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**WATER
AND
SANITATION**



D.C. OFFICE OF DOCUMENTS

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MARION BARRY, JR.
MAYOR

AVIS T. HAWKINS
DIRECTOR OF DOCUMENTS

CHAPTER 11 WATER QUALITY STANDARDS

1100 PURPOSE AND SCOPE

- 1100.1 This chapter establishes the revised Water Quality Standards for the surface and ground waters of the District of Columbia under §5 of the D.C. Law 5-188, the "Water Pollution Control Act of 1984", which authorizes the revision of the classification of the beneficial uses of the waters and the criteria needed for the particular class of beneficial uses.
- 1100.2 The purpose of this chapter is to regulate the restoration of the cleanliness and purity of the District of Columbia waters.
- 1100.3 It is hereby declared that the public policy of the District is to conserve the waters of the District and to protect, maintain and improve the quality of the waters of the District as a resource of multiple beneficial uses.
- 1100.4 Whereas the waters of the District are a resource of the public and used beneficially for public water supply; propagation of aquatic life, waterfowl and other wildlife; recreation and aesthetic enjoyment; industrial; navigational and other legitimate uses; it is hereby declared that pollution of the waters of the District which impairs the use of the waters by and for the public is contrary to the best interests of the public.
- 1100.5 It is further declared that it is public policy to abate, eliminate and ameliorate pollution of the waters of the District and the downstream neighbors of the District in cooperation with the general public, interested parties, local, District, state and Federal agencies; taking into due consideration economic, social, institutional and technical problems; placing first in priority pollution which represents a hazard to the public health.
- 1100.6 Waters of the District which are of such characteristics as to be a District or national resource shall be maintained or restored to the highest quality achievable above the standards by designation as an antidegradation segment.
- 1100.7 New point source discharges of wastewater, treated or otherwise, shall be prohibited in antidegradation segments after the effective date of designation.

- 1100.8 Increases in loadings or new pollutants from existing point source discharges shall be prohibited in antidegradation segments.
- 1100.9 Non-point source discharges, stormwater discharges and combined sewer overflows to antidegradation segments shall be controlled in conjunction with §1100.5 to the extent feasible through implementation of best management practices and regulatory programs.
- 1100.10 Construction projects such as roads, bridges and bank stabilization in the waters of a designated segment which may lead to pollution shall be considered on a case by case basis to insure that there are no long term adverse water quality effects, and no impairment of the designated beneficial uses of the segment.
- 1100.11 Short term water quality effects on antidegradation segments from construction projects shall be subject to intergovernmental coordination and public participation requirements.
- 1100.12 The following waters of the District are hereby designated as antidegradation segments:
- (a) Rock Creek and tributaries; and
 - (b) Battery Kemble Creek and tributaries.
- 1100.13 Waters of the District which are usually of sufficient quality to meet or exceed the water quality standards of the beneficial uses assigned to them in the Maintenance category of §1101.3 shall be maintained at or above their present quality.
- 1100.14 Waters of the District which are not of such quality as to meet or exceed the water quality standards of the beneficial uses assigned to them in the Restoration category of §1101.3 shall be restored to such a quality as to be able to support and sustain those uses.

1101 BENEFICIAL USE CLASSES

- 1101.1 The waters of the District shall be grouped into classes so as to protect the waters from pollution for the beneficial uses designated within each class as set forth in this section.

1101 BENEFICIAL USE CLASSES (Continued)

1101.2 The following classes of waters shall be protected for the purposes indicated below:

- (a) Class A waters shall be protected for primary contact recreation;
- (b) Class B waters shall be protected for secondary contact recreation and aesthetic enjoyment;
- (c) Class C waters shall be protected for aquatic life, waterfowl, shore birds and water oriented wildlife;
- (d) Class D waters shall be protected for use as a raw water source for public water supply;
- (e) Class E waters shall be protected for use as a raw water source for industrial water supply;
- (f) Class F waters shall be protected for navigational use; and
- (g) Class G groundwaters are protected for multiple uses.

