

**Local Government
(Water Pollution) Act, 1977 (Water Quality Standards for Phosphorus)
Regulations, 1998.**

In exercise of the powers conferred on the Minister for the Environment and Local Government by section 30 of the Local Government (Water Pollution) Act, 1977 (No. 1 of 1977) and by section 26 of that Act as amended by sections 18 of the Local Government (Water Pollution) (Amendment) Act, 1990 (No. 21 of 1990), which said powers are delegated to me by the Environment and Local Government (Delegation of Ministerial Functions) (No. 2) Order, 1997 (S.I. No. 428 of 1997), and for the purpose of giving further effect to provisions of Council Directive 76/464/EEC of 4 May, 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment, I, Dan Wallace, Minister of State at the Department of the Environment and Local Government, hereby make the following Regulations:

REG 1

1. These Regulations may be cited as the Local Government (Water Pollution) Act, 1977 (Water Quality Standards for Phosphorus) Regulations, 1998.

REG 2

2. In these Regulations—
any reference to a Schedule or article which is not otherwise identified is a reference to a Schedule or article of these Regulations;
any reference to a sub-article or paragraph which is not otherwise identified is a reference to a sub-article or paragraph of the provision in which the reference occurs;
"the Principal Act" means the Local Government (Water Pollution) Act, 1977 as amended by the Local Government (Water Pollution) (Amendment) Act, 1990;
"the Act of 1992" means the Environmental Protection Agency Act, 1992 (No. 7 of 1992);
"the Agency" means the Environmental Protection Agency established under section 19 of the Act of 1992;
"best available technology not entailing excessive costs" has the meaning assigned to it by section 5 of the Act of 1992;
"biological quality rating" means a rating of water quality for any part of a river based principally on the composition of macroinvertebrate communities/faunal groups present and their general sensitivity to organic pollution, as used by the Agency and described in the First Schedule;
"existing biological quality rating" means, in relation to any particular part of a river, the biological quality rating for that part of the river assigned by the Agency based on monitoring carried out during the period commencing on the 1st day of 1995 and ending on the last day of 1997, or, where monitoring was not carried out during that period, the biological quality rating first

assigned by the Agency to that part based on monitoring carried out after 1997;

"existing trophic status" means, in relation to any particular part of a lake, the trophic status for that part of the lake assigned by the Agency based on monitoring carried out during the period commencing on the 1st day of 1995 and ending on the last day of 1997, or, where monitoring was not carried out during that period, the trophic status first assigned by the Agency to that part based on monitoring carried out after 1997;

"the Minister" means the Minister for the Environment and Local Government;

"trophic status" means the status of lake water quality determined by the Agency in accordance with the classification system used by it and described in the Second Schedule.

REG 3

3. (1) Subject to sub-article (2) concerning the improvement of water quality, the existing biological quality rating for any part of a river shall be maintained.

(2) Where the quality standards specified in Columns 2 and 3 of Part I of the Third Schedule provide for a higher standard than the existing biological quality rating for any part of a river, water quality shall be improved so as to meet the relevant specified standard.

(3) For the purpose of complying with the quality standards prescribed in sub-article (2), it shall be necessary—

(a) to achieve the biological quality rating specified in Column 2 applicable to the corresponding existing biological quality rating specified in Column 1, or

(b) that the median concentration for molybdate-reactive phosphate, determined in the manner specified in Part I of the Third Schedule, shall not exceed the concentration specified in Column 3 applicable to the corresponding existing biological quality rating specified in Column 1.

(4) Subject to sub-article (9), the requirements of sub-article (2) shall be met—

(a) by the 31st day of December, 2007, for any part of a river with an existing biological quality rating based on monitoring carried out during the period commencing on the 1st day of 1995 and ending on the last day of 1997, and

(b) in the case of any part of a river other than that referred to in paragraph (a), not later than ten years after the Agency first assigns the biological quality rating for the part of the river concerned based on monitoring carried out after 1997.

(5) Subject to sub-article (6) concerning the improvement of water quality, the existing trophic status for any part of a lake shall be maintained.

