

## 62-302.530, Criteria for Surface Water Quality Classifications

Parameter	Units	Class I: Potable Water Supply	Class II: Shellfish Propagation or Harvesting	Class III: Recreation, Propagation and Maintenance of a Healthy, Well- Balanced Population of Fish and Wildlife		Class IV: Agricul- tural Water Sup- plies	Class V: Naviga- tion, Utility, and Industrial Use
				Predominantly Fresh Waters	Predominantly Marine Waters		
(1) Alkalinity	Milligrams/L as CaCO <sub>3</sub>	Shall not be depressed below 20		Shall not be depressed below 20		≤ 600	
(2) Aluminum	Milligrams/L		≤ 1.5		≤ 1.5		
(3) Ammonia (un-ionized)	Milligrams/L as NH <sub>3</sub>	≤ 0.02	≤ 0.035	≤ 0.02	≤ 0.035		
(4) Antimony	Micrograms/L	≤ 5.5 ≤ 14.0	≤ 350 ≤ 4,300	≤ 350 ≤ 4,300	≤ 350 ≤ 4,300		
(5) (a) Arsenic (total)	Micrograms/L	≤ 10	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50
(5) (b) Arsenic (trivalent)	Micrograms/L measured as total recoverable Arsenic		≤ 36		≤ 36		

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(6) Bacteriological Quality (Fecal Coliform Bacteria)	Number per 100 ml (Most Probable Number (MPN) or Membrane Filter (MF))	MPN or MF counts shall not exceed a monthly average of 200, nor exceed 400 in 10% of the samples, nor exceed 800 on any one day. Monthly averages shall be expressed as geometric means based on a minimum of 5 samples taken over a 30 day period.	MPN shall not exceed a median value of 14 with not more than 10% of the samples exceeding 43, nor exceed 800 on any one day.	MPN or MF counts shall not exceed a monthly average of 200, nor exceed 400 in 10% of the samples, nor exceed 800 on any one day. Monthly averages shall be expressed as geometric means based on a minimum of 10 samples taken over a 30 day period.	MPN or MF counts shall not exceed a monthly average of 200, nor exceed 400 in 10% of the samples, nor exceed 800 on any one day. Monthly averages shall be expressed as geometric means based on a minimum of 10 samples taken over a 30 day period.		
(7) Barium	Milligrams/L	$\leq 1$					
(8) Benzene	Micrograms/L	$\leq 1.0 \leq 1.18$	$\leq 28 \leq 71.28$ annual avg.	$\leq 28 \leq 71.28$ annual avg.	$\leq 28 \leq 71.28$ annual avg.		
(9) Beryllium	Micrograms/L	$\leq 4.0 \leq 0.0077$ annual avg.	$\leq 230 \leq 0.13$ annual avg.	$\leq 230 \leq 0.13$ annual avg.	$\leq 230 \leq 0.13$ annual avg.	$\leq 100$ in waters with a hardness in mg/L of $\text{CaCO}_3$ of less than 250 and shall not exceed 500 in harder waters	

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of  $\text{CaCO}_3$ . For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L; (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(10) (a) Biological Health (Shannon-Weaver Diversity Index) Integrity	Per cent reduction of Shannon-Weaver Diversity Index	The Index for benthic macroinvertebrates shall not be reduced to less than 75% of background levels as measured using organisms retained by a U. S. Standard No. 30 sieve and collected and composited from a minimum of three Hester-Dendy type artificial substrate samplers of 0.10 to 0.15 m <sup>2</sup> area each, incubated for a period of four weeks.	The Index for benthic macroinvertebrates shall not be reduced to less than 75% of established background levels as measured using organisms retained by a U. S. Standard No. 30 sieve and collected and composited from a minimum of three natural substrate samples, taken with Ponar type samplers with minimum sampling area of 225 cm <sup>2</sup> .	The Index for benthic macroinvertebrates shall not be reduced to less than 75% of established background levels as measured using organisms retained by a U. S. Standard No. 30 sieve and collected and composited from a minimum of three Hester-Dendy type artificial substrate samplers of 0.10 to 0.15 m <sup>2</sup> area each, incubated for a period of four weeks.	The Index for benthic macroinvertebrates shall not be reduced to less than 75% of established background levels as measured using organisms retained by a U. S. Standard No. 30 sieve and collected and composited from a minimum of three natural substrate samples, taken with Ponar type samplers with minimum sampling area of 225 cm <sup>2</sup> .		
(10) (b) Biological Health (Biorecon) (see subsection 62-302.500(3), F.A.C.)	Biorecon Score	>4		>4			
(10) (c) Biological Health (Lake Vegetation Index (LVI)) (see subsection 62-302.500(3), F.A.C.)	LVI Score	≥ 38 and no more than a 20 point reduction from historic maximum values.		≥ 38 and no more than a 20 point reduction from historic maximum values.			

