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THE EUROPEAN PARLIAMENT

THE COUNCIL

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**DIRECTIVE OF THE EUROPEAN PARLIAMENT
AND OF THE COUNCIL
ON THE QUALITY OF FRESH WATERS NEEDING PROTECTION
OR IMPROVEMENT IN ORDER TO SUPPORT FISH LIFE
(CODIFIED VERSION)**

**DIRECTIVE 2006/44/EC OF THE EUROPEAN PARLIAMENT
AND OF THE COUNCIL**

of 6 September 2006

**on the quality of fresh waters needing protection
or improvement in order to support fish life**

**(codified version)
(Text with EEA relevance)**

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,

Having regard to the opinion of the European Economic and Social Committee¹,

Having consulted the Committee of the Regions,

Acting in accordance with the procedure laid down in Article 251 of the Treaty²,

¹ OJ C 117, 30.4.2004, p. 11.

² Opinion of the European Parliament of 21 April 2004 (OJ C 104 E, 30.4.2004, p. 545) and Council Decision of 25 April 2006.

Whereas:

- (1) Council Directive 78/659/EEC of 18 July 1978 on the quality of fresh waters needing protection or improvement in order to support fish life¹ has been significantly amended on several occasions². In the interests of clarity and rationality that Directive should be codified.
- (2) The protection and improvement of the environment necessitates concrete measures to protect waters against pollution, including fresh waters capable of supporting fish life.
- (3) It is necessary from the ecological and economic viewpoint to safeguard fish populations from various harmful consequences resulting from the discharge of pollutant substances into the waters, such as, in particular, the reduction in number of fish belonging to a certain species and even in some cases the disappearance of a number of these species.
- (4) Decision No 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 laying down the Sixth Community Environment Action Programme³ is designed to achieve levels of surface water quality that do not give rise to significant impacts on, and risks to, the environment.

¹ OJ L 222, 14.8.1978, p. 1. Directive as last amended by Regulation (EC) No 807/2003 (OJ L 122, 16.5.2003, p. 36).

² See Part A of Annex III.

³ OJ L 242, 10.9.2002, p. 1.

- (5) Discrepancies between the provisions applicable in the various Member States with regard to the quality of fresh water capable of supporting fish life may give rise to unequal conditions of competition and thus have a direct bearing on the functioning of the internal market.
- (6) In order to attain the objectives of this Directive, Member States should designate the waters to which it will apply and set limit values corresponding to certain parameters. The waters so designated should be brought into conformity with these values within five years of this designation.
- (7) Provision should be made that fresh waters capable of supporting fish life will, under certain conditions, be deemed to conform to the relevant parametric values even if a certain percentage of samples taken does not comply with the limits specified.
- (8) To ensure that the quality of fresh waters capable of supporting fish life is checked, a minimum number of samples should be taken and the measurements relating to specified parameters, as annexed hereto, should be carried out. Such sampling may be reduced or discontinued in the light of the quality of the water.
- (9) Member States are unable to control certain natural circumstances and it is therefore necessary to provide for the possibility of derogating from this Directive in certain cases.

- (10) Technical and scientific progress may call for the rapid adaptation of certain of the requirements laid down in Annex I. In order to facilitate the introduction of the measures required for this purpose, a procedure should be laid down whereby close cooperation would be established between Member States and the Commission 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 Commission¹.
- (11) This Directive should be without prejudice to the obligations of the Member States relating to the time limits for transposition into national law of the Directives set out in Part B of Annex III,

HAVE ADOPTED THIS DIRECTIVE:

Article 1

1. This Directive concerns the quality of fresh waters and shall apply to those waters designated by the Member States as needing protection or improvement in order to support fish life.

¹ OJ L 184, 17.7.1999, p. 23.

2. This Directive shall not apply to waters in natural or artificial fish ponds used for intensive fish-farming.
3. The aim of this Directive is to protect or improve the quality of those running or standing fresh waters which support, or which, if pollution were reduced or eliminated, would become capable of supporting, fish belonging to:
 - (a) indigenous species offering a natural diversity;
 - (b) species the presence of which is judged desirable for water management purposes by the competent authorities of the Member States.
4. For the purposes of this Directive:
 - (a) salmonid waters shall mean waters which support or become capable of supporting fish belonging to species such as salmon (*Salmo salar*), trout (*Salmo trutta*), grayling (*Thymallus thymallus*) and whitefish (*Coregonus*);
 - (b) cyprinid waters shall mean waters which support or become capable of supporting fish belonging to the cyprinids (*Cyprinidae*), or other species such as pike (*Esox lucius*), perch (*Perca fluviatilis*) and eel (*Anguilla anguilla*).