(6) Where the quality standards specified in Columns 2 and 3 of Part II of the Third Schedule provide for a higher standard than the existing trophic status for any part of a lake, water quality shall be improved so as to meet the relevant specified standard.

(7) For the purpose of complying with the quality standards prescribed in sub-article (6), it shall be necessary—

- (a) to achieve the trophic status specified in Column 2 applicable to the corresponding existing trophic status specified in Column 1, or
- (b) that the average concentration for total phosphorus, determined in the manner specified in Part II of the Third Schedule, shall not exceed the concentration specified in Column 3 applicable to the corresponding existing trophic status specified in Column 1.
- (8) Subject to sub-article (9), the requirements of sub-article (6) shall be met—
- (a) by the 31st day of December, 2007, for any part of a lake with an existing trophic status based on monitoring carried out during the period commencing on the 1st day of 1995 and ending on the last day of 1997, and
- (b) in the case of any part of a lake other than that referred to in paragraph (a), not later than ten years after the Agency first assigns the trophic status for the part of the lake concerned based on monitoring carried out after 1997.
- (9) The period specified in sub-articles (4) and (8) for compliance with the quality standards may be extended for a period not exceeding 6 years for any part of a river or lake, if, but only if, the relevant local authority or, as the case may be, the Agency is satisfied that one or more of the following circumstances exist in relation to such part of the river or lake concerned—
- (a) water quality is severely affected by human activity making compliance with the quality standards, within the period specified in sub-articles (4) or (8), impractical or entailing excessive costs in attempting to do so, or
- (b) at least the best available technology not entailing excessive costs is being used to treat any direct discharge or emission affecting the quality of the relevant part of the river or lake, or
- (c) such steps as may be appropriate are being pursued by the local authority under the Principal Act or by the Agency under the Act of 1992 in respect of other sources of pollution for the purpose of seeking to comply with the quality standards.

REG 4

4. (1) A local authority shall take all such steps as may be appropriate in discharge of its functions under the Principal Act and the Agency shall take all such steps as may be appropriate in discharge of its functions under the Act of 1992 to secure compliance with the quality standards prescribed in article 3.
- (2) In pursuance of the requirements of sub-article (1), a local authority shall, in relation to its functions under the Principal Act, submit a report to the Agency by the 31st day of July, 1999, setting out the measures to be taken.
- (3) A local authority shall submit to the Agency by 31st day of July, 2000, a report on the progress made in relation to implementation of the measures referred to in sub-article (2), and further such progress reports in relation to implementation of the requirements of this article shall be so submitted at intervals not exceeding two years thereafter until the 31st day of July 2008, or such other date as may be determined by the Minister.
- (4) Within 9 months of the deadlines referred to in sub-article

(3), the Agency shall prepare and publish reports on the progress made in relation to implementation of these Regulations and shall include in such reports such recommendations as it considers appropriate.

(5) A report referred to in this article shall—

(a) identify every river or lake or part of a river or lake to which article 3(9) applies and cite, in each such case, the circumstance or circumstances specified in that sub-article in respect of which the local authority or, as the case may be, the Agency is satisfied in relation thereto, and

(b) where the local authority or, as the case may be, the Agency is satisfied that one or more of the circumstances specified in article 3(9) exist, the date by which the quality standards specified in articles 3(2) and (6) will be complied with, being a date not, in any circumstances, later than 6 years after the date for compliance specified in article 3.

FIRST SCHEDULE

Biological Quality Rating System for Rivers

Part I

Indicator Groups: Key Taxa

Macroinvertebrate Communities/Faunal Groups and their General Sensitivity to Organic Pollution
Group A Group B Group C Group D
ESensitive Less Sensitive Tolerant Very Tolerant Most

Tolerant Perlidae Leuctridae Tricladida Hirudinea Tubificidae Nemouridae Ancyliidae Mollusca

(excl. Ancyliidae, Margaritiferidae, Neritidae &

Unionidae) Chironomus Chloroperlidae Taeniopterygidae Neritidae Baetidae Unionidae Capniidae Leptophlebiidae Astacidae Ephemerellidae Perlodidae Ephemeridae Gammarus Asellus Potamanthidae Caenidae Chironomidae (excl.

