

**Council Directive 80/778/EEC of 15 July 1980 relating to the quality of water
intended for human consumption**

Official Journal L 229, 30/08/1980 p. 0011 - 0029

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Articles 100 and 235 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament (1),

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

Whereas, in view of the importance for public health of water for human consumption, it is necessary to lay down quality standards with which such water must comply;

Whereas a disparity between provisions already applicable or in the process of being drawn up in the various Member States relating to the quality of water for human consumption may create differences in the conditions of competition and, as a result, directly affect the operation of the common market; whereas laws in this sphere should therefore be approximated as provided for in Article 100 of the Treaty;

Whereas this approximation of laws should be accompanied by Community action designed to achieve, by more extensive rules concerning water for human consumption, one of the aims of the Community with regard to the improvement of living conditions, the harmonious development of economic activities throughout the Community and a continuous and balanced expansion; whereas certain specific provisions to this effect should therefore be laid down; whereas Article 235 of the Treaty should be invoked as the necessary powers have not been provided for by the Treaty;

Whereas the 1973 (3) and 1977 (4) programs of action of the European Communities on the environment provide for both the setting of standards to apply to toxic chemical substances and to bacteria presenting a health hazard which are present in water intended for human consumption and the definition of physical, chemical and biological parameters corresponding to the different uses of water and, in particular, to water for human consumption;

Whereas special rules are envisaged for natural mineral waters; whereas, furthermore, it is necessary to exclude from the scope of this Directive medicinal waters and certain waters used in the food industry where such use does not constitute a hazard to public health;

Whereas by Directive 75/440/EEC (5), the Council has already laid down standards for surface water intended for the abstraction of drinking water;

Whereas the values fixed for certain parameters must be equal to or lower than a maximum admissible concentration;

Whereas, in the case of softened water intended for human consumption, the values fixed for certain parameters must be equal to or greater than a required minimum concentration;

Whereas it is desirable that the Member States should take the values adopted as a "guide level";

Whereas, since the preparation of water for human consumption may involve the use of certain substances, rules should be drawn up to govern the use thereof in order to avoid possible harmful effects on public health due to excessive quantities of such substances;

Whereas the Member States should be authorized to make provision, under certain conditions, for derogations from this Directive, in particular to take account of certain special situations;

Whereas, in order to check the values of concentrations for the different parameters, it is necessary to provide that Member States take the steps required to ensure (1) OJ No C 28, 9.2.1976, p. 27. (2) OJ No C 131, 12.6.1976, p. 13. (3) OJ No C 112, 20.12.1973, p. 1. (4) OJ No C 69, 11.6.1970, p. 1. (5) OJ No L 194, 25.7.1975, p. 34. regular monitoring of the quality of water intended for human consumption;

Whereas the reference methods of analysis defined in the Annexes to this Directive must be speedily adapted to scientific and technical progress; whereas, in order to facilitate application of the measures required for this purpose, provision should be made for a procedure establishing close cooperation between the Member States and the Commission within a committee responsible for the adaptation to scientific and technical progress,

HAS ADOPTED THIS DIRECTIVE:

Article 1

This Directive concerns standards for water intended for human consumption.

Article 2

For the purposes of this Directive, water intended for human consumption shall mean all water used for that purpose, either in its original state or after treatment, regardless of origin, - whether supplied for consumption, or - whether - used in a food production undertaking for the manufacture, processing, preservation or marketing of products or substances intended for human consumption and - affecting the wholesomeness of the foodstuff in its finished form.

Article 3

With regard to water referred to in the second indent of Article 2, Member States shall apply the values for the toxic and microbiological parameters listed in Tables D and E respectively of Annex I and the values for the other parameters which the competent national authorities consider are likely to affect the wholesomeness of the foodstuff in its finished form.

Article 4

1. This Directive shall not apply to: (a) natural mineral waters recognized or defined as such by the competent national authorities; (b) medicinal waters recognized as such by the competent national authorities.

2. Member States may not prohibit or impede the marketing of foodstuffs on grounds relating to the quality of the water used where the quality of such water meets the requirements of this Directive unless such marketing constitutes a hazard to public health.

Article 5

This Directive shall apply without prejudice to the specific provisions of other Community regulations.

Article 6

1. Member States shall send the Commission: - appropriate information as to the industrial sectors in which the competent national authorities consider that the wholesomeness of the finished product, within the meaning of Article 2, is unaffected by the quality of the water used; - national values for parameters other than the toxic and microbiological parameters referred to in Article 3.

2. The Commission shall examine this information and shall take any measures which may be appropriate. It shall periodically draw up a comprehensive report for the Member States.

Article 7

1. Member States shall fix values applicable to water intended for human consumption for the parameters shown in Annex I.

2. Member States may refrain from fixing, pursuant to the first paragraph, the values of parameters in respect of which no value is shown in Annex I, as long as these values have not been determined by the Council.

3. For the parameters given in Tables A, B, C, D, and E of Annex I: - the values to be fixed by the Member States must be less than or the same as the values shown in the "Maximum admissible concentration" column; - in fixing the values, Member States shall take as a basis the values appearing in the "Guide level" column.

4. For the parameters appearing in Table F of Annex I, the values to be fixed by Member States must be not lower than those given in the "Minimum required concentration" column for softened water, of the kind referred to in the first indent of Article 2.

5. In the interpretation of the values shown in Annex I account shall be taken of the observations.

6. Member States shall take the steps necessary to ensure that water intended for human consumption at least meets the requirements specified in Annex I.

Article 8

Member States shall take all the necessary measures to ensure that any substances used in the preparation of water for human consumption do not remain in concentrations higher than the maximum admissible concentration relating to these substances in water made available to the user and, that they do not, either directly or indirectly, constitute a public health hazard.

Article 9

1. Member States may make provision for derogations from this Directive in order to take account of: (a) situations arising from the nature and structure of the ground in the area from which the supply in question emanates. Where a Member State decides to make such derogation, it shall inform the Commission accordingly within two months of its decision stating the reasons for such derogation; (b) situations arising from exceptional meteorological conditions. Where a Member State decides to make such a derogation, it shall inform the Commission accordingly within 15 days of its decision stating the reasons for this derogation and its duration.

2. Member States shall report to the Commission only those derogations referred to in paragraph 1 which relate to a daily water supply of at least 1 000 m³ or a population of at least 5 000.

3. In no case shall the derogations made by virtue of this Article relate to toxic or microbiological factors or constitute a public health hazard.

Article 10

1. In the event of emergencies, the competent national authorities may, for a limited period of time and up to a maximum value to be determined by them, allow the maximum admissible concentration shown in Annex I to be exceeded, provided that this does not constitute an unacceptable risk to public health and provided that the supply of water for human consumption cannot be maintained in any other way.

2. Without prejudice to the application of Directive 75/440/EEC, and in particular Article 4 (3) thereof, when, for its supply of drinking water, a Member State is obliged to resort to surface water which does not reach the concentrations required of category A3 water within the meaning of Article 2 of the aforementioned Directive and when it cannot devise suitable treatment to obtain drinking water of the quality laid down by this Directive, it may, for a limited period of time and up to a maximum permissible value which it shall determine, authorize the maximum admissible concentration shown in Annex I to be exceeded provided that this does not constitute an unacceptable risk to public health.

3. Member States which have recourse to the derogations referred to in this Article shall immediately inform the Commission thereof, stating the reasons for and probable duration of such derogations.

Article 11

Member States shall ensure that all necessary measures taken to apply the provisions taken pursuant to this Directive shall in no case have the effect of allowing, directly or indirectly, either any deterioration in the present quality of water intended for human consumption or an increase in the pollution of waters used for the production of drinking water.

Article 12

1. Member States shall take all necessary steps to ensure regular monitoring of the quality of water intended for human consumption.

2. All water intended for human consumption shall be monitored at the point where it is made available to the user in order to check whether it meets the requirements laid down in Annex I.

3. The points of sampling shall be determined by the competent national authorities.

4. For such monitoring, Member States shall conform with Annex II.

5. Member States shall as far as practicable use the reference methods of analysis set out in Annex III. Laboratories using other methods shall ensure that the results thus obtained are equivalent to or comparable with the results obtained by the methods indicated in Annex III.

Article 13

Such changes as are necessary for adapting the reference methods of analysis set out in Annex III to scientific and technical progress shall be adopted in accordance with the procedure laid down in Article 15.

Article 14

(a) A Committee on the Adaptation to Scientific and Technical Progress, hereinafter called "the Committee", is hereby set up; it shall consist of representatives of the Member States with a representative of the Commission as chairman.

(b) The Committee shall adopt its own rules of procedure.

Article 15

1. Where the procedure laid down in this Article is to be followed, the matter shall be referred to the Committee by its chairman, either on his own initiative or at the request of a representative of a Member State.

2. The representative of the Commission shall submit to the Committee a draft of the measures to be taken. The Committee shall give its opinion on that draft within a time limit set by the chairman having regard to the urgency of the matter. Opinions shall be adopted by a majority of 41 votes, the votes of the Member States being weighted as provided in Article 148 (2) of the Treaty. The chairman shall not vote.

3. (a) Where the measures envisaged are in accordance with the opinion of the Committee, the Commission shall adopt them. (b) Where the measures envisaged are not in accordance with the opinion of the Committee, or if no opinion is delivered, the Commission shall without delay submit to the Council a proposal on the measures to be taken. The Council shall act by a qualified majority. (c) If, within three months of the proposal being submitted to it, the Council has not acted, the proposed measures shall be adopted by the Commission.

Article 16

Without prejudice to Article 4 (2), Member States may lay down more stringent provisions than those provided for in this Directive for water intended for human consumption.

Article 17

Member States may adopt special provisions regarding information - both on packaging or labels and in advertising - concerning a water's suitability for the feeding of infants. Such provisions may also concern the properties of the water which determine the use of the said information. Member States which intend taking such measures shall inform the other Member States and the Commission of them beforehand.

Article 18

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive and its Annexes within two years following its notification. They shall forthwith inform the Commission thereof.

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

Article 19

The Member States shall take the necessary measures to ensure that the quality of water intended for human consumption complies with this Directive within five years of its notification.

Article 20

Member States may, in exceptional cases and for geographically defined population groups, submit a special request to the Commission for a longer period for complying with Annex I. This request, for which grounds must be duly put forward, shall set out the difficulties experienced and must propose an action program with an appropriate timetable to be undertaken for the improvement of the quality of water intended for human consumption. The Commission shall examine these programs, including the timetables. In the case of disagreement with the Member State concerned, the Commission shall submit appropriate proposals to the Council.

Article 21

This Directive is addressed to the Member States.

Done at Brussels, 15 July 1980.