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Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(10) (d) Biological Health (Stream Condition Index (SCI)) (see subsection 62-302.500(3), F.A.C.)	SCI Score	≥ 35 and no more than a 20 point reduction from historic maximum values.		≥ 35 and no more than a 20 point reduction from historic maximum values.			
(11) BOD (Biochemical Oxygen Demand)		Shall not be increased to exceed values which would cause dissolved oxygen to be depressed below the limit established for each class and, in no case, shall it be great enough to produce nuisance conditions.					
(12) Boron	Milligrams/L					≤ 0.75	
(13) Bromates	Milligrams/L		≤ 100		≤ 100		
(14) Bromine (free molecular)	Milligrams/L		≤ 0.1		≤ 0.1		
(15) Cadmium	Micrograms/L See Notes (1) and (3).	Cd ≤ $e^{(0.7409[\ln H]-4.719)}$	≤ 8.8	Cd ≤ $e^{(0.7409[\ln H]-4.719)}$	≤ 8.8		
(16) Carbon tetra-chloride	Micrograms/L	≤ 0.21 ≤ 0.25 annual avg.; 3.0 max	≤ 0.90 ≤ 4.42 annual avg.	≤ 0.90 ≤ 4.42 annual avg.	≤ 0.90 ≤ 4.42 annual avg.		
(17) Chlorides	Milligrams/L	≤ 250	Not increased more than 10% above normal back-ground. Normal daily and seasonal fluctuations shall be maintained.		Not increased more than 10% above normal back-ground. Normal daily and seasonal fluctuations shall be maintained.		In predominantly marine waters, not increased more than 10% above normal back-ground. Normal daily and seasonal fluctuations shall be maintained.

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of CaCO<sub>3</sub>. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L; (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(18) Chlorine (total residual)	Milligrams/L	≤ 0.01	≤ 0.01	≤ 0.01	≤ 0.01		
(19) (a) Chromium (trivalent)	Micrograms/L measured as total recoverable Chromium See Notes (1) and (3).	$\text{Cr (III)} \leq e^{(0.819[\ln H]+0.6848)}$		$\text{Cr (III)} \leq e^{(0.819[\ln H]+0.6848)}$		$\text{Cr (III)} \leq e^{(0.819[\ln H]+0.6848)}$	In predominantly fresh waters, $\leq e^{(0.819[\ln H]+0.6848)}$
(19) (b) Chromium (hexavalent)	Micrograms/L See Note (3)	≤ 11	≤ 50	≤ 11	≤ 50	≤ 11	In predominantly fresh waters, ≤ 11. In predominantly marine waters, ≤ 50
(20) Chronic Toxicity (see definition in Section 62-302.200(5)(4), F.A.C. and also see below, "Substances in concentrations which...")							

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Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(21) Color, etc. (see also Minimum Criteria, Odor, Phenols, etc.)	Color, odor, and taste producing substances and other deleterious substances, including other chemical compounds attributable to domestic wastes, industrial wastes, and other wastes					Only such amounts as will not render the waters unsuitable for agricultural irrigation, livestock watering, industrial cooling, industrial process water supply purposes, or fish survival.	
(22) Conductance, Specific	Micromhos/cm	Shall not be increased more than 50% above background <u>as an monthly average; or for the South Florida Coastal Plain Ecoregion shall not be increased more than 50% above background as an monthly average or to 1275, whichever is greater.</u>		Shall not be increased more than 50% above background <u>as an monthly average; or for the South Florida Coastal Plain Ecoregion shall not be increased more than 50% above background as an monthly average or to 1275, whichever is greater.</u>		Shall not be increased more than 50% above background or to 1275, whichever is greater.	Shall not exceed 4,000
(23) Copper	Micrograms/L See Notes (1) and (3).	$Cu \leq e^{(0.8545[\ln H]-1.702)}$	$\leq 3.7$	$Cu \leq e^{(0.8545[\ln H]-1.702)}$	$\leq 3.7$	$\leq 500$	$\leq 500$