1101.3 The waters of the District shall be classified according to beneficial uses as follows:

Water Of The District	USE CLASSES	
	Maintenance (Present)	Restoration (Future)
Potomac River and tributaries (except as listed below) from Montgomery County line to Key Bridge	B,C,D,E,F,	A,B,C,D,E,F
Battery Kemble Creek	B,C	A,B,C
C & O Canal	B,C	A,B,C
Potomac River and tributaries (except as listed below) from Key Bridge to Hains Point	B,C,E,F	A,B,C,E,F
Rock Creek and tributaries	B,C	A,B,C
Tidal Basin	B,C,E	A,B,C,E

1101 BENEFICIAL USE CLASSES (Continued)

1101.3 (Continued)

Water Of The District	USE CLASSES	
	Maintenance (Present)	Restoration (Future)
Potomac River and tributaries (except as listed below) from Hains Point to Prince George's County line	B,C,E,F	A,B,C,E,F
Washington Ship Channel	B,C,F	A,B,C,F
Oxon Run	B,C	A,B,C
Anacostia River and tributaries (except as listed below)	B,C,E,F	A,B,C,E,F
Hickory Run	B,C	B,C
Watts Branch	B,C	B,C

1102 STANDARDS

- 1102.1 The waters of the District shall be free from substances attributable to point or non-point sources discharged in concentrations that do the following:
- (a) Settle to form objectionable deposits;
 - (b) Float as debris, scum, oil or other matter to form nuisances;
 - (c) Produce objectionable odor, color, taste or turbidity;
 - (d) Injure, or toxic to, or produce adverse physiological or behavioral responses in humans, plants or animals; or
 - (e) Produce undesirable aquatic life or result in the dominance of nuisance species.

1102 STANDARDS (Continued)

- 1102.2 Numerical standards for the protection of the quality of the water to sustain the beneficial use classes consist of specific criteria. The numerical standards that apply to the use classes which can be protected by the assignment of specific water quality criteria are given in §1102.8. For those waters of the District with multiple designated beneficial uses, the most stringent standards or criteria shall govern.
- 1102.3 Those criteria listed in §1102.8 under the category of Toxics shall be applicable only to protection of the designated beneficial use for periods of less than ninety-six (96) hours. The determination of the criteria needed to protect the beneficial use for a longer period of time shall be made on a case by case basis and may be more stringent.
- 1102.4 Class A waters shall be free of discharges of untreated sewage; unmarked, submerged or partially submerged, man-made structures, and litter which constitute a hazard to the health of the users.
- 1102.5 Class D waters shall be free from pollution in the form of pathogens, carcinogens, toxicants and other substances in concentrations that cannot be reduced to levels safe for distribution by the existing or presently proposed water treatment facilities which use these waters.
- 1102.6 Class F waters shall be free of unmarked submerged or partially submerged man-made objects which pose a hazard to users of these waters.
- 1102.7 Class G groundwaters shall be free from pollution in the form of oil, carcinogens, toxicants, and other substances in concentrations which might present a health hazard or render the groundwaters unusable.
- 1102.8 The numerical standards necessary to sustain the use classes shall be as follows:

1102 STANDARDS (Continued)

1102.8 (Continued)

Constituent	Criteria For Classes				
	A	B	C	D	E
Bacteriological (No./100 ml)					
Fecal Coliform (Maximum 30 day geometric mean for 5 samples)	200	1,000		1,000	1,000
Physical					
Disolved oxygen (mg/l)					
Minimum daily average (3 samples per 24 hours once per 8 hours)			5.0		
Instantaneous minimum			4.0		
Temperature (°C)					
Maximum			32.2		
Maximum change above ambient			2.8		
PH					
Greater than	6.0	6.0	6.0	6.0	6.0
and less than	8.5	8.5	8.5	8.5	8.5
Turbidity increase above ambient (NTV)	20	20	20	20	
Total dissolved gases (maximum % saturation)			110		
Hydrogen sulfide (maximum (ug/l)			2.0		
Oil & grease (mg/l)			10.0		
Chemical (Maximum mg/l)					
Arsenic, total recoverable			0.09	0.000002(I)	
Barium, total recoverable				1.0	
Cadmium, total recoverable			(II)	0.01	
Chlorine, total residual			0.01		
Chromium, hexavalent			0.01	0.05	
Copper, total recoverable			(III)	1.0	
Cyanide free			0.003	0.2	
Iron, total			1.0		
Lead, total recoverable			(IV)		
Mercury, total recoverable			0.000012	0.0001	
NH ₃ , un-ionized (as N)			0.02		
Phenol			0.1		
Selenium, total recoverable			0.04	0.01	
Zinc, total recoverable			0.05	5.0	