For the Council

The President

J. SANTER

Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption

Official Journal L 330, 05/12/1998 p. 0032 - 0054

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community and, in particular, Article 130s(1) thereof,

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

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

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

Acting in accordance with the procedure laid down in Article 189c (4),

(1) Whereas it is necessary to adapt Council Directive 80/778/EEC of 15 July 1980 relating to the quality of water intended for human consumption (5) to scientific and technological progress; whereas experience gained from implementing that Directive shows that it is necessary to create an appropriately flexible and transparent legal framework for Member States to address failures to meet the standards; whereas, furthermore, that Directive should be re-examined in the light of the Treaty on European Union and in particular the principle of subsidiarity;

(2) Whereas in keeping with Article 3b of the Treaty, which provides that no Community action should go beyond what is necessary to achieve the objectives of the Treaty, it is necessary to revise Directive 80/778/EEC so as to focus on compliance with essential quality and health parameters, leaving Member States free to add other parameters if they see fit;

(3) Whereas, in accordance with the principle of subsidiarity, Community action must support and supplement action by the competent authorities in the Member States;

(4) Whereas, in accordance with the principle of subsidiarity, the natural and socio-economic differences between the regions of the Union require that most decisions on monitoring, analysis, and the measures to be taken to redress failures be taken at a local, regional or national level insofar as those differences do not detract from the establishment of the framework of laws, regulations and administrative provisions laid down in this Directive;

(5) Whereas Community standards for essential and preventive health-related quality parameters in water intended for human consumption are necessary if minimum environmental-quality goals to be achieved in connection with other Community measures are to be defined so that the sustainable use of water intended for human consumption may be safeguarded and promoted;

(6) Whereas, in view of the importance of the quality of water intended for human consumption for human health, it is necessary to lay down at Community level the essential quality standards with which water intended for that purpose must comply;

(7) Whereas it is necessary to include water used in the food industry unless it can be established that the use of such water does not affect the wholesomeness of the finished product;

(8) Whereas to enable water-supply undertakings to meet the quality standards for drinking water, appropriate water-protection measures should be applied to ensure

that surface and groundwater is kept clean; whereas the same goal can be achieved by appropriate water-treatment measures to be applied before supply;

(9) Whereas the coherence of European water policy presupposes that a suitable water framework Directive will be adopted in due course;

(10) Whereas it is necessary to exclude from the scope of this Directive natural mineral waters and waters, which are medicinal products, since, special rules for those types of water have been established;

(11) Whereas measures are required for all parameters directly relevant to health and for other parameters if a deterioration in quality has occurred; whereas, furthermore, such measures should be carefully coordinated with the implementation of Council Directive 91/414/EEC of 15 July 1991 concerning the placing of plant protection products on the market (6) and Directive 98/8/EC of the European Parliament and of the Council of 16 February 1998 concerning the placing of biocidal products on the market (7);

(12) Whereas it is necessary to set individual parametric values for substances which are important throughout the Community at a level strict enough to ensure that this Directive's purpose can be achieved;

(13) Whereas the parametric values are based on the scientific knowledge available and the precautionary principle has also been taken into account; whereas those values have been selected to ensure that water intended for human consumption can be consumed safely on a life-long basis, and thus represent a high level of health protection;

(14) Whereas a balance should be struck to prevent both microbiological and chemical risks; whereas, to that end, and in the light of a future review of the parametric values, the establishment of parametric values applicable to water intended for human consumption should be based on public-health considerations and on a method of assessing risk;

(15) Whereas there is at present insufficient evidence on which to base parametric values for endocrine-disrupting chemicals at Community level, yet there is increasing concern regarding the potential impact on humans and wildlife of the effects of substances harmful to health;

(16) Whereas in particular the standards in Annex I are generally based on the World Health Organisation's 'Guidelines for drinking water quality', and the opinion of the Commission's Scientific Advisory Committee to examine the toxicity and ecotoxicity of chemical compounds;

(17) Whereas Member States must set values for other additional parameters not included in Annex I where that is necessary to protect human health within their territories;

(18) Whereas Member States may set values for other additional parameters not included in Annex I where that is deemed necessary for the purpose of ensuring the quality of the production, distribution and inspection of water intended for human consumption;

(19) Whereas, when Member States deem it necessary to adopt standards more stringent than those set out in Annex I, Parts A and B, or standards for additional parameters not included in Annex I but necessary to protect human health, they must notify the Commission of those standards;

(20) Whereas Member States are bound, when introducing or maintaining more stringent protection measures, to respect the principles and rules of the Treaty, as they are interpreted by the Court of Justice;

(21) Whereas the parametric values are to be complied with at the point where water intended for human consumption is made available to the appropriate user;

(22) Whereas the quality of water intended for human consumption can be influenced by the domestic distribution system; whereas, furthermore, it is recognized that neither the domestic distribution system nor its maintenance may be the responsibility of the Member States;

(23) Whereas each Member State should establish monitoring programs to check that water intended for human consumption meets the requirements of this Directive; whereas such monitoring programs should be appropriate to local needs and should meet the minimum monitoring requirements laid down in this Directive;

(24) Whereas the methods used to analyse the quality of water intended for human consumption should be such as to ensure that the results obtained are reliable and comparable;

(25) Whereas, in the event of non-compliance with the standards imposed by this Directive the Member State concerned should investigate the cause and ensure that the necessary remedial action is taken as soon as possible to restore the quality of the water;

(26) Whereas it is important to prevent contaminated water causing a potential danger to human health; whereas the supply of such water should be prohibited or its use restricted;

(27) Whereas, in the event of non-compliance with a parameter that has an indicator function, the Member State concerned must consider whether that non-compliance poses any risk to human health; whereas it should take remedial action to restore the quality of the water where that is necessary to protect human health;

(28) Whereas, should such remedial action be necessary to restore the quality of water intended for human consumption, in accordance with Article 130r(2) of the Treaty, priority should be given to action which rectifies the problem at source;

(29) Whereas Member States should be authorised, under certain conditions, to grant derogations from this Directive; whereas, furthermore, it is necessary to establish a proper framework for such derogations, provided that they must not constitute a potential danger to human health and provided that the supply of water intended for human consumption in the area concerned cannot otherwise be maintained by any other reasonable means;

(30) Whereas, since the preparation or distribution of water intended for human consumption may involve the use of certain substances or materials, rules are required to govern the use thereof in order to avoid possible harmful effects on human health;

(31) Whereas scientific and technical progress may necessitate rapid adaptation of the technical requirements laid down in Annexes II and III; whereas, furthermore, in order to facilitate application of the measures required for that purpose, provision should be made for a procedure under which the Commission can adopt such adaptations with the assistance of a committee composed of representatives of the Member States;

(32) Whereas consumers should be adequately and appropriately informed of the quality of water intended for human consumption, of any derogations granted by the Member States and of any remedial action taken by the competent authorities; whereas, furthermore, consideration should be given both to the technical and statistical needs of the Commission, and to the rights of the individual to obtain adequate information concerning the quality of water intended for human consumption;

(33) Whereas, in exceptional circumstances and for geographically defined areas, it may be necessary to allow Member States a more extensive timescale for compliance with certain provisions of this Directive;

(34) Whereas this Directive should not affect the obligations of the Member States as to the time limit for transposition into national law, or as to application, as shown in Annex IV,

HAS ADOPTED THIS DIRECTIVE:

Article 1 (Objective)

1. This Directive concerns the quality of water intended for human consumption.

2. The objective of this Directive shall be to protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean.

Article 2 (Definitions)

For the purposes of this Directive:

1. 'water intended for human consumption' shall mean:

(a) all water either in its original state or after treatment, intended for drinking, cooking, food preparation or other domestic purposes, regardless of its origin and whether it is supplied from a distribution network, from a tanker, or in bottles or containers;

(b) all water used in any food-production undertaking for the manufacture, processing, preservation or marketing of products or substances intended for human consumption unless the competent national authorities are satisfied that the quality of the water cannot affect the wholesomeness of the foodstuff in its finished form;

2. 'domestic distribution system' shall mean the pipework, fittings and appliances which are installed between the taps that are normally used for human consumption and the distribution network but only if they are not the responsibility of the water supplier, in its capacity as a water supplier, according to the relevant national law.

Article 3 (Exemptions)

1. This Directive shall not apply to:

(a) natural mineral waters recognised as such by the competent national authorities, in accordance with Council Directive 80/777/EEC of 15 July 1980 on the approximation of the laws of the Member States relating to the exploitation and marketing of natural mineral waters (8);

(b) waters which are medicinal products within the meaning of Council Directive 65/65/EEC of 26 January 1965 on the approximation of provisions laid down by law, regulation or administrative action relating to medicinal products (9).

2. Member States may exempt from the provisions of this Directive:

(a) water intended exclusively for those purposes for which the competent authorities are satisfied that the quality of the water has no influence, either directly or indirectly, on the health of the consumers concerned;

(b) water intended for human consumption from an individual supply providing less than 10 m³ a day as an average or serving fewer than 50 persons, unless the water is supplied as part of a commercial or public activity.

3. Member States that have recourse to the exemptions provided for in paragraph 2(b) shall ensure that the population concerned is informed thereof and of any action that can be taken to protect human health from the adverse effects resulting from any contamination of water intended for human consumption. In addition, when a potential danger to human health arising out of the quality of such water is apparent, the population concerned shall promptly be given appropriate advice.

Article 4 (General obligations)

1. Without prejudice to their obligations under other Community provisions, Member States shall take the measures necessary to ensure that water intended for human consumption is wholesome and clean. For the purposes of the minimum requirements of this Directive, water intended for human consumption shall be wholesome and clean if it:

(a) is free from any micro-organisms and parasites and from any substances which, in numbers or concentrations, constitute a potential danger to human health, and

(b) meets the minimum requirements set out in Annex I, Parts A and B; and if, in accordance with the relevant provisions of Articles 5 to 8 and 10 and in accordance with the Treaty, Member States take all other measures necessary to ensure that water intended for human consumption complies with the requirements of this Directive.

2. Member States shall ensure that the measures taken to implement this Directive in no circumstances have the effect of allowing, directly or indirectly, either any deterioration of the present quality of water intended for human consumption so far as that is relevant for the protection of human health or any increase in the pollution of waters used for the production of drinking water.

Article 5 (Quality standards)

1. Member States shall set values applicable to water intended for human consumption for the parameters set out in Annex I.

2. The values set in accordance with paragraph 1 shall not be less stringent than those set out in Annex I. As regards the parameters set out in Annex I, Part C, the values need be fixed only for monitoring purposes and for the fulfilment of the obligations imposed in Article 8.

3. A Member State shall set values for additional parameters not included in Annex I where the protection of human health within its national territory or part of it so requires. The values set should, as a minimum, satisfy the requirements of Article 4(1)(a).

Article 6 (Point of compliance)

1. The parametric values set in accordance with Article 5 shall be complied with:

(a) in the case of water supplied from a distribution network, at the point, within premises or an establishment, at which it emerges from the taps that are normally used for human consumption;

(b) in the case of water supplied from a tanker, at the point at which it emerges from the tanker;

(c) in the case of water put into bottles or containers intended for sale, at the point at which the water is put into the bottles or containers;

(d) in the case of water used in a food-production undertaking, at the point where the water is used in the undertaking.

2. In the case of water covered by paragraph 1(a), Member States shall be deemed to have fulfilled their obligations under this Article and under Articles 4 and 8(2) where it can be established that non-compliance with the parametric values set in accordance with Article 5 is due to the domestic distribution system or the maintenance thereof except in premises and establishments where water is supplied to the public, such as schools, hospitals and restaurants.