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Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(24) Cyanide	Micrograms/L	≤ 5.2	≤ 1.0	≤ 5.2	≤ 1.0	≤ 5.0	≤ 5.0
(25) Definitions (see Section 62-302.200, F.A.C.)							
(26) Detergents	Milligrams/L	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
(27) 1,1-Dichloro-ethylene (1,1-dichloroethene)	Micrograms/L	≤ 0.057 annual avg.; ≤ 7.0 max	≤ 3900 ≤ 3.2 annual avg.	≤ 3900 ≤ 3.2 annual avg.	≤ 3900 ≤ 3.2 annual avg.		
(28) Dichloro-methane (methylene chloride)	Micrograms/L	≤ 4.6 annual avg.	≤ 320 ≤ 1,580 annual avg.	≤ 320 ≤ 1,580 annual avg.	≤ 320 ≤ 1,580 annual avg.		
(29) 2,4-Dinitro-toluene	Micrograms/L	≤ 0.11 annual avg.	≤ 1.9 ≤ 9.1 annual avg.	≤ 1.9 ≤ 9.1 annual avg.	≤ 1.9 ≤ 9.1 annual avg.		
(30) Dissolved Oxygen	Milligrams/L	Shall not be less than 5.0. Normal daily and seasonal fluctuations above this level shall be maintained.	Shall not average less than 5.0 in a 24-hour period and shall never be less than 4.0. Normal daily and seasonal fluctuations above these levels shall be maintained.	Shall not be less than 5.0. Normal daily and seasonal fluctuations above these levels shall be maintained.	Shall not average less than 5.0 in a 24-hour period and shall never be less than 4.0. Normal daily and seasonal fluctuations above these levels shall be maintained.	Shall not average less than 4.0 in a 24-hour period and shall never be less than 3.0.	Shall not be less than 0.3, fifty percent of the time on an annual basis for flows greater than or equal to 250 cubic feet per second and shall never be less than 0.1. Normal daily and seasonal fluctuations above these levels shall be maintained.

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Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(31) Dissolved Solids	Milligrams/L	≤ 500 as a monthly avg.; ≤ 1,000 max					
(32) Fluorides	Milligrams/L	≤ 1.5	≤ 1.5	≤ 10.0	≤ 5.0	≤ 10.0	≤ 10.0
(33) "Free Froms" (see Minimum Criteria in subsection Section 62-302.500(1), F.A.C.)							
(34) "General Criteria" (see subsection Section 62-302.500(2), F.A.C. and individual criteria)							
(35) (a) Halomethanes (Total trihalomethanes) (total of bromoform, chlorodibromomethane, dichlorobromomethane, and chloroform). Individual halomethanes shall not exceed (b)1. to (b)5. below.	Micrograms/L	≤ 80					

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Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(35) (b) 1. Halomethanes (individual): Bromoform	Micrograms/L	$\leq 4.2$ $\leq 4.3$ annual avg.	$\leq 74$ $\leq 360$ annual avg.	$\leq 74$ $\leq 360$ annual avg.	$\leq 74$ $\leq 360$ annual avg.		
(35) (b) 2. Halomethanes (individual): Chlorodibromo- methane	Micrograms/L	$\leq 0.39$ $\leq 0.41$ annual avg.	$\leq 6.9$ $\leq 34$ annual avg.	$\leq 6.9$ $\leq 34$ annual avg.	$\leq 6.9$ $\leq 34$ annual avg.		
(35) (b) 3. Halomethanes (individual): Chloroform	Micrograms/L	$\leq 5.4$ $\leq 5.67$ annual avg.	$\leq 96$ $\leq 470.8$ annual avg.	$\leq 96$ $\leq 470.8$ annual avg.	$\leq 96$ $\leq 470.8$ annual avg.		
(35) (b) 4. Halomethanes (individual): Chloromethane (methyl chloride)	Micrograms/L	$\leq 5.4$ $\leq 5.67$ annual avg.	$\leq 96$ $\leq 470.8$ annual avg.	$\leq 96$ $\leq 470.8$ annual avg.	$\leq 96$ $\leq 470.8$ annual avg.		
(35) (b) 5. Halomethanes (individual): Dichlorobromo- methane	Micrograms/L	$\leq 0.53$ $\leq 0.27$ annual avg.	$\leq 9.4$ $\leq 22$ annual avg.	$\leq 9.4$ $\leq 22$ annual avg.	$\leq 9.4$ $\leq 22$ annual avg.		
(36) Hexachloro- butadiene	Micrograms/L	To Be Determined (to include dermal absorption) $\leq 0.45$ annual avg.	To Be Determined (to include dermal absorption) $\leq 49.7$ annual avg.	To Be Determined (to include dermal absorption) $\leq 49.7$ annual avg.	To Be Determined (to include dermal absorption) $\leq 49.7$ annual avg.		
(37) Imbalance (see Nutrients)							

