

L.N. 342 of 2001

ENVIRONMENT PROTECTION ACT, 2001

(ACT NO. XX OF 2001)

Quality of Fresh Waters Supporting Fish Life (Protection and Improvement) Regulations, 2001

BY virtue of the powers conferred by articles 9 and 28 of the Environment Protection Act, 2001, the Minister for the Environment has made the following regulations:-

1. (1) The title of these regulations is Quality of Fresh Waters Supporting Fish Life (Protection and Improvement) Regulations, 2001. Citation and commencement.

(2) These regulations shall come into force on such date as the Minister responsible for the environment may by notice in the Gazette appoint, and different dates may be so appointed for the different provisions and different purposes of these regulations.

(3) A notice under sub-regulation (2) of this regulation may make such transitional provisions as appear to the Minister to be necessary or expedient in connection with the provisions thereby brought into force.

2. (1) These regulations concern the quality of fresh waters and apply to those waters designated by the competent authority as needing protection or improvement in order to support fish life. Scope and interpretation.

(2) These regulations shall not apply to waters in natural or artificial fish ponds used for intensive fish farming.

(3) The aim of these regulations 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 indigenous species offering a natural diversity or species the presence of which is judged desirable for water management purposes by the relevant competent authorities of any State.

(4) For the purposes of these regulations:-

“competent authority” means the Department for Environment Protection under the guidance of the Director for Environment Protection and such other body or person as the Minister responsible

for the environment may by order in the Gazette prescribe and different bodies or persons may be designated as the competent authority for different provisions and different purposes of these regulations;

“Cyprinid waters” means 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*);

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

“Salmonid waters” means 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*).

Parameters.

3. (1) The physical and chemical parameters applicable to the waters designated by the competent authorities are listed in Annex I.

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

Values for parameters.

4. (1) The competent authority 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 parameters listed in each of these columns.

(2) The competent authority 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 regulation 9.

Designation of waters.

5. (1) The competent authority shall designate salmonid waters and cyprinid waters.

(2) The competent authority may revise the designation of certain waters owing to factors unforeseen at the time of designation, taking into account the principle set out in regulation 9.

Pollution reducing programmes.

6. The competent authority shall establish programmes in order to reduce pollution and to ensure that designated waters conform within five years following designation with both the values set by regulation

4 of these regulations and by the parameters contained in columns G and I of Annex I.

7. (1) For the purposes of implementing regulation 6, the competent authority shall deem that the designated waters conform to the provisions of these regulations 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 competent authority in accordance with regulation 4 and to the comments contained in columns G and I of Annex I, in the case of: - 95% of the samples for the parameters: pH, BOD5, non-ionized ammonia, total ammonium, nitrites, total residual chlorine, total zinc, and dissolved copper:

Competent authority
to verify
conformity.

Provided that when the sampling frequency is lower than one sample per month, both the above mentioned values and comments shall be respected for all the samples, with respect to the percentages listed in Annex I for the parameters: temperature and dissolved oxygen, and with respect to the average concentration set for the parameter: suspended solids.

(2) Instances in which the values set by the competent authority in accordance with Regulation 4 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 sub-regulation (1) when they are the result of floods or other natural disasters.

8. (1) The competent authorities shall carry out sampling operations, the minimum frequency of which is laid down in Annex I.

Sampling
operations.

(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 Regulation 3 and the comments contained in columns G and I of Annex I, the frequency of the sampling may be reduced:

Provided that 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 the competent authority in accordance with regulation 3 or a comment contained in either of columns G or I of Annex I is not respected, the competent authority 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 on the basis of local environmental conditions in particular.

Methods of analysis.

9. (1) Certain reference methods of analysis for 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.

(2) Any implementation of the measures taken pursuant to these regulations may on no account lead, either directly or indirectly, to increased pollution of fresh water.

More stringent values.

10. The competent authority may at any time set more stringent values for designated waters than those laid down in these regulations and may also lay down provisions relating to other parameters, other than those provided for in these regulations.

Derogation.

11. The competent authority may derogate from these regulations:

(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.

Amendments may be made by competent authority.

12. The competent authority shall adopt 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 in accordance with the procedure laid down in regulation 15.

Offences under these regulations.

13. Any person shall be guilty of an offence under these regulations if:

(a) he fails to comply with any order lawfully given in terms of any provisions of these regulations; or

(b) he conspires or attempt, or aids, or abets, any other person by whatever means, including advertising, counseling or procurement to contravene any order lawfully given in terms of any of the provisions of these regulations.

Penalties.