3. Where paragraph 2 applies and there is a risk that water covered by paragraph 1(a) would not comply with the parametric values established in accordance with Article 5, Member States shall nevertheless ensure that:

(a) appropriate measures are taken to reduce or eliminate the risk of non-compliance with the parametric values, such as advising property owners of any possible remedial action they could take, and/or other measures, such as appropriate treatment techniques, are taken to change the nature or properties of the water before it is supplied so as to reduce or eliminate the risk of the water not complying with the parametric values after supply; and

(b) the consumers concerned are duly informed and advised of any possible additional remedial action that they should take.

Article 7 (Monitoring)

1. Member States shall take all measures necessary to ensure that regular monitoring of the quality of water intended for human consumption is carried out, in order to check that the water available to consumers meets the requirements of this Directive and in particular the parametric values set in accordance with Article 5. Samples should be taken so that they are representative of the quality of the water consumed throughout the year. In addition, Member States shall take all measures necessary to ensure that, where disinfection forms part of the preparation or distribution of water intended for human consumption, the efficiency of the disinfection treatment applied is verified, and that any contamination from disinfection by-products is kept as low as possible without compromising the disinfection.

2. To meet the obligations imposed in paragraph 1, appropriate monitoring programmes shall be established by the competent authorities for all water intended for human consumption. Those monitoring programmes shall meet the minimum requirements set out in Annex II.

3. The sampling points shall be determined by the competent authorities and shall meet the relevant requirements set out in Annex II.

4. Community guidelines for the monitoring prescribed in this Article may be drawn up in accordance with the procedure laid down in Article 12.

5 (a) member States shall comply with the specifications for the analyses of parameters set out in Annex III.

(b) methods other than those specified in Annex III, Part 1, may be used, providing it can be demonstrated that the results obtained are at least as reliable as those produced by the methods specified. Member States which have recourse to alternative methods shall provide the Commission with all relevant information concerning such methods and their equivalence.

(c) For those parameters listed in Annex III, Parts 2 and 3, any method of analysis may be used provided that it meets the requirements set out therein.

6. Member States shall ensure that additional monitoring is carried out on a case-by-case basis of substances and micro-organisms for which no parametric value has been set in accordance with Article 5, if there is reason to suspect that they may

be present in amounts or numbers which constitute a potential danger to human health.

Article 8 (Remedial action and restrictions in use)

1. Member States shall ensure that any failure to meet the parametric values set in accordance with Article 5 is immediately investigated in order to identify the cause.

2. If, despite the measures taken to meet the obligations imposed in Article 4(1), water intended for human consumption does not meet the parametric values set in accordance with Article 5, and subject to Article 6(2), the Member State concerned shall ensure that the necessary remedial action is taken as soon as possible to restore its quality and shall give priority to their enforcement action, having regard inter alia to the extent to which the relevant parametric value has been exceeded and to the potential danger to human health.

3. Whether or not any failure to meet the parametric values has occurred, Member States shall ensure that any supply of water intended for human consumption which constitutes a potential danger to human health is prohibited or its use restricted or such other action is taken as is necessary to protect human health. In such cases consumers shall be informed promptly thereof and given the necessary advice.

4. The competent authorities or other relevant bodies shall decide what action under paragraph 3 should be taken, bearing in mind the risks to human health which would be caused by an interruption of the supply or a restriction in the use of water intended for human consumption.

5. Member States may establish guidelines to assist the competent authorities to fulfil their obligations under paragraph 4.

6. In the event of non-compliance with the parametric values or with the specifications set out in Annex I, Part C, Member States shall consider whether that non-compliance poses any risk to human health. They shall take remedial action to restore the quality of the water where that is necessary to protect human health.

7. Member States shall ensure that, where remedial action is taken, consumers are notified except where the competent authorities consider the non-compliance with the parametric value to be trivial.

Article 9 (Derogations)

1. Member States may provide for derogations from the parametric values set out in Annex I, Part B, or set in accordance with Article 5(3), up to a maximum value to be determined by them, provided no derogation constitutes a potential danger to human health and provided that the supply of water intended for human consumption in the area concerned cannot otherwise be maintained by any other reasonable means. Derogations shall be limited to as short a time as possible and shall not exceed three years, towards the end of which a review shall be conducted to determine whether sufficient progress has been made. Where a Member State intends to grant a second derogation, it shall communicate the review, along with the grounds for its decision on the second derogation, to the Commission. No such second derogation shall exceed three years.

2. In exceptional circumstances, a Member State may ask the Commission for a third derogation for a period not exceeding three years. The Commission shall take a decision on any such request within three months.

3. Any derogation granted in accordance with paragraphs 1 or 2 shall specify the following:

- (a) the grounds for the derogation;
- (b) the parameter concerned, previous relevant monitoring results, and the maximum permissible value under the derogation;
- (c) the geographical area, the quantity of water supplied each day, the population concerned and whether or not any relevant food-production undertaking would be affected;
- (d) an appropriate monitoring scheme, with an increased monitoring frequency where necessary;
- (e) a summary of the plan for the necessary remedial action, including a timetable for the work and an estimate of the cost and provisions for reviewing;
- (f) the required duration of the derogation.

4. If the competent authorities consider the non-compliance with the parametric value to be trivial, and if action taken in accordance with Article 8(2) is sufficient to remedy the problem within 30 days, the requirements of paragraph 3 need not be applied. In that event, only the maximum permissible value for the parameter concerned and the time allowed to remedy the problem shall be set by the competent authorities or other relevant bodies.

5. Recourse may no longer be had to paragraph 4 if failure to comply with any one parametric value for a given water supply has occurred on more than 30 days on aggregate during the previous 12 months.

6. Any Member State which has recourse to the derogations provided for in this Article shall ensure that the population affected by any such derogation is promptly informed in an appropriate manner of the derogation and of the conditions governing it. In addition the Member State shall, where necessary, ensure that advice is given to particular population groups for which the derogation could present a special risk. These obligations shall not apply in the circumstances described in paragraph 4 unless the competent authorities decide otherwise.

7. With the exception of derogations granted in accordance with paragraph 4 a Member State shall inform the Commission within two months of any derogation concerning an individual supply of water exceeding 1 000 m³ a day as an average or serving more than 5 000 persons, including the information specified in paragraph 3.

8. This Article shall not apply to water intended for human consumption offered for sale in bottles or containers.

Article 10 (Quality assurance of treatment, equipment and materials)

Member States shall take all measures necessary to ensure that no substances or materials for new installations used in the preparation or distribution of water intended for human consumption or impurities associated with such substances or materials for new installations remain in water intended for human consumption in concentrations higher than is necessary for the purpose of their use and do not, either directly or indirectly, reduce the protection of human health provided for in this Directive; the interpretative document and technical specifications pursuant to Article 3 and Article 4 (1) of Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products (10) shall respect the requirements of this Directive.

Article 11 (Review of Annexes)

1. At least every five years, the Commission shall review Annex I in the light of scientific and technical progress and shall make proposals for amendments, where necessary, under the procedure laid down in Article 189c of the Treaty.

2. At least every five years, the Commission shall adapt Annexes II and III to scientific and technical progress. Such changes as are necessary shall be adopted in accordance with the procedure laid down in Article 12.

Article 12 (Committee procedure)

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

2. The Commission representative shall submit to the committee a draft of the measures to be taken. The committee shall deliver its opinion on the draft within a time limit which the chairman may lay down according to the urgency of the matter. The opinion shall be delivered by the majority laid down in Article 148(2) of the Treaty in the case of decisions which the Council is required to adopt on a proposal from the Commission. The votes of the representatives of the Member States within the committee shall be weighted in the manner set out in that Article. The chairman shall not vote.

3. The Commission shall adopt measures which shall apply immediately. However, if those measures are not in accordance with the committee's opinion, the Commission shall communicate them to the Council forthwith. In that event: (a) the Commission shall defer application of the measures which it has adopted for a period of three months from the date of communication; (b) the Council, acting by a qualified majority, may take a different decision within the time limit referred to in point (a).

Article 13 (Information and reporting)

1. Member States shall take the measures necessary to ensure that adequate and up-to-date information on the quality of water intended for human consumption is available to consumers.

2. Without prejudice to Council Directive 90/313/EEC of 7 June 1990 on the freedom of access to information on the environment (11), each Member State shall publish a report every three years on the quality of water intended for human consumption with the objective of informing consumers. The first report shall cover the years 2002, 2003 and 2004. Each report shall include, as a minimum, all individual supplies of water exceeding 1 000 m³ a day as an average or serving more than 5 000 persons and it shall cover three calendar years and be published within one calendar year of the end of the reporting period.

3. Member States shall send their reports to the Commission within two months of their publication.

4. The formats and the minimum information for the reports provided for in paragraph 2 shall be determined having special regard to the measures referred to in Article 3(2), Article 5(2) and (3), Article 7(2), Article 8, Article 9(6) and (7) and 15(1), and shall if necessary be amended in accordance with the procedure laid down in Article 12.

5. The Commission shall examine the Member States' reports and, every three years, publish a synthesis report on the quality of water intended for human consumption in the Community. That report shall be published within nine months of the receipt of the Member States' reports.

6. Together with the first report on this Directive as mentioned in paragraph 2, Member States shall also produce a report to be forwarded to the Commission on the measures they have taken or plan to take to fulfil their obligations pursuant to Article 6(3) and Annex I, Part B, note 10. The Commission shall submit, as appropriate, a proposal on the format of this report in accordance with the procedure laid down in Article 12.

Article 14 (Timescale for compliance)

Member States shall take the measures necessary to ensure that the quality of water intended for human consumption complies with this Directive within five years of its entry into force, without prejudice to Notes 2, 4 and 10 in Annex I, Part B.

Article 15 (Exceptional circumstances)

1. A Member State may, in exceptional circumstances and for geographically defined areas, submit a special request to the Commission for a period longer than that laid down in Article 14. The additional period shall not exceed three years, towards the end of which a review shall be carried out and forwarded to the Commission which may, on the basis of that review, permit a second additional period of up to three years. This provision shall not apply to water intended for human consumption offered for sale in bottles or containers.

2. Any such request, grounds for which shall be given, shall set out the difficulties experienced and include, as a minimum, all the information specified in Article 9(3).

3. The Commission shall examine that request in accordance with the procedure laid down in Article 12.

4. Any Member State which has recourse to this Article shall ensure that the population affected by its request is promptly informed in an appropriate manner of the outcome of that request. In addition, the Member State shall, where necessary, ensure that advice is given to particular population groups for which the request could present a special risk.

Article 16 (Repeal)

1. Directive 80/778/EEC is hereby repealed with effect from five years after the entry into force of this Directive. Subject to paragraph 2, this repeal shall be without prejudice to Member States' obligations regarding deadlines for transposition into national law and for application as shown in Annex IV. Any reference to the Directive repealed shall be construed as a reference to this Directive and shall be read in accordance with the correlation table set out in Annex V.

2. As soon as a Member State has brought into force the laws, regulations and administrative provisions necessary to comply with this Directive and has taken the measures provided for in Article 14, this Directive, not Directive 80/778/EEC, shall apply to the quality of water intended for human consumption in that Member State.