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Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(38) Iron	Milligrams/L	≤ 1.0	≤ 0.3	≤ 1.0	≤ 0.3	≤ 1.0	
(39) Lead	Micrograms/L See Notes (1) and (3).	$Pb \leq e^{(1.273[\ln H] - 4.705)}$ ;	≤ 8.5	$Pb \leq e^{(1.273 [\ln H] - 4.705)}$ ;	≤ 8.5	≤ 50	≤ 50
(40) Manganese	Milligrams/L		≤ 0.1				
(41) Mercury	Micrograms/L	≤ 0.012	≤ 0.025	≤ 0.012	≤ 0.025	≤ 0.2	≤ 0.2
(42) Minimum Criteria (see subsection Section 62-302.500(1), F.A.C.)							
(43) Mixing Zones (See Rule Section 62-4.244 , F.A.C.)							
(44) Nickel	Micrograms/L See Notes (1) and (3).	$Ni \leq e^{(0.846[\ln H] + 0.0584)}$	≤ 8.3	$Ni \leq e^{(0.846[\ln H] + 0.0584)}$	≤ 8.3	≤ 100	
(45) Nitrate	Milligrams/L as N	≤ 10 or that concentration that exceeds the nutrient criteria					
(46) Nuisance Species		Substances in concentrations which result in the dominance of nuisance species: none shall be present.					
(47) (a) Nutrients		The discharge of nutrients shall continue to be limited as needed to prevent violations of other standards contained in this chapter. Man-induced nutrient enrichment (total nitrogen or total phosphorus) shall be considered degradation in relation to the provisions of Rules Sections 62-302.300, 62-302.700, and 62-4.242, F.A.C.					

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Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(47) (b) Nutrients		In no case shall nutrient concentrations of a body of water be altered so as to cause an imbalance in natural populations of aquatic flora or fauna.					
(48) Odor (also see Color, Minimum Criteria, Phenolic Compounds, etc.)	Threshold odor number		Shall not exceed 24 at 60 degrees C as a daily average.				Odor producing substances: only in such amounts as will not unreasonably interfere with use of the water for the designated purpose of this classification.
(49) (a) Oils and Greases	Milligrams/L	Dissolved or emulsified oils and greases shall not exceed 5.0	Dissolved or emulsified oils and greases shall not exceed 5.0	Dissolved or emulsified oils and greases shall not exceed 5.0	Dissolved or emulsified oils and greases shall not exceed 5.0	Dissolved or emulsified oils and greases shall not exceed 5.0	Dissolved or emulsified oils and greases shall not exceed 10.0
(49) (b) Oils and Greases		No undissolved oil, or visible oil defined as iridescence, shall be present so as to cause taste or odor, or otherwise interfere with the beneficial use of waters.					
(50) Pesticides and Herbicides							
(50) (a) 2,4,5-TP	Micrograms/L	≤ 10					
(50) (b) 2-4-D	Micrograms/L	≤ 100					
(50) (c) Aldrin	Micrograms/L	≤ 0.000027 ≤ 0.00013 annual avg.; 3.0 max	≤ 0.000028 ≤ 0.00014 annual avg.; 1.3 max	≤ 0.000028 ≤ 0.00014 annual avg.; 3.0 max	≤ 0.000028 ≤ 0.00014 annual avg.; 1.3 max		

