work conducted in accordance with rule 5, including:

(a) for surface waters and groundwater a map of the location and boundaries of each body of water;

(b) for surface waters–

(i) a map of the ecoregions and types of surface water body within the river basin;

(ii) identification of reference conditions for the surface water body types.

2. A summary of the significant pressures and impact of human activity on the status of surface water and groundwater, including–

(a) estimation of–

(i) point source pollution;

(ii) diffuse source pollution, including a summary of land use;

(iii) pressures on the quantitative status of water, including abstractions;

(b) analysis of other impacts of human activity on the status of water.

3. Information, including a map, sufficient to identify each protected area in the river basin district.

4.. A map of the monitoring network established for the purposes of rule 9 and–

(a) information in map form of the results of the monitoring carried out for the status of:

(i) surface water;

(ii) groundwater;

(iii) protected areas; and

(b) estimates of the levels of confidence and precision of the results provided by that monitoring.

5. A map for each groundwater body or group of groundwater bodies showing the quantitative status and chemical status of that body or group of bodies in accordance with the monitoring programme established under rule 9.

6. A list of the environmental objectives established in accordance with rule 10 for surface water, groundwater and protected areas, including the details required in accordance with that rule in relation to-

(a) deadlines for the achievement of environmental objectives;

(b) any aim of achieving less stringent environmental objectives;

(c) temporary deterioration in status; and

(d) any failure to achieve objectives, or prevent deterioration in status, as a result of new sustainable human development activities.

7. A summary of the economic analysis of water use carried out under rule 6.

8. A summary of the programme of measures established in accordance with rule 10, in particular:

(a) a summary of–

(i) measures required to implement Community legislation for the protection of water;

(ii) controls on abstraction and impoundment of water, including reference to registers and those cases where exemptions have been made;

(iii) controls adopted for point source discharges and other impacts on the status of water;

(iv) any measures taken to establish environmental quality standards or controls of the discharge of pollutants or groups of pollutants presenting a significant risk to or via the aquatic environment;

(v) measures taken to prevent or reduce the impact of accidental pollution incidents;

(vi) measures taken where monitoring or other data indicates that the environmental objectives for a body of water are unlikely to be met;

(b) a report on practical steps and measures taken to apply the principle of recovery of the costs of water services;

(c) identification of those cases where direct discharges to groundwater have been authorised; and

(d) details of–

(i) any supplementary measures identified in order to meet the environmental objectives; and

(ii) details of steps taken to avoid any increase in pollution of marine waters;

including the ways in which the environmental objectives are be achieved by the programme.

9. A register of any more detailed programmes and of any supplementary plan prepared under rule 16, together with a summary of their contents.

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

11. The arrangements made for making available to the public–

(a) documents and information used for the development of the plan, including the draft plan;

(b) details of–

(i) measures adopted in relation to point source discharges and any other significant adverse impacts on the status of water; and

(ii) the monitoring data gathered in accordance with rule 9.

PART 2: ADDITIONAL MATTERS TO BE INCLUDED IN REVISED PLANS

12 . A summary of the changes which have been made as compared with the previous version of the plan.

13. An assessment of the progress made towards achieving the environmental objectives established in accordance with rule 10, including the results of monitoring under rule 9 and the reason for any failure to achieve any such objective.

14.. A summary of any measures foreseen in an earlier version of the plan which have not been undertaken, and the reasons for not having done so.

15. Any details required in accordance with rule 10 in relation to–

(a) deadlines for the achievement of environmental objectives;

(b) any aim of achieving less stringent environmental objectives;

(c) temporary deterioration in status; and

(d) any failure to achieve objectives, or prevent deterioration in status, as a result of new sustainable human development activities.

16. A summary of any additional interim measures since the publication of the previous version of the plan.

SCHEDULE 9

Rules 10A and 11A

ENVIRONMENTAL QUALITY STANDARDS FOR PRIORITY SUBSTANCES AND CERTAIN OTHER POLLUTANTS

PART A: ENVIRONMENTAL QUALITY STANDARDS (EQS)

AA: annual average;

MAC: maximum allowable concentration.