Article 17 (Transposition into national law)

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive within two years of its entry into force. They shall forthwith inform the Commission thereof. When the Member States adopt those measures, these shall contain references to this Directive or shall be accompanied by such references on the occasion of their official

publication. The methods of making such references shall be laid down by the Member States.

2. The Member States shall communicate to the Commission the texts of the provisions of national law which they adopt in the field covered by this Directive.

Article 18 (Entry into force)

This Directive shall enter into force on the 20th day following its publication in the Official Journal of the European Communities.

Article 19 (Addressees)

This Directive is addressed to the Member States.

Done at Brussels, 3 November 1998.

For the Council
The President
B. PRAMMER

(1) OJ C 131, 30.5.1995, p. 5 and

OJ C 213, 15.7.1997, p. 8.

(2) OJ C 82, 19.3.1996, p. 64.

(3) OJ C 100, 2.4.1996, p. 134.

(4) Opinion of the European Parliament of 12 December 1996 (OJ C 20, 20.1.1997, p. 133), Council common position of 19 December 1997 (OJ C 91, 26.3.1998, p. 1) and Decision of the European Parliament of 13 May 1998 (OJ C 167, 1.6.1998, p. 92).

(5) OJ L 229, 30.8.1980, p. 11. Directive as last amended by the 1994 Act of Accession.

(6) OJ L 230, 19.8.1991, p. 1. Directive as last amended by Commission Directive 96/68/EC (OJ L 277, 30.10.1996, p. 25).

(7) OJ L 123, 24.4.1998, p. 1.

(8) OJ L 229, 30.8.1980, p. 1. Directive as last amended by Directive 96/70/EC (OJ L 299, 23.11.1996, p. 26).

(9) OJ 22 9.2.1965, p. 369. Directive as last amended by Directive 93/39/EEC (OJ L 214, 24.8.1993, p. 22).

(10) OJ L 40, 11.2.1989, p. 12. Directive as last amended by Directive 93/68/EEC (OJ L 220, 30.8.1993, p. 1).

(11) OJ L 158, 23.6.1990, p. 56.

ANNEX II

MONITORING

TABLE A Parameters to be analysed

1. Check monitoring

The purpose of check monitoring is regularly to provide information on the organoleptic and microbiological quality of the water supplied for human consumption as well as information on the effectiveness of drinking-water treatment (particularly of disinfection) where it is used, in order to determine whether or not water intended for human consumption complies with the relevant parametric values laid down in this Directive.

The following parameters must be subject to check monitoring. Member States may add other parameters to this list if they deem it appropriate.

Aluminium (Note 1)

Ammonium

Colour

Conductivity

Clostridium perfringens (including spores) (Note 2)

Escherichia coli (*E. coli*)

Hydrogen ion concentration

Iron (Note 1)

Nitrite (Note 3)

Odour

Pseudomonas aeruginosa (Note 4)

Taste

Colony count 22 °C and 37 °C (Note 4)

Coliform bacteria

Turbidity

Note 1: Necessary only when used as flocculant (1*).

Note 2: Necessary only if the water originates from or is influenced by surface water (2*).

Note 3: Necessary only when chloramination is used as a disinfectant (3*).

Note 4: Necessary only in the case of water offered for sale in bottles or containers.

2. Audit monitoring

The purpose of audit monitoring is to provide the information necessary to determine whether or not all of the Directive's parametric values are being complied with. All parameters set in accordance with Article 5(2) and (3) must be subject to audit monitoring unless it can be established by the competent authorities, for a period of time to be determined by them, that a parameter is not likely to be present in a given supply in concentrations which could lead to the risk of a breach of the relevant parametric value. This paragraph does not apply to the parameters for radioactivity, which, subject to Notes 8, 9 and 10 in Annex I, Part C, will be monitored in accordance with monitoring requirements adopted under Article 12.

TABLE B1 Minimum frequency of sampling and analyses for water intended for human consumption supplied from a distribution network or from a tanker or used in a food-production undertaking Member States must take samples at the points of

compliance as defined in Article 6(1) to ensure that water intended for human consumption meets the requirements of the Directive. However, in the case of a distribution network, a Member State may take samples within the supply zone or at the treatment works for particular parameters if it can be demonstrated that there would be no adverse change to the measured value of the parameters concerned.

Note 1: A supply zone is a geographically defined area within which water intended for human consumption comes from one or more sources and within which water quality may be considered as being approximately uniform.

Note 2: The volumes are calculated as averages taken over a calendar year. A Member State may use the number of inhabitants in a supply zone instead of the volume of water to determine the minimum frequency, assuming a water consumption of 200 l/day/capita.

Note 3: In the event of intermittent short-term supply the monitoring frequency of water distributed by tankers is to be decided by the Member State concerned.

Note 4: For the different parameters in Annex I, a Member State may reduce the number of samples specified in the table if:

(a) the values of the results obtained from samples taken during a period of at least two successive years are constant and significantly better than the limits laid down in Annex I, and

(b) no factor is likely to cause a deterioration of the quality of the water.

The lowest frequency applied must not be less than 50 % of the number of samples specified in the table except in the particular case of note 6.

Note 5: As far as possible, the number of samples should be distributed equally in time and location.

Note 6: The frequency is to be decided by the Member State concerned.

TABLE B2 Minimum frequency of sampling and analysis for water put into bottles or containers intended for sale

(1*) In all other cases, the parameters are in the list for audit monitoring.

ANNEX III

SPECIFICATIONS FOR THE ANALYSIS OF PARAMETERS

Each Member State must ensure that any laboratory at which samples are analysed has a system of analytical quality control that is subject from time to time to checking by a person who is not under the control of the laboratory and who is approved by the competent authority for that purpose.

1. PARAMETERS FOR WHICH METHODS OF ANALYSIS ARE SPECIFIED

The following principles for methods of microbiological parameters are given either for reference whenever a CEN/ISO method is given or for guidance, pending the possible future adoption, in accordance with the procedure laid down in Article 12, of further CEN/ISO international methods for these parameters. Member States may use alternative methods, providing the provisions of Article 7(5) are met.

Coliform bacteria and Escherichia coli (E. coli) (ISO 9308-1)

Enterococci (ISO 7899-2)

Pseudomonas aeruginosa (prEN ISO 12780)

Enumeration of culturable microorganisms - Colony count 22 °C (prEN ISO 6222)

Enumeration of culturable microorganisms - Colony count 37 °C (prEN ISO 6222)

Clostridium perfringens (including spores)

Membrane filtration followed by anaerobic incubation of the membrane on m-CP agar (Note 1) at 44 ± 1 °C for 21 ± 3 hours.

Count opaque yellow colonies that turn pink or red after exposure to ammonium hydroxide vapours for 20 to 30 seconds.

Note 1: The composition of m-CP agar is:

Dissolve the ingredients of the basal medium, adjust pH to 7,6 and autoclave at 121 °C for 15 minutes. Allow the medium to cool and add:

2. PARAMETERS FOR WHICH PERFORMANCE CHARACTERISTICS ARE SPECIFIED

2.1. For the following parameters, the specified performance characteristics are that the method of analysis used must, as a minimum, be capable of measuring concentrations equal to the parametric value with a trueness, precision and limit of detection specified. Whatever the sensitivity of the method of analysis used, the result must be expressed using at least the same number of decimals as for the parametric value considered in Annex I, Parts B and C.

2.2. For hydrogen ion concentration the specified performance characteristics are that the method of analysis used must be capable of measuring concentrations equal to the parametric value with a trueness of 0,2 pH unit and a precision of 0,2 pH unit.

Note 1 (1*): Trueness is the systematic error and is the difference between the mean value of the large number of repeated measurements and the true value.

Note 2 (2*): Precision is the random error and is usually expressed as the standard deviation (within and between batch) of the spread of results about the mean. Acceptable precision is twice the relative standard deviation.

Note 3: Limit of detection is either:

- three times the relative within batch standard deviation of a natural sample containing a low concentration of the parameter, or

- five times the relative within batch standard deviation of a blank sample.

Note 4: The method should determine total cyanide in all forms.

Note 5: Oxidation should be carried out for 10 minutes at 100 °C under acid conditions using permanganate.

Note 6: The performance characteristics apply to each individual pesticide and will depend on the pesticide concerned. The limit of detection may not be achievable for all pesticides at present, but Member States should strive to achieve this standard.

Note 7: The performance characteristics apply to the individual substances specified at 25 % of the parametric value in Annex I.

Note 8: The performance characteristics apply to the individual substances specified at 50 % of the parametric value in Annex I.

3. PARAMETERS FOR WHICH NO METHOD OF ANALYSIS IS SPECIFIED

Colour

Odour
Taste
Total organic carbon
Turbidity (Note 1)

Note 1: For turbidity monitoring in treated surface water the specified performance characteristics are that the method of analysis used must, as a minimum, be capable of measuring concentrations equal to the parametric value with a trueness of 25%, precision of 25 % and a 25 % limit of detection.

(1*) These terms are further defined in ISO 5725.

Document delivered on: 13/03/1999

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

Official Journal L 327, 22/12/2000 P. 0001

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 EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

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

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

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

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

Acting in accordance with the procedure laid down in Article 251 of the Treaty (4), and in the light of the joint text approved by the Conciliation Committee on 18 July 2000,

Whereas:

(1) Water is not a commercial product like any other but, rather, a heritage which must be protected, defended and treated as such.

(2) The conclusions of the Community Water Policy Ministerial Seminar in Frankfurt in 1988 highlighted the need for Community legislation covering ecological quality. The Council in its resolution of 28 June 1988(5) asked the Commission to submit proposals to improve ecological quality in Community surface waters.

(3) The declaration of the Ministerial Seminar on groundwater held at The Hague in 1991 recognised the need for action to avoid long-term deterioration of freshwater quality and quantity and called for a programme of actions to be implemented by the year 2000 aiming at sustainable management and protection of freshwater resources. In its resolutions of 25 February 1992(6), and 20 February 1995(7), the Council requested an action programme for groundwater and a revision of Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances (8), as part of an overall policy on freshwater protection.

(4) Waters in the Community are under increasing pressure from the continuous growth in demand for sufficient quantities of good quality water for all purposes. On 10 November 1995, the European Environment Agency in its report "Environment in the European Union - 1995" presented an updated state of the environment report, confirming the need for action to protect Community waters in qualitative as well as in quantitative terms.

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

6) On 21 February 1996 the Commission adopted a communication to the European Parliament and the Council on European Community water policy setting out the principles for a Community water policy.

(7) On 9 September 1996 the Commission presented a proposal for a Decision of the European Parliament and of the Council on an action programme for integrated protection and management of groundwater (9). In that proposal the Commission pointed to the need to establish procedures for the regulation of abstraction of freshwater and for the monitoring of freshwater quality and quantity.

(8) On 29 May 1995 the Commission adopted a communication to the European Parliament and the Council on the wise use and conservation of wetlands, which recognised the important functions they perform for the protection of water resources.

(9) It is necessary to develop an integrated Community policy on water.