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Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(50) (d) Beta-hexachlorocyclohexane (b-BHC)	Micrograms/L	$\leq 0.0063$ $\leq 0.014$ annual avg.	$\leq 0.0093$ $\leq 0.046$ annual avg.	$\leq 0.0093$ $\leq 0.046$ annual avg.	$\leq 0.0093$ $\leq 0.046$ annual avg.		
(50) (e) Chlordane	Micrograms/L	$\leq 0.00044$ $\leq 0.00058$ annual avg.; 0.0043 max	$\leq 0.00044$ $\leq 0.00059$ annual avg.; 0.004 max	$\leq 0.00044$ $\leq 0.00059$ annual avg.; 0.0043 max	$\leq 0.00044$ $\leq 0.00059$ annual avg.; 0.004 max		
(50) (f) DDT (including its metabolites, such as DDE and DDD)	Micrograms/L	$\leq 0.00012$ $\leq 0.00059$ annual avg.; 0.001 max	$\leq 0.00012$ $\leq 0.00059$ annual avg.; 0.001 max	$\leq 0.00012$ $\leq 0.00059$ annual avg.; 0.001 max	$\leq 0.00012$ $\leq 0.00059$ annual avg.; 0.001 max		
(50) (g) Demeton	Micrograms/L	$\leq 0.1$	$\leq 0.1$	$\leq 0.1$	$\leq 0.1$		
(50) (h) Dieldrin	Micrograms/L	$\leq 0.000029$ $\leq 0.00014$ annual avg.; 0.0019 max	$\leq 0.000029$ $\leq 0.00014$ annual avg.; 0.0019 max	$\leq 0.000029$ $\leq 0.00014$ annual avg.; 0.0019 max	$\leq 0.000029$ $\leq 0.00014$ annual avg.; 0.0019 max		
(50) (i) Endosulfan	Micrograms/L	$\leq 0.056$	$\leq 0.0087$	$\leq 0.056$	$\leq 0.0087$		
(50) (j) Endrin	Micrograms/L	$\leq 0.0023$	$\leq 0.0023$	$\leq 0.0023$	$\leq 0.0023$		
(50) (k) Guthion	Micrograms/L	$\leq 0.01$	$\leq 0.01$	$\leq 0.01$	$\leq 0.01$		
(50) (l) Heptachlor	Micrograms/L	$\leq 0.000043$ $\leq 0.00021$ annual avg.; 0.0038 max	$\leq 0.000043$ $\leq 0.00021$ annual avg.; 0.0036 max	$\leq 0.000043$ $\leq 0.00021$ annual avg.; 0.0038 max	$\leq 0.000043$ $\leq 0.00021$ annual avg.; 0.0036 max		
(50) (m) Lindane (g-benzene hexachloride)	Micrograms/L	$\leq 0.019$ annual avg.; $\leq 0.08$ max	$\leq 0.063$ annual avg.; $\leq 0.16$ max	$\leq 0.063$ annual avg.; $\leq 0.08$ max	$\leq 0.063$ annual avg.; $\leq 0.16$ max		
(50) (n) Malathion	Micrograms/L	$\leq 0.1$	$\leq 0.1$	$\leq 0.1$	$\leq 0.1$		

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Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(50) (o) Methoxy-chlor	Micrograms/L	≤ 0.03	≤ 0.03	≤ 0.03	≤ 0.03		
(50) (p) Mirex	Micrograms/L	≤ 0.001	≤ 0.001	≤ 0.001	≤ 0.001		
(50) (q) Parathion	Micrograms/L	≤ 0.04	≤ 0.04	≤ 0.04	≤ 0.04		
(50) (r) Toxaphene	Micrograms/L	≤ 0.0002	≤ 0.0002	≤ 0.0002	≤ 0.0002		
(51) (a) pH (Class I and Class IV Waters)	Standard Units	Shall not vary more than one unit above or below natural background provided that the pH is not lowered to less than 6 units or raised above 8.5 units. If natural background is less than 6 units, the pH shall not vary below natural background or vary more than one unit above natural background. If natural background is higher than 8.5 units, the pH shall not vary above natural background or vary more than one unit below background.					
(51) (b) pH (Class II Waters)	Standard Units	Shall not vary more than one unit above or below natural background of coastal waters as defined in <a href="#">paragraph Section 62-302.520(3)(b)</a> , F.A.C., or more than two-tenths unit above or below natural background of open waters as defined in <a href="#">paragraph Section 62-302.520(3)(f)</a> , F.A.C., provided that the pH is not lowered to less than 6.5 units or raised above 8.5 units. If natural background is less than 6.5 units, the pH shall not vary below natural background or vary more than one unit above natural background for coastal waters or more than two-tenths unit above natural background for open waters. If natural background is higher than 8.5 units, the pH shall not vary above natural background or vary more than one unit below natural background of coastal waters or more than two-tenths unit below natural background of open waters.					
(51) (c) pH (Class III Waters)	Standard Units	Shall not vary more than one unit above or below natural background of predominantly fresh waters and coastal waters as defined in <a href="#">paragraph Section 62-302.520(3)(b)</a> , F.A.C. or more than two-tenths unit above or below natural background of open waters as defined in <a href="#">paragraph Section 62-302.520(3)(f)</a> , F.A.C., provided that the pH is not lowered to less than 6 units in predominantly fresh waters, or less than 6.5 units in predominantly marine waters, or raised above 8.5 units. If natural background is less than 6 units, in predominantly fresh waters or 6.5 units in predominantly marine waters, the pH shall not vary below natural background or vary more than one unit above natural background of predominantly fresh waters and coastal waters, or more than two-tenths unit above natural background of open waters. If natural background is higher than 8.5 units, the pH shall not vary above natural background or vary more than one unit below natural background of predominantly fresh waters and coastal waters, or more than two-tenths unit below natural background of open waters.					
(51) (d) pH (Class V Waters)	Standard Units	Not lower than 5.0 nor greater than 9.5 except certain swamp waters which may be as low as 4.5.					