Unit: [µg/l]

(1)	(2)	(3)	(4)	(5)	(6)	(7)
No	Name of substance	CAS number (1)	AA-EQS (2) Inland surface waters (3)	AA-EQS (2) Other surface waters	MAC-EQS (4) Inland surface waters (3)	MAC-EQS (4) Other surface waters
(1)	Alachlor	15972-60-8	0,3	0,3	0,7	0,7
(2)	Anthracene	120-12-7	0,1	0,1	0,4	0,4
(3)	Atrazine	1912-24-9	0,6	0,6	2,0	2,0
(4)	Benzene	71-43-2	10	8	50	50
(5)	Brominated diphenylether (5)	32534-81-9	0,0005	0,0002	not applicable	not applicable
(6)	Cadmium and its compounds (depending on water hardness classes) (6)	7440-43-9	≤0,08 (Class 1) 0,08 (Class 2) 0,09 (Class 3) 0,15 (Class 4) 0,25 (Class 5)	0,2	≤0,45 (Class 1) 0,45 (Class 2) 0,6 (Class 3) 0,9 (Class 4) 1,5 (Class 5)	≤0,45 (Class 1) 0,45 (Class 2) 0,6 (Class 3) 0,9 (Class 4) 1,5 (Class 5)
(6a)	Carbon-tetrachloride (7)	56-23-5	12	12	not applicable	not applicable
(7)	C10-13 Chloroalkanes	85535-84-8	0,4	0,4	1,4	1,4
(8)	Chlorfenvinphos	470-90-6	0,1	0,1	0,3	0,3
(9)	Chlorpyrifos (Chlorpyrifos-ethyl)	2921-88-2	0,03	0,03	0,1	0,1
(9a)	Cyclodiene pesticides: Aldrin (7)	309-00-2 60-57-1 72-20-8	Σ = 0,01	Σ = 0,005	not applicable	not applicable

	Dieldrin (7) Endrin (7) Isodrin (7)	72-20-8 465-73-6				
(9b)	DDT total (7) (8)	Not appli-cable	0,025	0,025	not applicable	not applicable
	para-para-DDT (7)	50-29-3	0,01	0,01	not applicable	not applicable
(10)	1,2-Dichloroethane	107-06-2	10	10	not applicable	not applicable
(11)	Dichloromethane	75-09-2	20	20	not applicable	not applicable
(12)	Di(2-ethylhexyl)-phthalate (DEHP)	117-81-7	1,3	1,3	not applicable	not applicable
(13)	Diuron	330-54-1	0,2	0,2	1,8	1,8
(14)	Endosulfan	115-29-7	0,005	0,005	1,01	1,004
(15)	Fluoranthene	206-44-0	0,1	0,1	1	1
(16)	Hexachloro-benzene	118-74-1	0,01 (9)	0,01 (9)	0,05	0,05
(17)	Hexachloro-butadiene	87-68-3	0,1 (9)	0,1 (9)	0,6	0,6
(18)	Hexachloro-cyclohexane	608-73-1	0,02	0,02	0,04	0,02
(19)	Isoproturon	34123-59-6	0,3	0,3	1,0	1,0
(20)	Lead and its compounds	7439-92-1	7,2	7,2	not applicable	not applicable
(21)	Mercury and its compounds	7439-97-6	0,05 (9)	0,05 (9)	0,07	0,07
(22)	Naphthalene	91-20-3	2,4	1,2	not applicable	not applicable
(23)	Nickel and its compounds	7440-02-0	20	20	not applicable	not applicable
(24)	Nonylphenol (4-Nonylphenol)	104-40-5	0,3	0,3	2,0	2,0
(25)	Octylphenol ((4-(1,1′,3,3′-tetramethylbutyl)-phenol))	140-66-9	0,1	0,01	not applicable	not applicable
(26)	Pentachloro-benzene	608-93-5	0,007	0,0007	not applicable	not applicable
(27)	Pentachloro-phenol	87-86-5	0,4	0,4	1	1
(28)	Polyaromatic hydrocarbons (PAH) (10)	not appli-cable	not applicable	not applicable	not applicable	not applicable
	Benzo(a) pyrene	50-32-8	0,05	0,05	0,1	0,1
	Benzo(b)fluor-anthene	205-99-2	Σ = 0,03	Σ = 0,03	not applicable	not applicable
	Benzo(k)fluor-anthene	207-08-9				
	Benzo(g,h,i)-perylene	191-24-2	Σ = 0,002	Σ = 0,002	not applicable	not applicable

	Indeno(1,2,3-cd)-pyrene	193-39-5				
(29)	Simazine	122-34-9	1	1	4	4
(29a)	Tetrachloro-ethylene (7)	127-18-4	10	10	not applicable	not applicable
(29b)	Trichloro-ethylene (7)	79-01-6	10	10	79	01
(30)	Tributyltin compounds (Tributhyltin-cation)	36643-28-4	0,0002	0,0002	0,0015	0,0015
(31)	Trichloro-benzenes	12002-48-1	0,4	0,4	12002	48
(32)	Trichloro-methane	67-66-3	2,5	2,5	not applicable	not applicable
(33)	Trifluralin	1582-09-8	0,03	0,03	not applicable	not applicable

(1) CAS: Chemical Abstracts Service.