(10) The Council on 25 June 1996, the Committee of the Regions on 19 September 1996, the Economic and Social Committee on 26 September 1996, and the European Parliament on 23 October 1996 all requested the Commission to come forward with a proposal for a Council Directive establishing a framework for a European water policy.

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

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

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

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

(15) The supply of water is a service of general interest as defined in the Commission communication on services of general interest in Europe (10).

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

(17) An effective and coherent water policy must take account of the vulnerability of aquatic ecosystems located near the coast and estuaries or in gulfs or relatively closed seas, as their equilibrium is strongly influenced by the quality of inland waters flowing into them. Protection of water status within river basins will provide economic benefits by contributing towards the protection of fish populations, including coastal fish populations.

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

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

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

(21) The Community and Member States are party to various international agreements containing important obligations on the protection of marine waters from pollution, in particular the Convention on the Protection of the Marine Environment of the Baltic Sea Area, signed in Helsinki on 9 April 1992 and approved by Council Decision 94/157/EC (11), the Convention for the Protection of the Marine Environment of the North-East Atlantic, signed in Paris on 22 September 1992 and approved by Council Decision 98/249/EC (12), and the Convention for the Protection of the Mediterranean Sea Against Pollution, signed in Barcelona on 16 February 1976 and approved by Council Decision 77/585/EEC (13), and its Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources, signed in Athens on 17 May 1980 and approved by Council Decision 83/101/EEC (14). This Directive is to make a contribution towards enabling the Community and Member States to meet those obligations.

(22) This Directive is to contribute to the progressive reduction of emissions of hazardous substances to water.

(23) Common principles are needed in order to coordinate Member States' efforts to improve the protection of Community waters in terms of quantity and quality, to promote sustainable water use, to contribute to the control of trans boundary water problems, to protect aquatic ecosystems, and terrestrial ecosystems and wetlands directly depending on them, and to safeguard and develop the potential uses of Community waters.

(24) Good water quality will contribute to securing the drinking water supply for the population.

(25) Common definitions of the status of water in terms of quality and, where relevant for the purpose of the environmental protection, quantity should be established. Environmental objectives should be set to ensure that good status of surface water and groundwater is achieved throughout the Community and that deterioration in the status of waters is prevented at Community level.

(26) Member States should aim to achieve the objective of at least good water status by defining and implementing the necessary measures within integrated

programmes of measures, taking into account existing Community requirements. Where good water status already exists, it should be maintained. For groundwater, in addition to the requirements of good status, any significant and sustained upward trend in the concentration of any pollutant should be identified and reversed.

(27) The ultimate aim of this Directive is to achieve the elimination of priority hazardous substances and contribute to achieving concentrations in the marine environment near background values for naturally occurring substances.

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

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

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

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

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

(33) The objective of achieving good water status should be pursued for each river basin, so that measures in respect of surface water and ground waters belonging to the same ecological, hydrological and hydro geological system are coordinated.

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

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

international lakes, approved by Council Decision 95/308/EC(15) and any succeeding agreements on its application.

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

(37) Member States should identify waters used for the abstraction of drinking water and ensure compliance with Council Directive 80/778/EEC of 15 July 1980 relating to the quality of water intended for human consumption (16).

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

(39) There is a need to prevent or reduce the impact of incidents in which water is accidentally polluted. Measures with the aim of doing so should be included in the programme of measures.

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

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

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

(43) Pollution through the discharge, emission or loss of priority hazardous substances must cease or be phased out. The European Parliament and the Council should, on a proposal from the Commission, agree on the substances to be considered for action as a priority and on specific measures to be taken against pollution of water by those substances, taking into account all significant sources and identifying the cost-effective and proportionate level and combination of controls.

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

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

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

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

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

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

(50) The measures necessary for the implementation of this Directive should be adopted in accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission (17).

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

(52) The provisions of this Directive take over the framework for control of pollution by dangerous substances established under Directive 76/464/EEC (18). That Directive should therefore be repealed once the relevant provisions of this Directive have been fully implemented.

(53) Full implementation and enforcement of existing environmental legislation for the protection of waters should be ensured. It is necessary to ensure the proper application of the provisions implementing this Directive throughout the Community by appropriate penalties provided for in Member States' legislation. Such penalties should be effective, proportionate and dissuasive,

HAVE ADOPTED THIS DIRECTIVE:

Article 1

Purpose

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

(a) prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems;

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

(c) aims at enhanced protection and improvement of the aquatic environment, inter alia, through specific measures for the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances;

(d) ensures the progressive reduction of pollution of groundwater and prevents its further pollution, and

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

- the provision of the sufficient supply of good quality surface water and groundwater as needed for sustainable, balanced and equitable water use,
- a significant reduction in pollution of groundwater,
- the protection of territorial and marine waters, and
- achieving the objectives of relevant international agreements, including those which aim to prevent and eliminate pollution of the marine environment, by Community action under Article 16(3) to cease or phase out discharges, emissions and losses of priority hazardous substances, with the ultimate aim of achieving concentrations in the marine environment near background values for naturally occurring substances and close to zero for man-made synthetic substances.

Article 2

Definitions

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

1. "Surface water" means inland waters, except groundwater; transitional waters and coastal waters, except in respect of chemical

2. "Groundwater" means all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

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

4. "River" means a body of inland water flowing for the most part on the surface of the land but which may flow underground for part of its course.

5. "Lake" means a body of standing inland surface water.

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

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

8. "Artificial water body" means a body of surface water created by human activity.

9. "Heavily modified water body" means a body of surface water which as a result of physical alterations by human activity is substantially changed in character, as designated by the Member State in accordance with the provisions of Annex II.

10. "Body of surface water" means a discrete and significant element of surface water such as a lake, a reservoir, a stream, river or canal, part of a stream, river or canal, a transitional water or a stretch of coastal water.

11. "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.

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

13. "River basin" means the area of land from which all-surface run-off flows through a sequence of streams, rivers and, possibly, lakes into the sea at a single river mouth, estuary or delta.

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

15. "River basin district" means the area of land and sea, made up of one or more neighbouring river basins together with their associated ground waters and coastal waters, which is identified under Article 3(1) as the main unit for management of river basins.

16. "Competent Authority" means an authority or authorities identified under Article 3(2) or 3(3).

17. "Surface water status" is the general expression of the status of a body of surface water, determined by the poorer of its ecological status and its chemical status.

18. "Good surface water status" means the status achieved by a surface water body when both its ecological status and its chemical status are at least "good".

19. "Groundwater status" is the general expression of the status of a body of groundwater, determined by the poorer of its quantitative status and its chemical status.

20. "Good groundwater status" means the status achieved by a groundwater body when both its quantitative status and its chemical status are at least "good".

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

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

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

24. "Good surface water chemical status" means the chemical status required to meet the environmental objectives for surface waters established in Article 4(1)(a), that is the chemical status achieved by a body of surface water in which concentrations of pollutants do not exceed the environmental quality standards established in Annex IX and under Article 16(7), and under other relevant Community legislation setting environmental quality standards at Community level.

25. "Good groundwater chemical status" is the chemical status of a body of groundwater, which meets all the conditions set out in table 2.3.2 of Annex V.

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

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

28. "Good quantitative status" is the status defined in table 2.1.2 of Annex V.

29. "Hazardous substances" means substances or groups of substances that are toxic, persistent and liable to bio-accumulate, and other substances or groups of substances which give rise to an equivalent level of concern.

30. "Priority substances" means substances identified in accordance with Article 16(2) and listed in Annex X. Among these substances there are "priority hazardous substances" which means substances identified in accordance with Article 16(3) and (6) for which measures have to be taken in accordance with Article 16(1) and (8).

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

32. "Direct discharge to groundwater" means discharge of pollutants into groundwater without percolation throughout the soil or subsoil.

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

34. "Environmental objectives" means the objectives set out in Article 4.

35. "Environmental quality standard" means the concentration of a particular pollutant or group of pollutants in water, sediment or biota which should not be exceeded in order to protect human health and the environment.

36. "Combined approach" means the control of discharges and emissions into surface waters according to the approach set out in Article 10.

37. "Water intended for human consumption" has the same meaning as under Directive 80/778/EEC, as amended by Directive 98/83/EC.

38. "Water services" means all services which provide, for households, public institutions or any economic activity:

(a) abstraction, impoundment, storage, treatment and distribution of surface water or groundwater,

(b) waste-water collection and treatment facilities which subsequently discharge into surface water.

39. "Water use" means water services together with any other activity identified under Article 5 and Annex II having a significant impact on the status of water. This concept applies for the purposes of Article 1 and of the economic analysis carried out according to Article 5 and Annex III, point (b).

40. "Emission limit values" means the mass, expressed in terms of certain specific parameters, concentration and/or level of an emission, which may not be exceeded during any one or more periods of time. Emission limit values may also be laid down for certain groups, families or categories of substances, in particular for those identified under Article 16. The emission limit values for substances shall normally apply at the point where the emissions leave the installation, dilution being disregarded when determining them. With regard to indirect releases into water, the effect of a wastewater treatment plant may be taken into account when determining the emission limit values of the installations involved, provided that an equivalent level is guaranteed for protection of the environment as a whole and provided that this does not lead to higher levels of pollution in the environment.

41. "Emission controls" are controls requiring a specific emission limitation, for instance an emission limit value, or otherwise specifying limits or conditions on the effects, nature or other characteristics of an emission or operating conditions which affect emissions. Use of the term "emission control" in this Directive in respect of the provisions of any other Directive shall not be held as reinterpreting those provisions in any respect.

Article 3

Coordination of administrative arrangements within river basin districts

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

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

3. Member States shall ensure that a river basin covering the territory of more than one Member State is assigned to an international river basin district. At the request of the Member States involved, the Commission shall act to facilitate the assigning to such international river basin districts. Each Member State shall ensure the appropriate administrative arrangements, including the identification of the appropriate competent authority, for the application of the rules of this Directive within the portion of any international river basin district lying within its territory.

4. Achievement of the environmental objectives established under Article 4, and in particular all programmes of measures are coordinated for the whole of the river basin district. For international river basin districts the Member States concerned shall together ensure this coordination and may, for this purpose, use existing structures stemming from international agreements. At the request of the Member States involved, the Commission shall act to facilitate the establishment of the programmes of measures.

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

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

7. Member States shall identify the competent authority by the date mentioned in Article 24.

8. Member States shall provide the Commission with a list of their competent authorities and of the competent authorities of all the international bodies in which they participate at the latest six months after the date mentioned in Article 24. For each competent authority the information set out in Annex I shall be provided.

9. Member States shall inform the Commission of any changes to the information provided according to paragraph 8 within three months of the change coming into effect.

Article 4

Environmental objectives

1. 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 hydro morphological 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 socio-economic 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.

Article 5

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

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

- an analysis of its characteristics,
- a review of the impact of human activity on the status of surface waters and on groundwater, and
- an economic analysis of water use is undertaken according to the technical specifications set out in Annexes II and III and that it is completed at the latest four years after the date of entry into force of this Directive.

2. The analyses and reviews mentioned under paragraph 1 shall be reviewed, and if necessary updated at the latest 13 years after the date of entry into force of this Directive and every six years thereafter.