Article 2

The physical and chemical parameters applicable to the waters designated by the Member States are listed in Annex I.

For the purposes of applying these parameters, waters are divided into salmonid waters and cyprinid waters.

Article 3

1. Member States shall, for the designated waters, set values for the parameters listed in Annex I, in so far as values are listed in column G or in column I. They shall comply with the comments contained in each of these two columns.
2. Member States shall not set values less stringent than those listed in column I of Annex I and shall endeavour to respect the values in column G taking into account the principle set out in Article 8.

Article 4

1. Member States shall designate salmonid waters and cyprinid waters and may subsequently make additional designations.
2. Member States may revise the designation of certain waters owing to factors unforeseen at the time of designation, taking into account the principle set out in Article 8.

Article 5

Member States shall establish programmes in order to reduce pollution and to ensure that designated waters conform, within five years following designation in accordance with Article 4, to both the values set by the Member States in accordance with Article 3 and the comments contained in columns G and I of Annex I.

Article 6

1. For the purposes of implementing Article 5, the designated waters shall be deemed to conform to this Directive if samples of such waters, taken at the minimum frequency specified in Annex I at the same sampling point and over a period of 12 months, show that they conform to both the values set by the Member States in accordance with Article 3 and the comments contained in columns G and I of Annex I, in the case of:
 - (a) 95 % of the samples for the parameters: pH, BOD₅, nitrites, non-ionised ammonia, total ammonium, total residual chlorine, total zinc and dissolved copper. When the sampling frequency is lower than one sample per month, both the abovementioned values and comments shall be respected for all the samples;
 - (b) the percentages listed in Annex I for the parameters: temperature and dissolved oxygen;
 - (c) the average concentration set for the parameter: suspended solids.
2. Instances in which the values set by Member States in accordance with Article 3 or the comments contained in columns G and I of Annex I are not respected shall not be taken into consideration in the calculation of the percentages provided for in paragraph 1 when they are the result of floods or other natural disasters.

Article 7

1. The competent authorities in the Member States shall carry out sampling operations, the minimum frequency of which is laid down in Annex I.
2. Where the competent authority records that the quality of designated waters is appreciably higher than that which would result from the application of the values set in accordance with Article 3 and the comments contained in columns G and I of Annex I, the frequency of the sampling may be reduced. Where there is no pollution or no risk of deterioration in the quality of the waters, the competent authority concerned may decide that no sampling is necessary.
3. If sampling shows that a value set by a Member State in accordance with Article 3 or a comment contained in columns G or I of Annex I is not respected, the Member State shall establish whether this is the result of chance, a natural phenomenon or pollution and shall adopt appropriate measures.
4. The exact sampling point, the distance from this point to the nearest point where pollutants are discharged and the depth at which the samples are to be taken shall be fixed by the competent authority of each Member State on the basis of local environmental conditions in particular.

5. Certain reference methods of analysis for calculating the value of the parameters concerned are set out in Annex I. Laboratories which employ other methods shall ensure that the results obtained are equivalent or comparable to those specified in Annex I.

Article 8

Implementation of the measures taken pursuant to this Directive may on no account lead, either directly or indirectly, to increased pollution of fresh water.

Article 9

Member States may at any time set more stringent values for designated waters than those laid down in this Directive. They may also lay down provisions relating to parameters other than those provided for in this Directive.

Article 10

When fresh waters cross or form national frontiers between Member States and which one of the States concerned is considering designating, the States concerned shall consult each other in order to determine the stretches of such waters to which this Directive might apply and the consequences to be drawn from the common quality objectives; these consequences shall be determined, after formal consultations, by each State concerned. The Commission may participate in these deliberations.

Article 11

Member States may derogate from this Directive:

- (a) in the case of certain parameters marked (0) in Annex I, because of exceptional weather or special geographical conditions;
- (b) when designated waters undergo natural enrichment in certain substances, so that the values set out in Annex I are not respected.

Natural enrichment means the process whereby, without human intervention, a given body of water receives from the soil certain substances contained therein.

