

ENVIRONMENTAL QUALITY STANDARDS REGARDING WATER POLLUTION

Environment Agency Notification No. 59, December 28, 1971
Amended: Environment Agency Notification No. 63 of 1974,
No. 3 of 1975, No. 41 of 1982, No. 140 of 1982,
No. 29 of 1985 and No. 1 of 1986

This is the notification of the environmental quality standards concerning water pollution under the provision of Article 9 of the Basic Law for Environmental Pollution Control (Law No. 132 of 1967):

The followings are the desirable water quality standards to be maintained in public water areas (hereinafter referred to as the "environmental quality standards"): for the protection of the human health and the preservation of the living environment (which is defined in the provision of Paragraph 2 of Article 2 of the Basic Law; the same hereunder) in accordance with Article 9 of the Basic Law.

Part I. Environmental quality standards

The followings are the environmental quality standards for the public water areas regarding the protection of the human health and the preservation of the living environment:

1. Environmental quality standards regarding the protection of the human health

The environmental quality standards regarding the protection of the human health are shown in Table 1 for all public water areas.

2. Water quality standards regarding the preservation of the living environment

(1) The environmental quality standard regarding the preservation of the living environment are shown in the column of standard values of Table 2. The designation of the Type shown in the table for a public water area is done in accordance with the provision (2).

(2) The type of water area pertinent to each public water area shall be designated by the Director General of the Environment Agency with regard to those public water areas which are shown in the Annex of the Cabinet Order Concerning the Delegation of the Authority to Designate Water and Land Areas in Connection with the Environmental Quality Standards (Cabinet Order No. 159 of 1971), and by prefectural governors with regard to other public waters in accordance with said Cabinet Order.

(3) Designation of the type of water area in accordance with the provision of paragraph (2) shall be made for all public waters where water pollution needs to be prevented giving full regard to the following matters:

- a. To give priority to those water areas in which water pollution has become grave, or in which there is threat that water pollution will become grave;
- b. To pay attention to present usage and the future trends of usage of each water area;
- c. To take into consideration the condition of water pollution and the location of pollution sources of each water area;
- d. To pay attention not to allow the water quality in each water area to become more deteriorated than the present quality, and
- e. To give full consideration to the target date paying attention to the relations between the date and measures to be taken for the achievement of the target.

(4) When the Director General of the Environment Agency designate the water area in accordance with (2) above, he shall in advance consult the Central Council for Control of Environmental Pollution, prefectural governors concerned, and other persons concerned.

(5) Whenever a type of water area has been designated in accordance of (2) above, the contents of the designation and the target date provided for in sub-paragraph (3) e. above shall be announced publicly.

(6) When the prefectural governor designates the type of water area under the Cabinet Order as provided in (2) above, provisions of (3) and (5) above shall be followed and at the same time the following matters shall be observed.

The Director General of the Environment Agency shall, on receiving a notice of b. hereunder, inform the chief of governmental organizations concerned of the notice.

- a. To consult with the prefectural environmental pollution control council and other persons concerned in advance;
- b. To give a notice to the Director General of the Environment Agency in advance;
- c. In case the water area in question is part of a public waters which belongs to two or more prefectures (hereinafter referred to as an "inter-prefectural water area"), to consult in advance with prefectural governors concerned, and to make the designation of the type of such an inter-prefectural water area on the same date as the designation of the other prefectural governors concerned in principle.

(7) When there is a water area which requires prompt designation of type of water area among those water areas which the Cabinet Order referred to in (2) above provides that the prefectural governor shall designate their type, the Director General of the Environment

Agency shall advise the prefectural governor to designate the type of the water area under the provision of paragraph (2).

Part II. Measuring methods, etc. of the water quality of public water areas

When measuring the water quality of public water areas in order to examine the progress in achieving the environmental quality standards, the following matters shall be considered:

(1) The measuring method shall be as shown in tables 1 and 2 in the column of measuring method.

In this case, selection of locations of measurement stations, sampling and treatment of samples, etc. shall be made in a manner which is considered to be the most suitable from the viewpoint of usage of the particular waters.

(2) Measurement of water quality in connection with items of environmental quality standards regarding the protection of the human health shall be made at any time regardless the water quantity of the public waters. Such measurement in connection with items of standards regarding the preservation of the living environment shall be made when the quantity of the public waters is at its normal condition. "Normal condition" here means, for example, that rivers have flow above their low water levels, and that lakes have water levels above their low water levels.

(3) The judgement if the condition of water pollution of the public waters meets the environmental quality standards shall be made taking into consideration the findings of measurement at two or three stations collectively.

Part III. Target date of achieving the environmental quality standards, etc.

Period of time required to achieve the environmental quality standards, and measures to be taken when the period is long, shall be as follows:

1. Environmental quality standards regarding the protection of the human health

Efforts shall be made to achieve the standards immediately after their establishment and to maintain them thereafter.