Article 6

Register of protected areas

1. Member States shall ensure the establishment of a register or registers of all areas lying within each river basin district which have been designated as requiring special protection under specific Community legislation for the protection of their surface water and groundwater or for the conservation of habitats and species directly depending on water. They shall ensure that the register is completed at the latest four years after the date of entry into force of this Directive.

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

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

Article 7

Waters used for the abstraction of drinking water

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

- all bodies of water used for the abstraction of water intended for human consumption providing more than 10 m³ a day as an average or serving more than 50 persons, and

- those bodies of water intended for such future use.

Member States shall monitor, in accordance with Annex V, those bodies of water which according to Annex V, provide more than 100 m³ a day as an average.

2. For each body of water identified under paragraph 1, in addition to meeting the objectives of Article 4 in accordance with the requirements of this Directive, for surface water bodies including the quality standards established at Community level under Article 16, Member States shall ensure that under the water treatment regime applied, and in accordance with Community legislation, the resulting water will meet the requirements of Directive 80/778/EEC as amended by Directive 98/83/EC.

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

Article 8

Monitoring of surface water status, groundwater status and protected areas

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

- for surface waters such programmes shall cover:

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

(ii) the ecological and chemical status and ecological potential;

- for ground waters such programmes shall cover monitoring of the chemical and quantitative status,

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

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

3. Technical specifications and standardised methods for analysis and monitoring of water status shall be laid down in accordance with the procedure laid down in Article 21.

Article 9

Recovery of costs for water services

1. Member States shall take account of the principle of recovery of the costs of water services, including environmental and resource costs, having regard to the economic analysis conducted according to Annex III, and in accordance in particular with the polluter pays principle. Member States shall ensure by 2010

- that water-pricing policies provide adequate incentives for users to use water resources efficiently, and thereby contribute to the environmental objectives of this Directive,

- an adequate contribution of the different water uses, disaggregated into at least industry, households and agriculture, to the recovery of the costs of water services, based on the economic analysis conducted according to Annex III and taking account of the polluter pays principle. Member States may in so doing have regard to the social, environmental and economic effects of the recovery as well as the geographic and climatic conditions of the region or regions affected.

2. Member States shall report in the river basin management plans on the planned steps towards implementing paragraph 1 which will contribute to achieving the environmental objectives of this Directive and on the contribution made by the various water uses to the recovery of the costs of water services.

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

4. Member States shall not be in breach of this Directive if they decide in accordance with established practices not to apply the provisions of paragraph 1, second sentence, and for that purpose the relevant provisions of paragraph 2, for a given water-use activity, where this does not compromise the purposes and the achievement of the objectives of this Directive. Member States shall report the reasons for not fully applying paragraph 1, second sentence, in the river basin management plans.

Article 10

The combined approach for point and diffuse sources

1. Member States shall ensure that all discharges referred to in paragraph 2 into surface waters are controlled according to the combined approach set out in this Article.

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

(a) the emission controls based on best available techniques, or

(b) the relevant emission limit values, or

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

- Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control (19),

- Council Directive 91/271/EEC of 21 May 1991 concerning urban wastewater treatment (20),

- Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources (21),

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

- the Directives listed in Annex IX,

- any other relevant Community legislation at the latest 12 years after the date of entry into force of this Directive, unless otherwise specified in the legislation concerned.

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

Article 11

Programme of measures

1. Each Member State shall ensure the establishment for each river basin district, or for the part of an international river basin district within its territory, of a programme of measures, taking account of the results of the analyses required under Article 5, in order to achieve the objectives established under Article 4. Such programmes of measures may make reference to measures following from legislation adopted at national level and covering the whole of the territory of a Member State. Where appropriate, a Member State may adopt measures applicable to all river basin districts and/or the portions of international river basin districts falling within its territory.

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

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

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

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

(c) measures to promote an efficient and sustainable water use in order to avoid compromising the achievement of the objectives specified in Article 4;

(d) measures to meet the requirements of Article 7, including measures to safeguard water quality in order to reduce the level of purification treatment required for the production of drinking water;

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

(f) controls, including a requirement for prior authorisation of artificial recharge or augmentation of groundwater bodies. The water used may be derived from any surface water or groundwater, provided that the use of the source does not compromise the achievement of the environmental objectives established for the source or the recharged or augmented body of groundwater. These controls shall be periodically reviewed and, where necessary, updated;

(g) for point source discharges liable to cause pollution, a requirement for prior regulation, such as a prohibition on the entry of pollutants into water, or for prior authorisation, or registration based on general binding rules, laying down emission controls for the pollutants concerned, including controls in accordance with Articles 10 and 16. These controls shall be periodically reviewed and, where necessary, updated;

(h) for diffuse sources liable to cause pollution, measures to prevent or control the input of pollutants. Controls may take the form of a requirement for prior regulation, such as a prohibition on the entry of pollutants into water, prior authorisation or registration based on general binding rules where such a requirement is not otherwise provided for under Community legislation. These controls shall be periodically reviewed and, where necessary, updated;

(i) for any other significant adverse impacts on the status of water identified under Article 5 and Annex II, in particular measures to ensure that the hydro morphological conditions of the bodies of water are consistent with the achievement of the required ecological status or good ecological potential for bodies of water

designated as artificial or heavily modified. Controls for this purpose may take the form of a requirement for prior authorisation or registration based on general binding rules where such a requirement is not otherwise provided for under Community legislation. Such controls shall be periodically reviewed and, where necessary, updated;

(j) a prohibition of direct discharges of pollutants into groundwater subject to the following provisions:

Member States may authorise reinjection into the same aquifer of water used geothermal purposes.

They may also authorise, specifying the conditions for:

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

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

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

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

- construction, civil engineering and building works and similar activities on, or in the ground which come into contact with groundwater. For these purposes, Member States may determine that such activities are to be treated as having been authorised provided that they are conducted in accordance with general binding rules developed by the Member State in respect of such activities,

- discharges of small quantities of substances for scientific purposes for characterisation, protection or remediation of water bodies limited to the amount strictly necessary for the purposes concerned provided such discharges do not compromise the achievement of the environmental objectives established for that body of groundwater;

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

(l) any measures required to prevent significant losses of pollutants from technical installations, and to prevent and/or to reduce the impact of accidental pollution incidents for example as a result of floods, including through systems to detect or give warning of such events including, in the case of accidents which could not reasonably have been foreseen, all appropriate measures to reduce the risk to aquatic ecosystems.

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

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

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

- the causes of the possible failure are investigated,
- relevant permits and authorisations are examined and reviewed as appropriate,
- the monitoring programmes are reviewed and adjusted as appropriate, and
- additional measures as may be necessary in order to achieve those objectives are established, including, as appropriate, the establishment of stricter environmental quality standards following the procedures laid down in Annex V. Where those causes are the result of circumstances of natural cause or force majeure which are exceptional and could not reasonably have been foreseen, in particular extreme floods and prolonged droughts, the Member State may determine that additional measures are not practicable, subject to Article 4(6).

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

7. The programmes of measures shall be established at the latest nine years after the date of entry into force of this Directive and all the measures shall be made operational at the latest 12 years after that date.

8. The programmes of measures shall be reviewed, and if necessary updated at the latest 15 years after the date of entry into force of this Directive and every six years thereafter. Any new or revised measures established under an updated programme shall be made operational within three years of their establishment.

Article 12

Issues which can not be dealt with at Member State level

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

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

Article 13

River basin management plans

1. Member States shall ensure that a river basin management plan is produced for each river basin district lying entirely within their territory.

2. In the case of an international river basin district falling entirely within the Community, Member States shall ensure coordination with the aim of producing a single international river basin management plan. Where such an international river basin management plan is not produced, Member States shall produce river basin

management plans covering at least those parts of the international river basin district falling within their territory to achieve the objectives of this Directive.

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

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

5. River basin management plans may be supplemented by the production of more detailed programmes and management plans for sub-basin, sector, issue, or water type, to deal with particular aspects of water management. Implementation of these measures shall not exempt Member States from any of their obligations under the rest of this Directive.

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

7. River basin management plans shall be reviewed and updated at the latest 15 years after the date of entry into force of this Directive and every six years thereafter.

Article 14

Public information and consultation

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

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

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

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

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

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

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

Article 15

Reporting

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

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

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

2. Member States shall submit summary reports of:

- the analyses required under Article 5, and
- the monitoring programmes designed under Article 8 undertaken for the purposes of the first river basin management plan within three months of their completion.

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

Article 16

Strategies against pollution of water

1. The European Parliament and the Council shall adopt specific measures against pollution of water by individual pollutants or groups of pollutants presenting a significant risk to or via the aquatic environment, including such risks to waters used for the abstraction of drinking water. For those pollutants measures shall be aimed at the progressive reduction and, for priority hazardous substances, as defined in Article 2(30), at the cessation or phasing-out of discharges, emissions and losses. Such measures shall be adopted acting on the proposals presented by the Commission in accordance with the procedures laid down in the Treaty.

2. The Commission shall submit a proposal setting out a list of priority substances selected amongst those which present a significant risk to or via the aquatic environment. Substances shall be prioritised for action on the basis of risk to or via the aquatic environment, identified by:

(a) risk assessment carried out under Council Regulation (EEC) No 793/93(22), Council Directive 91/414/EEC (23), and Directive 98/8/EC of the European Parliament and of the Council (24), or

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

When necessary in order to meet the timetable laid down in paragraph 4, substances shall be prioritised for action on the basis of risk to, or via the aquatic environment, identified by a simplified risk-based assessment procedure based on scientific principles taking particular account of:

- evidence regarding the intrinsic hazard of the substance concerned, and in particular its aquatic ecotoxicity and human toxicity via aquatic exposure routes, and
- evidence from monitoring of widespread environmental contamination, and
- other proven factors which may indicate the possibility of widespread environmental contamination, such as production or use volume of the substance concerned, and use patterns.

3. The Commission's proposal shall also identify the priority hazardous substances. In doing so, the Commission shall take into account the selection of substances of concern undertaken in the relevant Community legislation regarding hazardous substances or relevant international agreements.

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

5. In preparing its proposal, the Commission shall take account of recommendations from the Scientific Committee on Toxicity, Ecotoxicity and the

Environment, Member States, the European Parliament, the European Environment Agency, Community research programmes, international organisations to which the Community is a party, European business organisations including those representing small and medium-sized enterprises, European environmental organisations, and of other relevant information which comes to its attention.

6. For the priority substances, the Commission shall submit proposals of controls for:

- the progressive reduction of discharges, emissions and losses of the substances concerned, and, in particular
- the cessation or phasing-out of discharges, emissions and losses of the substances as identified in accordance with paragraph 3, including an appropriate timetable for doing so. The timetable shall not exceed 20 years after the adoption of these proposals by the European Parliament and the Council in accordance with the provisions of this Article. In doing so it shall identify the appropriate cost-effective and proportionate level and combination of product and process controls for both point and diffuse sources and take account of Community-wide uniform emission limit values for process controls. Where appropriate, action at Community level for process controls may be established on a sector-by-sector basis. Where product controls include a review of the relevant authorisations issued under Directive 91/414/EEC and Directive 98/8/EC, such reviews shall be carried out in accordance with the provisions of those Directives. Each proposal for controls shall specify arrangements for their review, updating and for assessment of their effectiveness.