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Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(52) (a) Phenolic Compounds: Total		Phenolic compounds other than those produced by the natural decay of plant material, listed or unlisted, shall not taint the flesh of edible fish or shellfish or produce objectionable taste or odor in a drinking water supply.					
(52) (b) Total Chlorinated Phenols, and Chlorinated Cresols, 2,4-dinitrophenol, and Phenol	Micrograms/L	1. The total of all chlorinated phenols, and chlorinated cresols, except as set forth in (c) 1. to (c) 4. below, shall not exceed 1.0 unless higher values are shown not to be chronically toxic. Such higher values shall be approved in writing by the Secretary. 2. The compounds listed in (c) 1. to (c) 6. below shall not exceed the limits specified for each compound.					1. The total of the following Phenolic compounds shall not exceed 50: a) Chlorinated phenols; b) Chlorinated cresols; and c) 2,4-dinitrophenol.
(52) (c) 1. Phenolic Compound: 2-chlorophenol	Micrograms/L	$\leq 56$ $\leq 120$	$\leq 82$ $< 400$ See Note (2).	$\leq 82$ $< 400$ See Note (2).	$\leq 82$ $< 400$ See Note (2).	$\leq 82$ $< 400$ See Note (2).	
(52) (c) 2. Phenolic Compound: 2,4-dichlorophenol	Micrograms/L	$\leq 64$ $\leq 93$ See Note (2).	$\leq 160$ $< 790$ See Note (2).	$\leq 160$ $< 790$ See Note (2).	$\leq 160$ $< 790$ See Note (2).	$\leq 160$ $< 790$ See Note (2).	

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of CaCO<sub>3</sub>. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L; (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(52) (c) 3. Phenolic Compound: Pentachlorophenol	Micrograms/L	$\leq 30$ max; <u>To Be Determined (to include dermal absorption)</u> $\leq 0.28$ annual avg; $\leq e^{(1.005[\text{pH}]-5.29)}$	$\leq 7.9$	$\leq 30$ max; <u>To Be Determined (to include dermal absorption)</u> $\leq 0.28$ annual avg; $\leq e^{(1.005[\text{pH}]-5.29)}$	$\leq 7.9$	$\leq 30$	
(52) (c) 4. Phenolic Compound: 2,4,6-trichlorophenol	Micrograms/L	$\leq 0.94$ $\leq 2.1$ annual avg.	$\leq 1.3$ $\leq 6.5$ annual avg.	$\leq 1.3$ $\leq 6.5$ annual avg.	$\leq 1.3$ $\leq 6.5$ annual avg.	$\leq 1.3$ $\leq 6.5$ annual avg.	
(52) (c) 5. Phenolic Compound: 2,4-dinitrophenol	Micrograms/L Milligrams/L	$\leq 68$ $\leq 0.0697$ See Note (2).	$\leq 2900$ $\leq 14.26$ See Note (2).	$\leq 2900$ $\leq 14.26$ See Note (2).	$\leq 2900$ $\leq 14.26$ See Note (2).	$\leq 2900$ $\leq 14.26$ See Note (2).	
(52) (c) 6. Phenolic Compound: Phenol	Milligrams/L	$\leq 0.3$	$\leq 0.3$	$\leq 0.3$	$\leq 0.3$	$\leq 0.3$	$\leq 0.3$
(53) Phosphorus (Elemental)	Micrograms/L		$\leq 0.1$		$\leq 0.1$		
(54) Phthalate Esters	Micrograms/L	$\leq 3.0$		$\leq 3.0$			
(55) Polychlorinated Biphenyls (PCBs)	Micrograms/L	$\leq 0.000035$ $0.000044$ annual avg.; 0.014 max	$\leq 0.000035$ $0.000045$ annual avg.; 0.03 max	$\leq 0.000035$ $0.000045$ annual avg.; 0.014 max	$\leq 0.000035$ $0.000045$ annual avg.; 0.03 max		