2. Environmental quality standards regarding the preservation of the living environment

Efforts shall be made to achieve these standards as soon as possible after their establishment in each public water area according to the

followings, together with the promotion of preventive measures:

- (1) Where massive population concentration and largescale industrial development are now under way, and considerable water pollution has been, or is being produced, the period of time for achieving the standards is five years in principle. In case it is considered to be difficult because of the extreme seriousness of water pollution to achieve the standards within five years even if overall measures for improvement are taken, provisional targets shall be established to improve the water quality step by step, and thus efforts shall be made to achieve the ultimate goal at an earliest possible date.
- (2) In public water areas other than those in (1) above, efforts shall be made to achieve the standards immediately after their establishment, and to maintain them thereafter.

Part IV. Review of the environmental quality standards

1. The environmental quality standards shall be revised as the occasion may demand as follows:
 - (1) Changes in standard values, additions of items of environmental conditions, etc. with the advance in scientific judgments.
 - (2) Additions of items of environmental conditions, etc. with changes in the state of water pollution, in the situations of water pollution sources, etc.
 - (3) Changes in designated area for each type of water area and in the period of time for achieving the environmental quality standards for particular water area resulting from the changes in modes of uses of the water area and other changes in situations.
2. Revisions of the environmental quality standards shall be made as follows:
 - (1) Revisions of 1. (3) above shall be made in accordance with the provisions of Part I., 2., (2) to (7).
 - (2) When the prefectural governor in accordance with the Cabinet Order set forth in Part I., 2., (2), plans to revise the designation of type of water area and the period of time for achieving the environmental quality standards for such type of water area, which have been decided at the Cabinet meetings on September 1, 1970 and on May 25, 1971, an arrangement shall be made for the prefectural governor to consult with the Director General of the Environment Agency.

Table 1. Environmental quality standards regarding the protection of the Human Health

Item	Standard Values ¹	Measuring Method
Cadmium	0.01 mg/ℓ or less	} (Abbreviated)
Cyanide	Not detectable	
Organic phosphorus ²	Not detectable	
Lead	0.1 mg/ℓ or less	
Chromium (VI)	0.05 mg/ℓ or less	
Arsenic	0.05 mg/ℓ or less	
Total mercury	0.0005 mg/ℓ or less	
Alkylmercury	Not detectable	
PCB	Not detectable	
¹ Maximum values. But with regard to Total mercury, standard value is based on the yearly average value. ² Organic phosphorus includes parathion, methyl parathion, methyl demeton and E.P.N. ³ "Not detectable" means that the substance is below the level detectable by the specified method. The same in Table 2. ⁴ The standard for Total mercury is 0.001 mg/ℓ or less in case it is obvious that pollution in rivers is caused by natural factors. ⁵ } ⁶ } (Omitted) ⁷ } ⁸ }		

**Table 2. Environmental quality standards regarding the preservation of the Living Environment
(1) Rivers (excluding lakes)**

Category	Item Purpose of Utilization	Standard Values ¹				
		pH	Biochemical Oxygen Demand (BOD)	Suspended solids (SS)	Dissolved Oxygen (DO)	Number of Coliform Groups
AA	Water supply, class 1; conservation of natural environment and uses listed in A-E	6.5-8.5	1 mg/ℓ or less	25 mg/ℓ or less	7.5 mg/ℓ or more	50 MPN/100 mℓ or less
A	Water supply, class 2; fishery, class 1; bathing and uses listed in B-E	6.5-8.5	2 mg/ℓ or less	25 mg/ℓ or less	7.5 mg/ℓ or more	1,000MPN/100 mℓ or less
B	Water supply, class 3; fishery, class 2, and uses listed in C-E	6.5-8.5	3 mg/ℓ or less	25 mg/ℓ or less	5 mg/ℓ or more	5,000MPN/100 mℓ or less
C	Fishery, class 3; industrial water, class 1, and uses listed in D-E	6.5-8.5	5 mg/ℓ or less	50 mg/ℓ or less	5 mg/ℓ or more	
D	Industrial water, class 2; agricultural water ² , and uses listed in E	6.0-8.5	8 mg/ℓ or less	100 mg/ℓ or less	2 mg/ℓ or more	
E	Industrial water, class 3; conservation of environment	6.0-8.5	10 mg/ℓ or less	Floating matter such as garbage should not be observed	2 mg/ℓ or more	
Measuring Method		(Omitted)				
Remarks: ¹ The standard value is based on the daily average value. (The same applies to the standard values of lakes and coastal waters.) ² At the inlet of agricultural water, pH shall be between 6.0 and 7.5 and dissolved oxygen shall not be less than 5 ppm. (The same applies to the standard values of lakes.) ³ (omitted)						

Notes:

1. Conservation of natural environment: Conservation of scenic spots and other natural resources.
2. Water supply, class 1: Water treated by simple cleaning operation, such as filtration.
Water supply, class 2: Water treated by normal cleaning operation, such as sedimentation and filtration.