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

8. The Commission shall submit proposals, in accordance with paragraphs 6 and 7, and at least for emission controls for point sources and environmental quality standards within two years of the inclusion of the substance concerned on the list of priority substances. For substances included in the first list of priority substances, in the absence of agreement at Community level six years after the date of entry into force of this Directive, Member States shall establish environmental quality standards for these substances for all surface waters affected by discharges of those substances, and controls on the principal sources of such discharges, based, inter alia, on consideration of all technical reduction options. For substances subsequently included in the list of priority substances, in the absence of agreement at Community level, Member States shall take such action five years after the date of inclusion in the list.

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

10. In preparing its proposals under paragraphs 6 and 7, the Commission shall also review all the Directives listed in Annex IX. It shall propose, by the deadline in paragraph 8, a revision of the controls in Annex IX for all those substances which are included in the list of priority substances and shall propose the appropriate measures including the possible repeal of the controls under Annex IX for all other substances. All the controls in Annex IX for which revisions are proposed shall be repealed by the date of entry into force of those revisions.

11. The list of priority substances of substances mentioned in paragraphs 2 and 3 proposed by the Commission shall, on its adoption by the European Parliament and the Council, become Annex X to this Directive. Its revision mentioned in paragraph 4 shall follow the same procedure.

Article 17

Strategies to prevent and control pollution of groundwater

1. The European Parliament and the Council shall adopt specific measures to prevent and control groundwater pollution. Such measures shall be aimed at achieving the objective of good groundwater chemical status in accordance with Article 4(1)(b) and shall be adopted, acting on the proposal presented within two years after the entry into force of this Directive, by the Commission in accordance with the procedures laid down in the Treaty.

2. In proposing measures the Commission shall have regard to the analysis carried out according to Article 5 and Annex II. Such measures shall be proposed earlier if data are available and shall include:

(a) criteria for assessing good groundwater chemical status, in accordance with Annex II.2.2 and Annex V 2.3.2 and 2.4.5;

(b) criteria for the identification of significant and sustained upward trends and for the definition of starting points for trend reversals to be used in accordance with Annex V 2.4.4.

3. Measures resulting from the application of paragraph 1 shall be included in the programmes of measures required under Article 11.

4. In the absence of criteria adopted under paragraph 2 at Community level, Member States shall establish appropriate criteria at the latest five years after the date of entry into force of this Directive.

5. In the absence of criteria adopted under paragraph 4 at national level, trend reversal shall take as its starting point a maximum of 75 % of the level of the quality standards set out in existing Community legislation applicable to groundwater.

Article 18

Commission report

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

2. The report shall include the following:

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

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

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

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

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

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

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

4. The Commission shall, within three years of the publication of each report under paragraph 1, publish an interim report describing progress in implementation on

the basis of the interim reports of the Member States as mentioned in Article 15(3). This shall be submitted to the European Parliament and to the Council.

5. The Commission shall convene when appropriate, in line with the reporting cycle, a conference of interested parties on Community water policy from each of the Member States, to comment on the Commission's implementation reports and to share experiences. Participants should include representatives from the competent authorities, the European Parliament, NGOs, the social and economic partners, consumer bodies, academics and other experts.

Article 19

Plans for future Community measures

1. Once a year, the Commission shall for information purposes present to the Committee referred to in Article 21 an indicative plan of measures having an impact on water legislation which it intends to propose in the near future, including any emerging from the proposals, control measures and strategies developed under Article 16. The Commission shall make the first such presentation at the latest two years after the date of entry into force of this Directive.

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

Article 20

Technical adaptations to the Directive

1. Annexes I, III and section 1.3.6 of Annex V may be adapted to scientific and technical progress in accordance with the procedures laid down in Article 21, taking account of the periods for review and updating of the river basin management plans as referred to in Article 13. Where necessary, the Commission may adopt guidelines on the implementation of Annexes II and V in accordance with the procedures laid down in Article 21.

2. For the purpose of transmission and processing of data, including statistical and cartographic data, technical formats for the purpose of paragraph 1 may be adopted in accordance with the procedures laid down in Article 21.

Article 21

Regulatory committee

1. The Commission shall be assisted by a committee (hereinafter referred to as "the Committee").

2. Where reference is made to this Article, Articles 5 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof. The period laid down in Article 5(6) of Decision 1999/468/EC shall be set at three months.

3. The Committee shall adopt its rules of procedure.

Article 22

Repeals and transitional provisions

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

- Directive 75/440/EEC of 16 June 1975 concerning the quality required of surface water intended for the abstraction of drinking water in the Member States (25),

- Council Decision 77/795/EEC of 12 December 1977 establishing a common procedure for the exchange of information on the quality of surface freshwater in the Community (26),

- Council Directive 79/869/EEC of 9 October 1979 concerning the methods of measurement and frequencies of sampling and analysis of surface water intended for the abstraction of drinking waters in the Member States (27).

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

- Council Directive 78/659/EEC of 18 July 1978 on the quality of freshwaters needing protection or improvement in order to support fish life (28),

- Council Directive 79/923/EEC of 30 October 1979 on the quality required of shellfish waters (29),

- Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances,

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

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

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

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

4. The environmental objectives in Article 4 and environmental quality standards established in Annex IX and pursuant to Article 16(7), and by Member States under Annex V for substances not on the list of priority substances and under Article 16(8) in respect of priority substances for which Community standards have not been set, shall be regarded as environmental quality standards for the purposes of point 7 of Article 2 and Article 10 of Directive 96/61/EC.

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

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

Article 23

Penalties

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

Article 24

Implementation

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive at the latest 22 December 2003. They shall forthwith inform the Commission thereof. When Member States adopt these measures, they shall contain a reference to this Directive or shall be

accompanied by such a reference on the occasion of their official publication. The methods of making such a reference shall be laid down by the Member States.

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

Article 25

Entry into force

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

Article 26

Addressees

This Directive is addressed to the Member States.

Done at Luxembourg, 23 October 2000.

For the European Parliament

The President

N. Fontaine

For the Council

The President

J. Glavany

(1) OJ C 184, 17.6.1997, p. 20,

OJ C 16, 20.1.1998, p. 14 and

OJ C 108, 7.4.1998, p. 94.

(2) OJ C 355, 21.11.1997, p. 83.

(3) OJ C 180, 11.6.1998, p. 38.

(4) Opinion of the European Parliament of 11 February 1999 (OJ C 150, 28.5.1999, p. 419), confirmed on 16 September 1999, and Council Common Position of 22 October 1999 (OJ C 343, 30.11.1999, p. 1). Decision of the European Parliament of 7 September 2000 and Decision of the Council of 14 September 2000.

(5) OJ C 209, 9.8.1988, p. 3.

(6) OJ C 59, 6.3.1992, p. 2.

(7) OJ C 49, 28.2.1995, p. 1.

(8) OJ L 20, 26.1.1980, p. 43. Directive as amended by Directive 91/692/EEC (OJ L 377, 31.12.1991, p. 48).

(9) OJ C 355, 25.11.1996, p. 1.

(10) OJ C 281, 26.9.1996, p. 3.

(11) OJ L 73, 16.3.1994, p. 19.

(12) OJ L 104, 3.4.1998, p. 1.

(13) OJ L 240, 19.9.1977, p. 1.

(14) OJ L 67, 12.3.1983, p. 1.

(15) OJ L 186, 5.8.1995, p. 42.

(16) OJ L 229, 30.8.1980, p. 11. Directive as last amended by Directive 98/83/EC (OJ L 330, 5.12.1998, p. 32).

(17) OJ C 184, 17.7.1999, p. 23.

- (18) OJ L 129, 18.5.1976, p. 23. Directive as amended by Directive 91/692/EEC (OJ L 377, 31.12.1991, p. 48).
- (19) OJ L 257, 10.10.1996, p. 26.
- (20) OJ L 135, 30.5.1991, p. 40. Directive as amended by Commission Directive 98/15/EC (OJ L 67, 7.3.1998, p. 29).
- (21) OJ L 375, 31.12.1991, p. 1.
- (22) OJ L 84, 5.4.1993, p. 1.
- (23) OJ L 230, 19.8.1991, p. 1. Directive as last amended by Directive 98/47/EC (OJ L 191, 7.7.1998, p. 50).
- (24) OJ L 123, 24.4.1998, p. 1.
- (25) OJ L 194, 25.7.1975, p. 26. Directive as last amended by Directive 91/692/EEC.
- (26) OJ L 334, 24.12.1977, p. 29. Decision as last amended by the 1994 Act of Accession.
- (27) OJ L 271, 29.10.1979, p. 44. Directive as last amended by the 1994 Act of Accession.
- (28) OJ L 222, 14.8.1978, p. 1. Directive as last amended by the 1994 Act of Accession.
- (29) OJ L 281, 10.11.1979, p. 47. Directive as amended by Directive 91/692/EEC.

ANNEX I

INFORMATION REQUIRED FOR THE LIST OF COMPETENT AUTHORITIES

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

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

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

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

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

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

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

ANNEX II

1 SURFACE WATERS

1.1. Characterisation of surface water body types

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

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

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

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

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

(v) For artificial and heavily modified surface water bodies the differentiation shall be undertaken in accordance with the descriptors for whichever of the surface water categories 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

System A

System B

1.2.2. Lakes

System A

System B

1.2.3. Transitional Waters

System A

System B

1.2.4. Coastal Waters

System A

System B

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

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

(ii) In applying the procedures set out in this section to heavily modified or artificial surface water 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(1); 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(3).

Estimation and identification of significant diffuse source pollution, in particular by substances listed in Annex VIII, from urban, industrial, agricultural and other installations and activities; based, inter alia, on information gathered under:

- (i) Articles 3, 5 and 6 of Directive 91/676/EEC (4);
- (ii) Articles 7 and 17 of Directive 91/414/EEC;
- (iii) Directive 98/8/EC; and for the purposes of the first river basin management plan:
- (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 ground waters

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 m³ per day, or,

- points for the abstraction of water intended for human consumption providing less than an average of 10 m³ 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) land 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.

(1) OJ L 135, 30.5.1991, p. 40. Directive as last amended by Directive 98/15/EC (OJ L 67, 7.3.1998, p. 29).

(2) OJ L 31, 5.2.1976, p. 1. Directive as last amended by the 1994 Act of Accession.

(3) OJ L 281, 10.11.1979, p. 47. Directive as amended by Directive 91/692/EEC (OJ L 377, 31.12.1991, p. 48).

(4) OJ L 375, 31.12.1991, p. 1.