Article 12

Such amendments as are necessary for adapting to technical and scientific progress the G values for the parameters and the methods of analysis contained in Annex I shall be adopted in accordance with the procedure referred to in Article 13(2).

Article 13

1. The Commission shall be assisted by a committee on adaptation to technical and scientific progress, hereinafter referred to as "the Committee".

2. Where reference is made to this paragraph, 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 14

For the purposes of applying this Directive, Member States shall provide the Commission with information concerning:

- (a) the waters designated in accordance with Article 4(1), in summary form ;
- (b) the revision of the designation of certain waters in accordance with Article 4(2);
- (c) the provisions laid down in order to establish new parameters in accordance with Article 9;
- (d) the application of the derogations from the values listed in column I of Annex I.

More generally, Member States shall provide the Commission, on a reasoned request from the latter, with any information necessary for the application of this Directive.

Article 15

At intervals of three years, and for the first time for the period 1993 to 1995 inclusive, Member States shall send information to the Commission on the implementation of this Directive, in the form of a sectoral report which shall also cover other pertinent Community Directives. The report shall be drawn up on the basis of a questionnaire or outline drafted by the Commission in accordance with the procedure referred to in Article 6 of Council Directive 91/692/EEC of 23 December 1991 standardising and rationalising reports on the implementation of certain Directives relating to the environment¹. The questionnaire or outline shall be sent to the Member States six months before the start of the period covered by the report. The report shall be sent to the Commission within nine months of the end of the three-year period covered by it.

The Commission shall publish a Community report on the implementation of this Directive within nine months of receiving the reports from the Member States.

Article 16

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.

¹ OJ L 377, 31.12.1991, p. 48. Directive as amended by Regulation (EC) No 1882/2003 of the European Parliament and of the Council (OJ L 284, 31.10.2003, p. 1).

Article 17

Directive 78/659/EEC is hereby repealed, without prejudice to the obligations of the Member States relating to the time limits for transposition into national law of the Directives set out in Part B of Annex III.

References to the repealed Directive shall be construed as references to this Directive and should be read in accordance with the correlation table in Annex IV.

Article 18

This Directive shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

Article 19

This Directive is addressed to the Member States.

Done at Strasbourg,

For the European Parliament
The President

For the Council
The President

ANNEX I

LIST OF PARAMETERS

Parameter	Salmonid waters		Cyprinid waters		Methods of analysis or inspection	Minimum sampling and measuring frequency	Observations
	G	I	G	I			
1. Temperature (°C)	1.	Temperature measured downstream of a point of thermal discharge (at the edge of the mixing zone) must not exceed the unaffected temperature by more than: 1,5 °C 3 °C Derogations limited in geographical scope may be decided by Member States in particular conditions if the competent authority can prove that there are no harmful consequences for the balanced development of the fish population			Thermometry	Weekly, both upstream and downstream of the point of thermal discharge	Over-sudden variations in temperature shall be avoided

	<p>2. Thermal discharges must not cause the temperature downstream of the point of thermal discharge (at the edge of the mixing zone) to exceed the following:</p> <table border="1" data-bbox="542 343 1064 486"> <tr> <td data-bbox="542 343 734 422">21,5 (0)</td> <td data-bbox="734 343 922 422"></td> <td data-bbox="922 343 1064 422">28 (0)</td> </tr> <tr> <td data-bbox="542 422 734 486">10 (0)</td> <td data-bbox="734 422 922 486"></td> <td data-bbox="922 422 1064 486">10 (0)</td> </tr> </table> <p>The 10 °C temperature limit applies only to breeding periods of species which need cold water for reproduction and only to waters which may contain such species</p> <p>Temperature limits may, however, be exceeded for 2 % of the time.</p>	21,5 (0)		28 (0)	10 (0)		10 (0)			
21,5 (0)		28 (0)								
10 (0)		10 (0)								