1102 STANDARDS (Continued)

1102.8 (Continued)

Constituent	Criteria For Classes				
	A	B	C	D	E
Toxics (Maximum-ug/l)					
Acenaphthene			50.0	20.0	
Acrylonitrile			700.0	0.06(I)	
Antimony			60.0	100.0	
Aldrin			0.4	0.00007(I)	
Acrolein			10.0	300.0	
Benzene			1,000.0	0.8(I)	
Benzidine			250.0	0.0001(I)	
Beryllium			150.0	0.0004(I)	
Carbon tetrachloride			1,000.0	0.4(I)	
Chlordane			0.0043	0.0005(I)	
Chlorinated benzenes (except di)			25.0	20.0	
Chlorinated ethanes			50.0	1.0(I)	
Chlorinated naphthalene			200.0		
Chlorinated phenols (except penta)			3.0	0.04	
Chloroalkyl ethers			1,000.0	0.0(I)	
Chloroform			3,000.0	0.2(I)	
DDT & isomers			0.001	0.0(I)	
Dichlorobenzenes			200.0	400.0	
Dichlorobenzidine			10.0	0.01(I)	
Dichloroethylenes			1,000.0	0.03(I)	
Dieldrin			0.0019	0.00007(I)	
Dinitrotoluene			33.0	0.1(I)	
Diphenylhydrazine			30.0	0.04(I)	
Endosulfan			0.01	75.0	
Endrin			0.0023	1.0	
Ethylbenzene			40.0	1,400.0	
Flouranthene			400.0	40.0	
Haloethers			40.0		
Halomethanes			1,000.0	0.2(I)	
Heptachlor			0.0038	0.0003(I)	
Hexachlorobutadiene			10.0	0.5(I)	
Hexachlorocyclopentadiene			0.5	1.0	
Isophorone			1,000.0	5,200.0	
Naphthalene			600.0		
Nickel			100.0	13.0	
Nitrobenzene			1,000.0	30.0	
Nitrophenols			20.0	13.0	
Nitrosamines			600.0	0.001(I)	
Pentachlorophenol			7.0	30.0	

Constituent	Criteria For Classes				
	A	B	C	D	E
Phthalate esters			100.0		
Polychlorinated biphenyls			0.01	0.00008 (I)	
Polynuclear aromatic hydrocarbons			100.0	0.003 (I)	
Silver (dissolved)			1.0	50.0	
Tetrachloroethylene			800.0	0.8 (I)	
Thallium			100.0	13.0	
Toluene			600.0	1,000.0	
Toxaphene			0.01	0.0007 (I)	
Trichloroethylene			1,000.0	3.0 (I)	
2-chlorophenol			100.0	0.1	
2,4-dichlorophenol			200.0	0.3	
2,4-dimethylphenol			200.0	400.0	
Dichloropropane			2,000.0	400.0	
Dichloropropene			400.0	80.0	
Hexachlorocyclohexane (Lindane & isomers)			0.08	0.01 (I)	
Others			(V)		

(I) A risk factor of 10^{-6} is associated with the criterion; the preferred level is absolutely none.

(II) The numerical standard in ug/l shall be given by:

$$e^{(0.7852 \ln(\text{hardness}) - 3.490)}$$

(III) The numerical standard in ug/l shall be given by:

$$e^{(0.8545 \ln(\text{hardness}) - 1.465)}$$

(IV) The numerical standard in ug/l shall be given by:

$$e^{(1.2730 \ln(\text{hardness}) - 4.705)}$$

Hardness in each case shall be measured as mg/l of CaCO_3 .

(V) A guideline value for Class C waters shall be ten percent (10%) of the ninety-six (96) hour LC_{50} for affected biota for short term exposure.