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of CaCO<sub>3</sub>. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L; (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(56) (a) Polycyclic Aromatic Hydrocarbons (PAHs). Total of: Acenaphthylene; Benzo(a)anthracene; Benzo(a)pyrene; Benzo(b)fluoranthene; Benzo(ghi)perylene; Benzo(k)fluoranthene; Chrysene; Dibenzo(a,h)anthracene; Indeno(1,2,3-cd)pyrene; and Phenanthrene	Micrograms/L	To Be Determined (to include dermal absorption) <del>≤ 0.0028</del> annual avg.	To Be Determined (to include dermal absorption) <del>≤ 0.031</del> annual avg.	To Be Determined (to include dermal absorption) <del>≤ 0.031</del> annual avg.	To Be Determined (to include dermal absorption) <del>≤ 0.031</del> annual avg.		
(56) (b) 1. (Individual PAHs): Acenaphthene	Milligrams/L	To Be Determined (to include dermal absorption) <del>&lt; 1.2</del> See Note (2).	To Be Determined (to include dermal absorption) <del>&lt; 2.7</del> See Note (2).	To Be Determined (to include dermal absorption) <del>&lt; 2.7</del> See Note (2).	To Be Determined (to include dermal absorption) <del>&lt; 2.7</del> See Note (2).		
(56) (b) 2. (Individual PAHs): Anthracene	Milligrams/L	To Be Determined (to include dermal absorption) <del>&lt; 9.6</del> See Note (2).	To Be Determined (to include dermal absorption) <del>&lt; 110</del> See Note (2).	To Be Determined (to include dermal absorption) <del>&lt; 110</del> See Note (2).	To Be Determined (to include dermal absorption) <del>&lt; 110</del> See Note (2).		

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of CaCO<sub>3</sub>. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L; (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(56) (b) 3. (Individual PAHs): Fluoranthene	Milligrams/L	To Be Determined (to include dermal absorption) <del>&lt;0.3</del> See Note (2).	To Be Determined (to include dermal absorption) <del>&lt;0.370</del> See Note (2).	To Be Determined (to include dermal absorption) <del>&lt;0.370</del> See Note (2).	To Be Determined (to include dermal absorption) <del>&lt;0.370</del> See Note (2).		
(56) (b) 4. (Individual PAHs): Fluorene	Milligrams/L	To Be Determined (to include dermal absorption) <del>&lt;1.3</del> See Note (2).	To Be Determined (to include dermal absorption) <del>&lt;14</del> See Note (2).	To Be Determined (to include dermal absorption) <del>&lt;14</del> See Note (2).	To Be Determined (to include dermal absorption) <del>&lt;14</del> See Note (2).		
(56) (b) 5. (Individual PAHs): Pyrene	Milligrams/L	To Be Determined (to include dermal absorption) <del>&lt;0.96</del> See Note (2).	To Be Determined (to include dermal absorption) <del>&lt;11</del> See Note (2).	To Be Determined (to include dermal absorption) <del>&lt;11</del> See Note (2).	To Be Determined (to include dermal absorption) <del>&lt;11</del> See Note (2).		
(57) (a) Radio- active substances (Combined radium 226 and 228)	Picocuries/L	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
(57) (b) Radio- active substances (Gross alpha particle activity including radium 226, but excluding radon and uranium)	Picocuries/L	≤ 15	≤ 15	≤ 15	≤ 15	≤ 15	≤ 15
(58) Selenium	Micrograms/L	≤ 5.0	≤ 71	≤ 5.0	≤ 71		