<p>2. Dissolved oxygen (mg/l O₂)</p>	<p>50 % ≥ 9 100 % ≥ 7</p>	<p>50 % ≥ 9</p> <p>When the oxygen concentration falls below 6 mg/l, Member States shall implement the provisions of Article 7(3). The competent authority must prove that this situation will have no harmful consequences for the balanced development of the fish population</p>	<p>50 % ≥ 8 100 % ≥ 5</p>	<p>50 % ≥ 7</p> <p>When the oxygen concentration falls below 4 mg/l, Member States shall implement the provisions of Article 7(3). The competent authority must prove that this situation will have no harmful consequences for the balanced development of the fish population</p>	<p>Winkler's method or specific electrodes (electro-chemical method)</p>	<p>Monthly, minimum one sample representative of low oxygen conditions of the day of sampling</p> <p>However, where major daily variations are suspected, a minimum of two day samples in one day shall be taken</p>	
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3. pH		6 to 9 (0) ¹		6 to 9 (0) ¹	Electrometry calibration by means of two solutions with known pH values, preferably on either side of, and close to the pH being measured	Monthly	
4. Suspended solids (mg/l)	≤ 25 (0)		≤ 25 (0)		Filtration through a 0,45 µm filtering membrane, or centrifugation (five minutes minimum, average acceleration of 2 800 to 3 200 g) drying at 105 °C and weighing		The values shown are average concentrations and do not apply to suspended solids with harmful chemical properties Floods are liable to cause particularly high concentrations
5. BOD ₅ (mg/l O ₂)	≤ 3		≤ 6		Determination of O ₂ by the Winkler method before and after five days incubation in complete darkness at 20 ± 1 °C (nitrification should not be inhibited)		

<p>6. Total phosphorus (mg/l P)</p>					<p>Molecular absorption spectrophotometry</p>		<p>In the case of lakes of average depth between 18 and 300 m, the following formula could be applied:</p> $L \leq 10 \frac{\bar{Z}}{T_w} (1 + \sqrt{T_w})$ <p>where:</p> <p>L = loading expressed as mg P per square metre lake surface in one year</p> <p>\bar{Z} = mean depth of lake in metres</p> <p>T_w = theoretical renewal time of lake water in years</p> <p>In other cases limit values of 0,2 mg/l for salmonid and of 0,4 mg/l for cyprinid waters, expressed as PO₄, may be regarded as indicative in order to reduce eutrophication</p>
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7. Nitrites (mg/l NO ₂)	≤ 0,01		≤ 0,03		Molecular absorption spectrophotometry		
8. Phenolic compounds (mg/l C ₆ H ₅ OH)		2		2	By taste		An examination by taste shall be made only where the presence of phenolic compounds is presumed
9. Petroleum hydrocarbons		3		3	Visual By taste	Monthly	A visual examination shall be made regularly once a month, with an examination by taste only where the presence of hydrocarbons is presumed
10. Non-ionised ammonia (mg/l NH ₃)	≤ 0,005	≤ 0,025	≤ 0,005	≤ 0,025	Molecular absorption spectrophotometry using indophenol blue or Nessler's method associated with pH and temperature determination	Monthly	Values for non-ionised ammonia may be exceeded in the form of minor peaks in the daytime
11. Total ammonium (mg/l NH ₄)	≤ 0.04	≤ 1 ⁴	≤ 0.2	≤ 1 ⁴			
12. Total residual chlorine (mg/l HOCl)		≤ 0,005		≤ 0,005	DPD-method (diethyl- <i>p</i> -phenylenediamene)	Monthly	The I-values correspond to pH = 6 Higher concentrations of total chlorine can be accepted if the pH is higher

13. Total zinc (mg/l Zn)		≤ 0,3		≤ 1,0	Atomic absorption spectrometry	Monthly	The I-values correspond to a water hardness of 100 mg/l CaCO ₃ For hardness levels between 10 and 500 mg/l corresponding limit values can be found in Annex II
14. Dissolved copper (mg/l Cu)	≤ 0,04		≤ 0,04		Atomic absorption spectrometry		The G-values correspond to a water hardness of 100 mg/l CaCO ₃ For hardness levels between 10 and 300 mg/l corresponding limit values can be found in Annex II
¹ Artificial pH variations with respect to the unaffected values shall not exceed ± 0,5 of a pH unit within the limits falling between 6,0 and 9,0 provided that these variations do not increase the harmfulness of other substances present in the water. ² Phenolic compounds must not be present in such concentrations that they adversely affect fish flavour. ³ Petroleum products must not be present in water in such quantities that they: <ul style="list-style-type: none"> – form a visible film on the surface of the water or form coatings on the beds of water-courses and lakes, – impart a detectable «hydrocarbon» taste to fish, – produce harmful effects in fish. ⁴ In particular geographical or climatic conditions and particularly in cases of low water temperature and of reduced nitrification or where the competent authority can prove that there are no harmful consequences for the balanced development of the fish population, Member States may fix values higher than 1 mg/l.							