Chironomus & Rheotanytarsus) Heptageniidae Cased Trichoptera (excl.

Limnephilidae Hydroptilidae &

Glossosomatidae) Limnephilidae Hydroptilidae Siphonuridae Glossosomatidae Margaritiferidae Uncased Trichoptera Odonata (excl.

Coenagriidae) Coleoptera Coenagriidae Sialidae Tipulidae Aphelocheirus Simuliidae Rheotanytarsus Hemiptera

(excl. Aphelocheirus) Hydracarina

Part II

Relationship between Biological Quality Rating/Index (Q) and the Five Faunal Groups **

Q Index Faunal Group ABCDE Eroding Substrata (i.e. the shallower, faster-flowing areas) Q5 ## + + + + / - + / - Q4 + + + # < + + + / - Q3 - + / - * # < + + Q2 - - + / - # < Q1 - - - + / - # (*excl. B. rhodani which may be dominant) Depositing Substrata (i.e. the deeper, slower-flowing areas) Q5 + + + # < + + + + Q4 + / - < # + + + + Q3 - - + + < < Q2 - - - < < Q1 - - - - #

= Numerous or dominant < = Common ++ = Present in small numbers + = Scarce +/- = Scarce or absent. - = Absent

** See "Observations on Q determination scheme" below.

Observations on Q determination scheme

1) The above scheme outlines the typical macroinvertebrate composition of rivers and streams unaffected (Q5) or variously affected (Q4 to Q1) by organic waste inputs.

2) All available habitats should be sampled and, in addition to kick sampling, stone washing and weed sweeps should be carried out where possible.

3) Single specimens may be ignored as they are likely to have drifted from upstream.

4) Q5 only ascribed in absolutely pristine conditions with diverse and balanced faunal community.

5) Providing that sewage fungus and other slime growths are absent and that Cladophora is either absent (Q5) or, if present, not excessive in development (Q4), Q5 and Q4 may be ascribed where faunal criteria are not met because of:—

a) ground-water input

b) very hard, calcareous conditions

c) very oligotrophic conditions

6) The terms "Taxon/Taxa" are defined by the level of identification for each macroinvertebrate Class/Order as follows :—

platyhelminthesgenusOligochaetafamilyHirudineagenusMolluscagenusCrustaceagenusPlecopteragenusEphemeropteragenusTrichopteragenusOdonatagenusMegalopteragenusHemipteragenusColeopterafamilyDipterafamily(Chironomidae)Chironomus, Rheotanytarsus, Other Chironomidae)Hydracarinapresence

Abundance Category Approximate Frequency of

Occurrence Number * Percentage One 1 - Scarce / Few 2 - 5 < 1% Present in small numbers 6 - 10 < 5 Present in fair numbers 11 - 20 5 - 10% Common 21 - 50 10 - 20% Numerous 51 - 100 25 - 50% Abundant / Dominant 100 - 200 50 - 75% Superabundant / Excessive 200+ > 75%

*Per 2 minute sample.

Part III

Indicative Characteristics of the various Biological Quality Classes

Quality Classes Class A Class B Class C Class D Quality ratings

(Q) Q5 Q4 Q3-Q4 Q2 Q1 Pollution Status Pristine, Unpolluted. Unpolluted. Slight

pollution. Moderate pollution. Heavy pollution. Gross pollution. Organic Waste

Load None. None. Light. Considerable. Heavy. Excessive. Maximum B.O.D. Low (

< 3 mg/l) Low (< 3 mg/l) Occasionally elevated High at times. Usually high. Usually very high. Dissolved Oxygen Close to 100% at all times 80% - 120% Fluctuates from < 80% to > 120% Very unstable.

Potential fish-kills. Low, sometimes zero. Very low,

often zero. Annual Median PO₄ 0.015 mg/l 0.03 mg/l 0.045 mg/l 0.07 mg/l > 0.1

mg/l > 0.1 mg/l Siltation None. May be light. May be light. May be

considerable. Usually heavy. Usually very heavy and anaerobic. 'Sewage Fungus' Never. Never Never May be some. Usually abundant. May be

abundant. Filamentous Algae Limited development. Considerable growths.