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of CaCO<sub>3</sub>. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L; (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(59) Silver	Micrograms/L See Note (3).	≤ 0.07	See Minimum criteria in paragraph Section 62-302.500(1)(c), F.A.C.	≤ 0.07	See Minimum criteria in paragraph Section 62-302.500(1)(c), F.A.C.		
(60) Specific Conductance (see Conductance, Specific, above)							
(61) Substances in concentrations which injure, are chronically toxic to, or produce adverse physiological or behavioral response in humans, plants, or animals		None shall be present.					
(62) 1,1,2,2-Tetrachloroethane	Micrograms/L	≤ 0.16 ≤ 0.17 annual avg.	≤ 2.2 ≤ 10.8 annual avg.	≤ 2.2 ≤ 10.8 annual avg.	≤ 2.2 ≤ 10.8 annual avg.		
(63) Tetrachloroethylene (1,1,2,2-tetrachloroethene)	Micrograms/L	≤ 0.59 ≤ 0.8 annual avg., ≤ 3.0 max	≤ 1.8 ≤ 8.85 annual avg.	≤ 1.8 ≤ 8.85 annual avg.	≤ 1.8 ≤ 8.85 annual avg.		
(64) Thallium	Micrograms/L	≤ 0.17 ≤ 1.7	≤ 0.26 ≤ 6.3	≤ 0.26 ≤ 6.3	≤ 0.26 ≤ 6.3		

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of CaCO<sub>3</sub>. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L; (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(65) Thermal Criteria (See <u>Rule Section 62-302.520, F.A.C.</u> )							
(66) Total Dissolved Gases	Percent of the saturation value for gases at the existing atmospheric and hydrostatic pressures	≤ 110% of saturation value	≤ 110% of saturation value	≤ 110% of saturation value	≤ 110% of saturation value		
(67) (a) <u>Transparency</u>	<u>Depth of the compensation point within the water column for photosynthetic activity for phytoplankton</u>	<u>The annual average value shall not be reduced by more than 10% as compared to the natural background value. Annual average values shall be based on a minimum of three samples, with each sample collected at least three months apart.</u>					

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of CaCO<sub>3</sub>. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L; (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(67) (b) Transparency	Photosynthetically Active Radiation (PAR)	In areas where submerged aquatic vegetation is present or occurred historically, the annual average value at the bottom shall not be reduced below 13% of the surface value. Annual average values shall be based on a minimum of three samples, with each sample collected at least three months apart.	In areas where submerged aquatic vegetation is present or occurred historically, the annual average value at the bottom shall not be reduced below 22% of the surface value. Annual average values shall be based on a minimum of three samples, with each sample collected at least three months apart.	In areas where submerged aquatic vegetation is present or occurred historically, the annual average value at the bottom shall not be reduced below 13% of the surface value. Annual average values shall be based on a minimum of three samples, with each sample collected at least three months apart.	In areas where submerged aquatic vegetation is present or occurred historically, the annual average value at the bottom shall not be reduced below 22% of the surface value. Annual average values shall be based on a minimum of three samples, with each sample collected at least three months apart.		
(67) Transparency	Depth of the compensation point for photosynthetic activity	Shall not be reduced by more than 10% as compared to the natural background value.	Shall not be reduced by more than 10% as compared to the natural background value.	Shall not be reduced by more than 10% as compared to the natural background value.	Shall not be reduced by more than 10% as compared to the natural background value.		
(68) Trichloroethylene (trichloroethene)	Micrograms/L	$\leq 2.4$ $\leq 2.7$ annual avg., $\leq 3.0$ max	$\leq 16$ $\leq 80.7$ annual avg.	$\leq 16$ $\leq 80.7$ annual avg.	$\leq 16$ $\leq 80.7$ annual avg.		

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of CaCO<sub>3</sub>. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L; (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(69) Turbidity	Nephelometric Turbidity Units (NTU)	≤ 29 above natural background conditions	≤ 29 above natural background conditions	≤ 29 above natural background conditions	≤ 29 above natural background conditions	≤ 29 above natural background conditions	≤ 29 above natural background conditions
(70) Zinc	Micrograms/L See Notes (1) and (3).	$Zn \leq e^{(0.8473[\ln H]+0.884)}$	≤ 86	$Zn \leq e^{(0.8473[\ln H]+0.884)}$	≤ 86	≤ 1,000	≤ 1,000

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of CaCO<sub>3</sub>. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L; (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

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