General observation:

It should be noted that the parametric values listed in this Annex assume that the other parameters, whether mentioned in this Annex or not, are favourable. This implies, in particular, that the concentrations of other harmful substances are very low.

Where two or more harmful substances are present in mixture, joint effects (additive, synergic or antagonistic effects) may be significant.

Abbreviations:

G = guide.

I = mandatory.

(0) = derogations are possible in accordance with Article 11.

ANNEX II

PARTICULARS REGARDING TOTAL ZINC AND DISSOLVED COPPER

Total zinc

(see Annex I, No 13, "Observations" column)

Total zinc concentrations (mg/l Zn) for different water hardness values between 10 and 500 mg/l CaCO₃:

	Water hardness (mg/l CaCO ₃)			
	10	50	100	500
Salmonid waters (mg/l Zn)	0,03	0,2	0,3	0,5
Cyprinid waters (mg/l Zn)	0,3	0,7	1,0	2,0

Dissolved copper

(See Annex I, No 14, "Observations" column)

Dissolved copper concentrations (mg/l Cu) for different water hardness values between 10 and 300 mg/l CaCO₃:

	Water hardness (mg/l CaCO ₃)			
	10	50	100	300
mg/l Cu	0,005 ¹	0,022	0,04	0,112

¹ The presence of fish in waters containing higher concentrations of copper may indicate a predominance of dissolved organo-cupric complexes.

ANNEX III

Part A

Repealed Directive with its successive amendments

(referred to in Article 17)

Council Directive 78/659/EEC (OJ L 222, 14.8.1978, p. 1) ¹	
Council Directive 91/692/EEC (OJ L 377, 31.12.1991, p. 48)	Annex I, point (c) only
Council Regulation (EC) No 807/2003 (OJ L 122, 16.5.2003, p. 36)	Annex III, point 26 only

Part B

List of time-limits for transposition into national law

(referred to in Article 17)

Directive	Time-limit for transposition
78/659/EEC	20 July 1980
91/692/EEC	1 January 1993

¹ Directive 78/659/EEC has also been amended by the following unrepealed acts:

- the 1979 Act of Accession,
- the 1985 Act of Accession,
- the 1994 Act of Accession.

ANNEX IV

CORRELATION TABLE

Directive 78/659/EEC	This Directive
Article 1(1) and (2)	Article 1(1) and (2)
Article 1(3), introductory phrase	Article 1(3), introductory phrase
Article 1(3), first indent	Article 1(3)(a)
Article 1(3), second indent	Article 1(3)(b)
Article 1(4), introductory phrase	Article 1(4), introductory phrase
Article 1(4), first indent	Article 1(4)(a)
Article 1(4), second indent	Article 1(4)(b)
Article 2(1)	Article 2, first subparagraph
Article 2(2)	Article 2, second subparagraph
Article 3	Article 3
Article 4(1) and (2)	Article 4(1)
Article 4(3)	Article 4(2)
Article 5	Article 5
Article 6(1), introductory phrase	Article 6(1), introductory phrase
Article 6(1), first indent	Article 6(1)(a)
Article 6(1), second indent	Article 6(1)(b)
Article 6(1), third indent	Article 6(1)(c)
Article 6(2)	Article 6(2)
Article 7	Article 7
Article 8	Article 8
Article 9	Article 9
Article 10	Article 10
Article 11	Article 11

Article 12

Article 13(1) and Article 14

Article 15, first subparagraph, introductory phrase

Article 15, first subparagraph, first indent

Article 15, first subparagraph, second indent

Article 15, first subparagraph, third indent

Article 15, first subparagraph, fourth indent

Article 15, second subparagraph

Article 16

Article 17(1)

Article 17(2)

Article 18

Annex I

Annex II

Article 12

Article 13

Article 14, first subparagraph, introductory phrase

Article 14, first subparagraph, point (a)

Article 14, first subparagraph, point (b)

Article 14, first subparagraph, point (c)

Article 14, first subparagraph, point (d)

Article 14, second subparagraph

Article 15

Article 16

Article 17

Article 18

Article 19

Annex I

Annex II

Annex III

Annex IV