(2) This parameter is the EQS expressed as an annual average value (AA-EQS). Unless otherwise specified, it applies to the total concentration of all isomers.

(3) Inland surface waters encompass rivers and lakes and related artificial or heavily modified water bodies.

(4) This parameter is the EQS expressed as a maximum allowable concentration (MAC- QS). Where the MAC-EQS are marked as 'not applicable', the AA-EQS values are considered protective against short-term pollution peaks in continuous discharges since they are significantly lower than the values derived on the basis of acute toxicity.

(5) For the group of priority substances covered by brominated diphenylethers (No 5) listed in Decision No 2455/2001/EC, an EQS is established only for congener numbers 28, 47, 99, 100, 153 and 154.

(6) For cadmium and its compounds (No 6) the EQS values vary depending on the hardness of the water as specified in five class categories (Class 1: < 40 mg CaCO3/l, Class 2: 40 to < 50 mg CaCO3/l, Class 3: 50 to < 100 mg CaCO3/l, Class 4: 100 to < 200 mg CaCO3/l and Class 5: ≥ 200 mg CaCO3/l).

(7) This substance is not a priority substance but one of the other pollutants for which the EQS are identical to those laid down in the legislation that applied prior to 13 January 2009.

(8) DDT total comprises the sum of the isomers 1,1,1-trichloro-2,2 bis (p-chlorophenyl) ethane (CAS number 50-29-3; EU number 200-024-3); 1,1,1-trichloro-2 (o-chlorophenyl)-2-(p-chlorophenyl) ethane (CAS number 789-

02-6; EU number 212-332-5); 1,1-dichloro-2,2 bis (p-chlorophenyl) ethylene (CAS number 72-55-9;

EU number 200-784-6); and 1,1-dichloro-2,2 bis (p-chlorophenyl) ethane (CAS number 72-54-8; EU number 200-783-0).

(9) If the Competent Authority does not apply EQS for biota it must introduce stricter EQS for water in order to achieve the same level of protection as the EQS for biota set out in rule 10A(3). The Competent Authority must notify the Commission and other Member States, through the Committee referred to in Article 21 of the Directive, of the reasons and basis for using this approach, the alternative EQS for water established, including the data and the methodology by which the alternative EQS were derived, and the categories of surface water to which they would apply.

(10) For the group of priority substances of polyaromatic hydrocarbons (PAH) (No 28), each individual EQS is applicable, i.e. the EQS for Benzo(a)pyrene, the EQS for the sum of Benzo(b)fluoranthene and Benzo(k)fluoranthene and the EQS for the sum of Benzo(g,h,i)perylene and Indeno(1,2,3-cd)pyrene must be met.

PART B: APPLICATION OF THE EQS SET OUT IN PART A

1. Columns 4 and 5 of the table: For any given surface water body, applying the AA-EQS means that, for each representative monitoring point within the water body, the arithmetic mean of the concentrations measured at different times during the year does not exceed the standard.

The calculation of the arithmetic mean, the analytical method used and, where there is no appropriate analytical method meeting the minimum performance criteria, the method of applying an EQS must be in accordance with implementing acts adopting technical specifications for chemical monitoring and quality of analytical results, in accordance with the Directive.

2. Columns 6 and 7 of the table: For any given surface water body, applying the MAC-EQS means that the measured concentration at any representative monitoring point within the water body does not exceed the standard.

However, in accordance with section 1.3.4 of Annex V to the Directive, the Competent Authority may introduce statistical methods, such as a percentile calculation, to ensure an acceptable level of confidence and precision for determining compliance with the MAC-EQS. If it does so, such statistical methods shall comply with detailed rules laid down in accordance with the regulatory procedure referred to in Article 9(2) of Directive 2008/105/EC.