Diverse communities. Luxuriant growths typically Cladophora. Excessive

growths typically Cladophora. Usually abundant. None. Macrophytes Diverse

communities. Limited growths. Diverse communities. Considerable

growths. Reduced diversity. Luxuriant growths. Limited diversity. Excessive

growth. Tolerant species only. May be abundant. Usually none or tolerant

species only. Macroinvertebrates (from shallow riffles) Diverse

communities. Normal density. Sensitive forms usually numerous. High

diversity Increased density Sensitive forms scarce or common Very high

diversity. Very high diversity. Sensitive forms scarce. Sensitive forms

absent. Tolerant forms common. Low diversity Tolerant forms only. Very

low diversity. Most tolerant forms. Minimal diversity. Water

Quality Highest quality. Fair quality. Variable quality. Doubtful quality. Poor

quality. Bad quality. Abstraction Potential Suitable for all. Suitable for

all.Potential problems.Advanced treatment.Low grade abstractions.Extremely limited.Fishery PotentialGame fisheries.Good game fisheries.Game fish at risk.Coarse fisheries.Fish usually absent.Fish absent.Amenity ValueVery high.High.Considerable.Reduced.Low.Zero.ConditionSatisfactory.Satisfactory.Transitional.Unsatisfactory.Unsatisfactory.Unsatisfactory.

SECOND SCHEDULE

Trophic Classification System for Lakes

Lake Trophic Category Annual Maximum Chlorophyll mg/m³ Probability of pollution
 Ultra-Oligotrophic <2.5 None
 Oligotrophic 2.5-8 None
 Mesotrophic 8-25 Low
 Eutrophic* 25-75 Moderate-Substantial
 Hypertrophic >75 High
 *Sub-categories may be assigned in respect of moderately, strongly and highly eutrophic lakes.

THIRD SCHEDULE

PART I

QUALITY STANDARDS FOR RIVERS

| Column 1 Index | Column 2 Minimum Target Biological Quality (Q) Rating/Q | Column 3 Existing Biological Quality (Q) Rating/Q |
|---|--|---|
| Molybdate-Reactive Phosphate Median Concentration* (ug P/L) | Unpolluted | 55154-54-5204430 Slightly Polluted |
| | 3-4430 | Moderately Polluted |
| | 33 - 4502-3370 | Seriously Polluted |
| | £ 2370 | |

*Median concentration to be determined using as a minimum ten samples taken at intervals of four weeks or longer in any twelve consecutive month period. Where the requisite number of samples has not been taken within such period, the median concentration shall be determined from sampling conducted over such period, being a period not exceeding twenty four months, as required to obtain a minimum of fifteen samples taken at intervals of four weeks or longer.

PART II

QUALITY STANDARDS FOR LAKES

| Column 1 Status | Column 2 Minimum Target Trophic Status | Column 3 Existing Trophic Status |
|--|--|-------------------------------------|
| Total Phosphorus Average Concentration* (ug P/L) | Satisfactory | Ultra-Oligotrophic |
| | Ultra-Oligotrophic | £5 Oligotrophic |
| | >5 £ 10 | Mesotrophic |
| | Mesotrophic <10 | £ 20 |
| | Unsatisfactory | Eutrophic |
| | Mesotrophic | <10 £ 20 |
| | Hypertrophic | Eutrophic |
| | <20 | £ 50 |

*Average concentration to be determined using as a minimum ten samples taken at intervals of four weeks or longer in any twelve consecutive month period. Where the requisite number of samples has not been taken within such period, the average concentration shall be determined from sampling conducted over such period being a period not exceeding twenty four months, as required to obtain a minimum or fifteen samples taken at intervals of four weeks or longer.

DATED this 24th day of July, 1998
 Dan Wallace

Minister of State at the Department of the Environmental and Local Government.

EXPLANATORY NOTE

These Regulations provide for specified improvements in water quality conditions in rivers and lakes based on phosphorus concentrations or related water quality classifications. The Regulations also provide for periodic reporting in relation to progress in implementing the requirements of the Regulations.

These Regulations give effect to certain requirements arising under Council Directive 76/46/EC on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community.