- 1103.1 The public policy of the protection of the beneficial uses of the waters of the District by the attainment of the water quality standards can accommodate economic growth and social well-being.
- 1103.2 The discharge of pollutants in quantities that prevent the attainment of the water quality standards shall be allowed temporarily only if the discharger can demonstrate at least once every three (3) years through a public hearing process that one (1) of the following conditions holds:
- (a) Irretrievable and irreversible conditions exist which prevent the attainment of the standards; or
 - (b) The application of technology sufficient to attain the standards would result in substantial and widespread adverse economic and social impacts.
- 1103.3 The numerical standards shall not apply at flows less than the average seven (7) day low flow which has a probability of occurrence of once in ten (10) years.
- 1103.4 The numerical standards for fecal coliform, dissolved oxygen, turbidity and un-ionized ammonia shall not apply for a period of twenty-four (24) hours following high flow conditions.
- 1103.5 High flow for the Potomac River is defined as a two hundred percent (200%) increase in flow during a twenty-four (24) hour period.
- 1103.6 High flow for the Anacostia River is defined as a rainfall with an intensity greater than two-tenths of an inch (0.2") per hour for a period of one (1) hour in the portion of the District of Columbia contributory to the Anacostia River or a three hundred percent (300%) increase in flow during a twenty-four (24) hour period.
- 1103.7 High flow for Rock Creek and tributaries is defined as a rainfall with an intensity greater than two-tenths of an inch (0.2") per hour for a period of one (1) hour in the portion of the District of Columbia contributory to "Rock Creek or a two hundred percent (200%) flow increase during a twenty-four (24) hour period.
- 1103.8 High flow for other tributaries to the Potomac and Anacostia Rivers is defined as a flow increase of five hundred percent (500%) during a twenty-four (24) hour period.

1103 APPLICABILITY (Continued)

- 1103.9 The numerical standards shall not apply to intermittent streams. Dischargers to intermittent streams shall provide a demonstration that the discharge will not impair the designated beneficial uses of the stream segment nor downstream segments.
- 1103.10 Mixing zones shall be established for point source discharges of pollutants which immediately threaten the present nearby aquatic community or present or future water uses. The following factors shall be used in establishing mixing zones:
- (a) Permissible size of the zone shall be dependent on an acceptable amount of impact and the size of the receiving water body;
 - (b) Mixing zones shall be free from discharged substances that will settle to form objectionable deposits; float to form unsightly masses; or produce objectionable color, odor or turbidity;
 - (c) Mixing zones shall protect aquatic life in shallow areas which serve as nursery areas;
 - (d) A mixing zone, or two (2) or more mixing zones, shall not form a barrier to migratory aquatic life;
 - (e) As a guideline, the quality for life within a mixing zone shall be such that the acute toxicity for biota significant to the area's aquatic life community is not exceeded;
 - (f) The positioning of mixing zones shall be done in a manner that provides the greatest protection to aquatic life and for the various uses of the water; and
 - (g) Within the estuary, the maximal dimension of the mixing area shall not exceed ten percent (10%) of the numerical value of the cross-sectional area of the waterway and shall not occupy more than one third (1/3) of the width of the waterway.
- 1103.11 All laboratory examinations of samples collected to determine violations of these water quality standards shall be performed in accordance with procedures approved by the U.S. Environment Protection Agency.
- 1103.12 All field analyses and measurements to determine compliance with these water quality standards shall be conducted in accordance with standard procedures specified by the government of the District of Columbia.

1103

APPLICABILITY (Continued)

1103.13 Nothing in these water quality standards shall be interpreted as alleviating any discharger from meeting more stringent water quality standards of downstream jurisdictions.

1199

DEFINITIONS

1199.1 When used in this chapter, the terms and phrases defined in this chapter shall have the meanings ascribed:

Acute Toxicity - the concentration of a substance which is lethal to fifty percent (50%) of the test organisms within ninety-six (96) hours, also referred to as the L C₅₀.

Ambient - those conditions existing before or upstream of a source or incidence of pollution.

Intermittent Stream - a water course which has no flow for a period of seven (7) consecutive days on a frequency of at least once a year.

Mixing Zone - an area, contiguous to a discharge, in which dilution occurs such that there is a transition between effluent limitations and water quality standards.

Primary Contact Recreation - those water contact sports which result in frequent whole body immersion and/or involve significant risks of ingestion.

Secondary Contact Recreation - those water contact sports which seldom result in whole body immersion and/or do not involve significant risks of ingestion.

Standards - those regulations, numerical or narrative which specify a level of quality of the waters necessary to sustain the designated beneficial uses.