3. With the exception of cadmium, lead, mercury and nickel (hereinafter 'metals') the EQS set up in this Schedule are expressed as total concentrations in the whole water sample. In the case of metals the EQS refers to the dissolved concentration, i.e. the dissolved phase of a water sample obtained by filtration through a 0,45 μm filter or any equivalent pre-treatment.

The Competent Authority may, when assessing the monitoring results against the EQS, take into account:

(a) natural background concentrations for metals and their compounds, if they prevent compliance with the EQS value; and

(b) hardness, pH or other water quality parameters that affect the bioavailability of metals.

SCHEDULE 10

Rule 2(1)

LIST OF PRIORITY SUBSTANCES IN THE FIELD OF WATER POLICY

Number	CAS number (1)	EU number (2)	Name of priority substance (3)	Identified as priority hazardous substance
(1)	15972-60-8	240-110-8	Alachlor	
(2)	120-12-7	204-371-1	Anthracene	X
(3)	1912-24-9	217-617-8	Atrazine	
(4)	71-43-2	200-753-7	Benzene	
(5)	not applicable	not applicable	Brominated diphenylether (4)	X(5)
	32534-81-9	not applicable	Pentabromodiphenylether (congener numbers 28, 47, 99, 100, 153 and 154)	
(6)	7440-43-9	231-152-8	Cadmium and its compounds	X
(7)	85535-84-8	287-476-5	Chloroalkanes,	X
(8)	470-90-6	207-432-0	Chlorfenvinphos	
(9)	2921-88-2	220-864-4	Chlorpyrifos (Chlorpyrifos-ethyl)	
(10)	107-06-2	203-458-1	1,2-dichloroethane	
(11)	75-09-2	200-838-9	Dichloromethane	
(12)	117-81-7	204-211-0	Di(2-ethylhexyl)phthalate (DEHP)	

(13)	330-54-1	206-354-4	Diuron	
(14)	115-29-7	204-079-4	Endosulfan	X
(15)	206-44-0	205-912-4	Fluoranthene (6)	
(16)	118-74-1	204-273-9	Hexachlorobenzene	X
(17)	87-68-3	201-765-5	Hexachlorobutadiene	X
(18)	608-73-1	210-158-9	Hexachlorocyclohexane	X
(19)	34123-59-6	251-835-4	Isoproturon	
(20)	7439-92-1	231-100-4	Lead and its compounds	
(21)	7439-97-6	231-106-7	Mercury and its compounds	X
(22)	91-20-3	202-049-5	Naphthalene	
(23)	7440-02-0	231-111-14	Nickel and its compounds	
(24)	25154-52-3	246-672-0	nonylphenol	X
	104-40-5	203-199-4	(4-nonylphenol)	X
(25)	1806-26-4	217-302-5	Octylphenol	
	140-66-9	not applicable	(4-(1,1′ ,3,3′ - tetramethylbutyl)-phenol)	
(26)	608-93-5	210-172-5	Pentachlorobenzene	X
(27)	87-86-5	231-152-8	Pentachlorophenol	
(28)	not applicable	not applicable	Polyaromatic hydrocarbons	X
	50-32-8	200-028-5	(Benzo(a)pyrene) X	X
	205-99-2	205-911-9	(Benzo(b)fluoranthene)	X
	191-24-2	205-883-	(Benzo(g,h,i)perylene)	X

		8		
	207-08-9	205-916-6	(Benzo(k)fluoranthene)	X
	193-39-5	205-893-2	(Indeno(1,2,3-cd)pyrene)	X
(29)	122-34-9	204-535-2	Simazine	
(30)	not applicable	not applicable	Tributyltin compounds	X
	36643-28-4	not applicable	(Tributyltin-cation)	X
(31)	12002-48-1	234-413-4	Trichlorobenzenes	
(32)	67-66-3	200-663-8	Trichloromethane (chloroform)	
(33)	1582-09-8	216-428-8	Trifluralin	

(1) CAS: Chemical Abstracts Service.

(2) EU number: European Inventory of Existing Commercial Substances (Einecs) or European List of Notified Chemical Substances (Elincs).

(3) Where groups of substances have been selected, typical individual representatives are listed as indicative parameters (in brackets and without number). For these groups of substances, the indicative parameter must be defined through the analytical method.

(4) These groups of substances normally include a considerable number of individual compounds. At present, appropriate indicative parameters cannot be given.

(5) Only Pentabromobiphenylether (CAS-number 32534-81-9).

(6) Fluoranthene is on the list as an indicator of other, more dangerous polyaromatic hydrocarbons.