ANNEX III

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 Article 9 the principle of recovery of the costs of water services, taking account of long term forecasts of supply and demand for water in the river basin district and, where necessary:

- estimates of the volume, prices and costs associated with water services, and
- estimates of relevant investment including forecasts of such investments;

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

ANNEX IV

PROTECTED AREAS

1. The register of protected areas required under Article 6 shall include the following types of protected areas:

(i) areas designated for the abstraction of water intended for human consumption under Article 7;

(ii) areas designated for the protection of economically significant aquatic species;

(iii) bodies of water designated as recreational waters, including areas designated as bathing waters under Directive 76/160/EEC;

(iv) nutrient-sensitive areas, including areas designated as vulnerable zones under Directive 91/676/EEC and areas designated as sensitive areas under Directive 91/271/EEC; and

(v) areas designated for the protection of habitats or species where the maintenance or improvement of the status of water is an important factor in their protection, including relevant Natura 2000 sites designated under Directive 92/43/EEC (1) and Directive 79/409/EEC(2).

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

(1) OJ L 206, 22.7.1992, p. 7. Directive as last amended by Directive 97/62/EC (OJ L 305, 8.11.1997, p. 42).

(2) OJ L 103, 25.4.1979, p. 1. Directive as last amended by Directive 97/49/EC (OJ L 223, 13.8.1997, p. 9).

ANNEX V

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

Hydro morphological 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

Hydro-morphological 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 water bodies

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

1.2. Normative definitions of ecological status classifications

Table 1.2. General definition for rivers, lakes, transitional waters and coastal waters

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

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

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

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

Biological quality elements

Hydromorphological quality elements

Physico-chemical quality elements

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

Biological quality elements

Hydromorphological quality elements

Physico-chemical quality elements

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

Biological quality elements

Hydromorphological quality elements

Physico-chemical quality elements

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

Biological quality elements

Hydro morphological quality elements

Physico-chemical quality elements

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

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:

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

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

(iv) the standard derived shall be subject to peer review and public consultation including to allow a more precise safety factor to be calculated.

1.3. Monitoring of ecological status and chemical status for surface waters

The surface water monitoring network shall be established in accordance with the requirements of Article 8. The monitoring network shall be designed so as to provide a coherent and comprehensive overview of ecological and chemical status within each river basin and shall permit classification of water bodies into five classes consistent with the normative definitions in section

1.2. Member States shall provide a map or maps showing the surface water monitoring network in the river basin management plan.

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

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

1.3.1. Design of surveillance monitoring

Objective

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

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

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

Selection of monitoring points

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

- the rate of water flow is significant within the river basin district as a whole; including points on large rivers where the catchment area is greater than 2500 km²,
- the volume of water present is significant within the river basin district, including large lakes and reservoirs,
- significant bodies of water cross a Member State boundary,
- sites are identified under the Information Exchange Decision 77/795/EEC, and at such other sites as are required to estimate the pollutant load which is transferred across Member State boundaries, and which is transferred into the marine environment.

Selection of quality elements

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

- parameters indicative of all biological quality elements,
 - parameters indicative of all hydro morphological 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 hydro morphological pressure, sufficient monitoring points within a selection of the bodies in order to assess the magnitude and impact of the hydro morphological pressures. The selection of bodies shall be indicative of the overall impact of the hydro morphological 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 hydro morphological 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 hydro morphological 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.

1.3.5. Additional monitoring requirements for protected areas

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

Drinking water abstraction points

Bodies of surface water designated in Article 7 which provide more than 100 m³ a day as an average shall be designated as monitoring sites and shall be subject to such additional monitoring as may be necessary to meet the 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:

Habitat and species protection areas

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

1.3.6. Standards for monitoring of quality elements

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

Macroinvertebrate sampling

Macrophyte sampling

Relevant CEN / ISO standards when developed

Fish sampling

Relevant CEN / ISO standards when developed

Diatom sampling

Relevant CEN/ISO standards when developed

Standards for physico-chemical parameters

Any relevant CEN/ISO standards

Standards for hydro morphological 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 Member 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

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.

2. GROUNDWATER

2.1. Groundwater quantitative status

2.1.1. Parameter for the classification of quantitative status

Groundwater level regime

2.1.2. Definition of quantitative status

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

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.

ANNEX VI

LISTS OF MEASURES TO BE INCLUDED WITHIN THE PROGRAMMES OF MEASURES

PART A

Measures required under the following Directives:

- (i) The Bathing Water Directive (76/160/EEC);
- (ii) The Birds Directive (79/409/EEC)(1);
- (iii) The Drinking Water Directive (80/778/EEC) as amended by Directive (98/83/EC);
- (iv) The Major Accidents (Seveso) Directive (96/82/EC)(2);

- (v) The Environmental Impact Assessment Directive (85/337/EEC)(3);
- (vi) The Sewage Sludge Directive (86/278/EEC)(4);
- (vii) The Urban Waste-water Treatment Directive (91/271/EEC);
- (viii) The Plant Protection Products Directive (91/414/EEC);
- (ix) The Nitrates Directive (91/676/EEC);
- (x) The Habitats Directive (92/43/EEC)(5);
- (xi) The Integrated Pollution Prevention Control Directive (96/61/EC).

PART B

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

- (i) legislative instruments
- (ii) administrative instruments
- (iii) economic or fiscal instruments
- (iv) negotiated environmental agreements
- (v) emission controls
- (vi) codes of good practice
- (vii) recreation and restoration of wetlands areas
- (viii) abstraction controls
- (ix) demand management measures, inter alia, promotion of adapted agricultural production such as low water requiring crops in areas affected by drought
- (x) efficiency and reuse measures, inter alia, promotion of water-efficient technologies in industry and water-saving irrigation techniques
- (xi) construction projects
- (xii) desalination plants
- (xiii) rehabilitation projects
- (xiv) artificial recharge of aquifers
- (xv) educational projects
- (xvi) research, development and demonstration projects
- (xvii) other relevant measures

(1) OJ L 103, 25.4.1979, p. 1.

(2) OJ L 10, 14.1.1997, p. 13.

(3) OJ L 175, 5.7.1985, p. 40. Directive as amended by Directive 97/11/EC (OJ L 73, 14.3.1997, p. 5).

(4) OJ L 181, 8.7.1986, p. 6.

(5) OJ L 206, 22.7.1992, p. 7.

ANNEX VII

RIVER BASIN MANAGEMENT PLANS

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

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

1.1. for surface waters:

- mapping of the location and boundaries of water bodies,

- mapping of the ecoregions and surface water body types within the river

basin,

- identification of reference conditions for the surface water body types;
- 1.2. for ground waters:
 - mapping of the location and boundaries of groundwater bodies;
- 2. a summary of significant pressures and impact of human activity on the status of surface water and groundwater, including:
 - estimation of point source pollution,
 - estimation of diffuse source pollution, including a summary of land use,
 - estimation of pressures on the quantitative status of water including abstractions,
 - analysis of other impacts of human activity on the status of water;
- 3. identification and mapping of protected areas as required by Article 6 and Annex IV;
- 4. a map of the monitoring networks established for the purposes of Article 8 and Annex V, and a presentation in map form of the results of the monitoring programmes carried out under those provisions for the status of:
 - 4.1. surface water (ecological and chemical);
 - 4.2. groundwater (chemical and quantitative);
 - 4.3. protected areas;
- 5. a list of the environmental objectives established under Article 4 for surface waters, ground waters and protected areas, including in particular identification of instances where use has been made of Article 4(4), (5), (6) and (7), and the associated information required under that Article;
- 6. a summary of the economic analysis of water use as required by Article 5 and Annex III;
- 7. a summary of the programme or programmes of measures adopted under Article 11, including the ways in which the objectives established under Article 4 are thereby to be achieved;
 - 7.1. a summary of the measures required to implement Community legislation for the protection of water;
 - 7.2. a report on the practical steps and measures taken to apply the principle of recovery of the costs of water use in accordance with Article 9;
 - 7.3. a summary of the measures taken to meet the requirements of Article 7;
 - 7.4. a summary of the controls on abstraction and impoundment of water, including reference to the registers and identifications of the cases where exemptions have been made under Article 11(3)(e);
 - 7.5. a summary of the controls adopted for point source discharges and other activities with an impact on the status of water in accordance with the provisions of Article 11(3)(g) and 11(3)(i);
 - 7.6. an identification of the cases where direct discharges to groundwater have been authorised in accordance with the provisions of Article 11(3)(j);
 - 7.7. a summary of the measures taken in accordance with Article 16 on priority substances;
 - 7.8. a summary of the measures taken to prevent or reduce the impact of accidental pollution incidents;
 - 7.9. a summary of the measures taken under Article 11(5) for bodies of water which are unlikely to achieve the objectives set out under Article 4;
 - 7.10. details of the supplementary measures identified as necessary in order to the environmental objectives established;
 - 7.11. details of the measures taken to avoid increase in pollution of marine waters in accordance with Article 11(6);

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

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

10. a list of competent authorities in accordance with Annex I;

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

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

1. a summary of any changes or updates since the publication of the previous version of the river basin management plan, including a summary of the reviews to be carried out under Article 4(4), (5), (6) and (7);

2. an assessment of the progress made towards the achievement of the environmental objectives, including presentation of the monitoring results for the period of the previous plan in map form, and an explanation for any environmental objectives which have not been reached;

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

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

ANNEX VIII

INDICATIVE LIST OF THE MAIN POLLUTANTS

1. Organohalogen compounds and substances which may form such compounds in the aquatic environment.

2. Organophosphorous compounds.

3. Organotin compounds.

4. Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment.

5. Persistent hydrocarbons and persistent and bioaccumulable organic toxic substances.

6. Cyanides.

7. Metals and their compounds.

8. Arsenic and its compounds.

9. Biocides and plant protection products.

10. Materials in suspension.

11. Substances which contribute to eutrophication (in particular, nitrates and phosphates).

12. Substances which have an unfavourable influence on the oxygen balance (and can be measured using parameters such as BOD, COD, etc.).

ANNEX IX

EMISSION LIMIT VALUES AND ENVIRONMENTAL QUALITY STANDARDS

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

- (i) The Mercury Discharges Directive (82/176/EEC)(1);
- (ii) The Cadmium Discharges Directive (83/513/EEC)(2);
- (iii) The Mercury Directive (84/156/EEC)(3);
- (iv) The Hexachlorocyclohexane Discharges Directive (84/491/EEC)(4); and
- (v) The Dangerous Substance Discharges Directive (86/280/EEC)(5).

- (1) OJ L 81, 27.3.1982, p. 29.
- (2) OJ L 291, 24.10.1983, p. 1.
- (3) OJ L 74, 17.3.1984, p. 49.
- (4) OJ L 274, 17.10.1984, p. 11.
- (5) OJ L 181, 4.7.1986, p. 16.

ANNEX X

PRIORITY SUBSTANCES

ANNEX XI

MAP A

System A: Ecoregions for rivers and lakes

1. Iberic-Macaronesian region
2. Pyrenees
3. Italy, Corsica and Malta
4. Alps
5. Dinaric western Balkan
6. Hellenic western Balkan
7. Eastern Balkan
8. Western highlands
9. Central highlands
10. The Carpathians
11. Hungarian lowlands
12. Pontic province
13. Western plains
14. Central plains
15. Baltic province
16. Eastern plains
17. Ireland and Northern Ireland
18. Great Britain
19. Iceland
20. Borealic uplands

21. Tundra
22. Fenno-Scandian shield
23. Taiga
24. The Caucasus
25. Caspic depression

MAP B

System A: Ecoregions for transitional waters and coastal waters

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