- Water supply, class 3: Water treated through a highly sophisticated cleaning operation including pretreatment.
3. Fishery, class 1: For aquatic life such as trout and bull trout inhabiting oligosaprobic water, and those of fishery class 2 and class 3.
 Fishery, class 2: For aquatic life, such as fish of the salmon family and sweetfish inhabiting oligosaprobic water and those of fishery class 3.
 Fishery, class 3: For aquatic life such as carp and silver carp inhabiting β -mesosaprobic water.
 4. Industrial water, class 1: Water given normal cleaning treatment such as sedimentation.
 Industrial water, class 2: Water given sophisticated treatment by chemicals.
 Industrial water, class 3: Water given special cleaning treatment.
 5. Conservation of environment: Up to the limits at which no unpleasantness is caused to people in their daily life (including a walk by the river-side, etc.)

(2) Lakes (natural lakes, and, reservoirs, marshes and artificial lakes with more than 10 million cubic meters of water)

i)

Category	Item Purpose of Utilization	Standard Values				
		pH	Chemical Oxygen Demand (COD)	Suspended Solids ¹ (SS)	Dissolved Oxygen (DO)	Number of Coliform Groups
AA	Water supply, class 1; fishery, class 1; conservation of natural environment and uses listed in A-C	6.5-8.5	1 mg/l or less	1 mg/l or less	7.5 mg/l or more	50 MPN/100 ml or less
A	Water supply, Classes 2 and 3; fishery, class 2; bathing and uses listed in B-C	6.5-8.5	3 mg/l or less	5 mg/l or less	7.5 mg/l or more	1,000 MPN/100 ml or less
B	Fishery, class 3; industrial water, class 1; agricultural water, and uses listed in C	6.5-8.5	5 mg/l or less	15 mg/l or less	5 mg/l or more	—
C	Industrial water, class 2; conservation of environment	6.0-8.5	8 mg/l or less	Floating matter as garbage shall not be observed	2 mg/l or more	—
Measuring Method		(Omitted)				
Remark: With regard to fishery, classes 1, 2 and 3, the standard value for suspended solids shall not be applied for the time being.						

Note: See notes for Rivers.

ii)

Item Category	Purpose of Utilization	Standard values	
		Total Nitrogen	Total Phosphorous
I	Conservation of natural environment, and uses listed in II-V	0.1 mg/ℓ or less	0.005 mg/ℓ or less
II	Water supply classes 1, 2 and 3 (excluding special types); Fishery type 1, bathing and uses listed in III-V	0.2 mg/ℓ or less	0.01 mg/ℓ or less
III	Water supply class 3 (special types), and uses listed in IV-V	0.4 mg/ℓ or less	0.03 mg/ℓ or less
IV	Fishery type 2, and uses listed in V	0.6 mg/ℓ or less	0.05 mg/ℓ or less
V	Fishery type 3; industrial water; agricultural water; conservation of the living environment	1 mg/ℓ or less	0.1 mg/ℓ or less
Remarks 1. The standards are measured in terms of annual averages. 2. The designation of the types of water areas shall apply to lakes having the possibility of a substantial increase of vegetable planktons and the standard values mentioned in the provisions for total nitrogen shall apply to lakes where the total nitrogen causes the increase of vegetable planktons in the lakes. 3. The standards for total phosphorus are not applicable to agricultural water uses.			

Notes:

1. Conservation of natural environment – Conservation of scenic points and other natural resources.
2. Water supply class 1 – Water treated by simple cleaning operation such as filtration.
3. Water supply class 2 – Water treated by normal cleaning operation such as sedimentation and filtration.
4. Water supply class 3 – Water treated by sophisticated cleaning operation including pretreatment. (“special types” mean water treatments by special cleaning operation in which removal of smelling substances is possible.)
5. Fishery type 1 – For aquatic lives such as fish of the salmon group and sweet fish, and for those of fishery type 2 and 3.
6. Fishery type 2 – For aquatic lives such as smelt and for those of fishery type 3.
7. Fishery type 3 – For aquatic lives such as carp and silver carp.
8. Conservation of environment – Up to the limits at which no unpleasantness is caused to the people in their daily lives (including a walk along the shore).

(3) Coastal Waters

Category	Item Purpose of Utilization	Standard values				
		pH	Chemical Oxygen Demand (COD)	Dissolved Oxygen (DO)	Number of Coliform Groups	N-hexane Extracts (oil content, etc.)
A	Water supply, class 1; bathing; conservation of natural environment; and the uses listed in B-C	7.8-8.3	2 mg/ℓ or less	7.5 mg/ℓ or more	1,000MPN/100mℓ or less	Not detectable
B	Fishery class 2; industrial water; and the uses listed in C	7.8-8.3	3 mg/ℓ or less	5 mg/ℓ or more		Not detectable
C	Conservation of environment	7.0-8.3	8 mg/ℓ or less	2 mg/ℓ or more		—
Measuring Method		(Omitted)				
Remarks: ¹ With regard to the water quality of fishery class 1 for cultivation of oysters, the number of coliform groups shall be less than 70MPN/100 mℓ. ² (omitted) ³ (omitted)						

Notes:

1. Conservation of natural environment – Conservation of scenic points and other natural resources.
2. Fishery class 1 – For aquatic lives such as red sea-bream, yellow tail, seaweed and for those of fishery class 2.
Fishery class 2 – For aquatic lives such as gray mullet, laver, etc.
3. Conservation of environment – Up to the limits at which no unpleasantness is caused to the people in their daily lives (including a walk along the shore).