14. Any person who commits an offence against these regulations shall, on conviction, be liable:

(a) On a first conviction to a fine (*multa*) of not less than five hundred liri but not exceeding one thousand liri

(b) On a second or subsequent conviction, to a fine (*multa*) of not less than one thousand liri, but not exceeding two thousand liri or to imprisonment for a term not exceeding two years, or to both such fine and imprisonment.

Provided further that the court shall order any person who has been found guilty of committing an offence against these regulations, to pay for the expenses incurred by the public entities and/or other persons acting on their behalf involved in the implementation of these regulations and restitution of the environment as a result of the said offence, the revocation of the permit issued by the Police and the confiscation of the *corpus delicti*.

15. (1) The provisions of article 23 and sub-article (1) of article 30 of the Criminal Code shall, *mutatis mutandis*, apply to proceedings, in respect of offences against these regulations, so however that the disqualification from holding or obtain a licence, permit or authority shall in no case be for less than one year.

Applicability of the Criminal Code.
Cap. 9.

(2) Notwithstanding the provisions of article 370 of the Criminal Code, proceedings for an offence against these regulations shall be taken before the Court of Magistrates (Malta) or the Court of Magistrates (Gozo), as the case may be, and shall be in accordance with the provisions of the Criminal Code regulating the procedure before the said courts as courts of criminal judicature.

(3) Notwithstanding the provisions of the Criminal Code, the Attorney General shall always have a right of appeal to the Court of Criminal Appeal from any judgement given by the Court of Magistrates (Malta) or the Court of Magistrates (Gozo) in respect of proceedings for any offence against these regulations.

16. The Annexes to these regulations are being published in the English language with the English text of these regulations.

Language of Annexes.

ANNEX I

LIST OF PARAMETERS

Parameter	Salmonid waters			Cyprinid waters			Methods of analysis or inspection	Minimum sampling and measuring frequency	Observations
	G	I	I	G	I	I			
1. Temperature (°C)	<div>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:<div><div></div><div>1.5°C</div><div></div><div></div><div>3°C</div><div></div></div><div>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</div><div>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):<div><div></div><div>21.5 (0)</div><div></div><div></div><div>10 (0)</div><div></div><div></div><div>28 (0)</div><div></div><div>10 (0)</div></div><div>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</div><div>Temperature limits may, however, be exceeded for 2 % of the time</div></div></div>						Thermometry	Weekly, both upstream and downstream of the point of thermal discharge	Over-sudden variations in temperature shall be avoided

Parameter	Salmonid waters		Ciprinid waters		Methods of analysis or inspection	Minimum sampling and measuring frequency	Observations
	G	I	G	I			
2. Dissolved oxygen (mg/l O ₂)	50 % ≥ 9 100 % ≥ 7	50 % ≥ 9 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	50 % ≥ 8 100 % ≥ 5	50 % ≥ 7 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	Winkler's method or specific electrodes (electrochemical method)	Monthly, minimum one sample representative of low oxygen conditions of the day of sampling However, where major daily variations are suspected, a minimum of two samples in one day shall be taken	
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 200g) 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

Parameter	Salmonid waters		Cyprinid waters		Methods of analysis or inspection	Minimum sampling and measuring frequency	Observations
	G	I	G	I			
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)		
6. Total phosphorus (mg/l P)					Molecular absorption spectrophotometry		<p>In the case of lakes of average depth between 18 and 300 m, the following formula could be applied:</p> $L < 10 \frac{\bar{Z}}{T_w} (1 + \sqrt{T_w})$ <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>
7. Nitrites (mg/l NO ₂)	< 0.01		< 0.03		Molecular absorption spectrophotometry		

Parameter	Salmonid waters			Cyprinid waters			Methods of analysis or inspection	Minimum sampling and measuring frequency	Observations
	G	I		G	I				
8. Phenolic compounds (mg/l C ₆ H ₅ OH)		(¹)				(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-ionized ammonia (mg/l NH ₃)	≤ 0.005	≤ 0.025		≤ 0.005	≤ 0.025	≤ 0.025	Molecular absorption spectrophotometry using indophenol blue or Nessler's method associated with pH and temperature determination	Monthly	Values for non-ionized 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)	≤ 1 (⁴)			
12. Total residual chlorine (mg/l HOCl)		≤ 0.005				≤ 0.005	DPD-method (diethyl-p-phenylenediamine)	Monthly	The I-values correspond to pH = 6 Higher concentrations of total chlorine can be accepted if the pH is higher

In order to diminish the risk of toxicity due to non-ionized ammonia, of oxygen consumption due to nitrification and of eutrophication, the concentrations of total ammonium should not exceed the following:

Parameter	Salmonid waters		Cyprinid waters		Methods of analysis or inspection	Minimum sampling and measuring frequency	Observations
	G	I	G	I			
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:

- 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.

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)

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.