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Environmental Protection
Agency

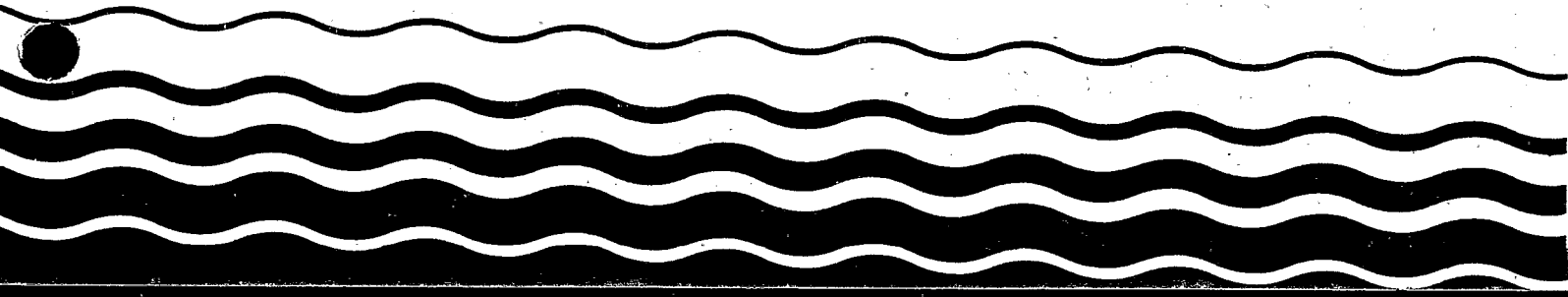
Office of Water
Regulations and Standards
Washington, DC 20460

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Water

State Water Quality Standards Summary: Colorado





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The reader should consult the water quality standards of a particular State for exact regulatory language applicable to that State. Copies of State water quality standards may be obtained from the State's Water Pollution Control Agency or its equivalent.

Additional information may also be obtained from the:

Standards Branch
Criteria and Standards Division (WH-585)
Office of Water Regulations and Standards
U.S. Environmental Protection Agency
Washington, D.C. 20460
202-475-7315

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National Technical Information Service
5285 Front Royal Road
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Responsible Agency:

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Water Quality Control Commission
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303-331-4525

State Contact:

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State Contact:

State Narrative Language For: Antidegradation

- (1) Existing uses shall be maintained as required by state and federal law. No further water quality degradation is allowable which would interfere with or become injurious to existing water uses.
- (2) High Quality Waters -- Class 1 -- no degradation shall be allowed in High Quality Waters -- Class 1. See section 3.3.13(e)(i). These waters shall be maintained and protected at their existing quality.
- (3) High Quality Waters -- Class 2 -- these waters shall be maintained and protected at their existing quality unless the Commission chooses, after full intergovernmental coordination and public participation, to allow lower water quality as a result of necessary and justifiable economic or social development. See Section 3.1.13(e)(ii). In no event, however, any degradation of water quality interfere with or become injurious to existing uses.
- (4) Waters Other Than High Quality Waters -- the numeric values of waters other than high quality waters may change; however, a quality must be maintained which will protect the existing and classified uses.

State Narrative Language For: Toxics

Substances attributable to human-induced discharges not otherwise controlled by permits, BMP's, or plans of operation approved by the Division, shall not be introduced into the waters of the State in amounts, concentrations, or combinations which are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life.

State Narrative Language For: Free From

Except where authorized by permits, BMP's, or plans of operation approved by the Division, state waters shall be free from substances attributable to human-caused point or nonpoint source discharges in amounts, concentrations or combinations:

- A. which can settle to form bottom deposits detrimental to beneficial uses. Bottom deposits are stream bottom buildup of materials which include but are not limited to anaerobic sludge, mine slurry or tailings, silt, or mud; or
- B. which form floating debris, scum, or other surface materials sufficient to harm existing beneficial uses;
- C. which produce color, odor, or other conditions in such a degree as to create a nuisance or harm existing beneficial uses or impart any undesirable taste to significant edible aquatic species or to the water; or
- D. in amounts, concentrations, or combinations which are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life; or
- E. in amounts, concentrations, or combinations which produce a predominance of undesirable aquatic life; or
- F. in concentrations which cause a film on the surface or produce a deposit on shorelines.

State Narrative Language For: Low Flow

Low Flow Exceptions - Water quality standards shall apply at all times except where surface waters are below the empirically based average 30-day low flow with an average 1-in-3-year recurrence interval for chronic (30-day) standards or the empirically based 1-day low flow with an average 1-in-3-year recurrence interval for acute (1-day) standards, or the equivalent statistically-based flow. For certain substances, such as ammonia, the low flow exceptions may be based on periodic or seasonal flows. The length of the periods will be

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determined on a case-by-case basis by the Division.

State Narrative Language For: Mixing Zones

- (a) The mixing zone is that area of a water body designated on a case-by-case basis by the Division which is contiguous to a point source and in which the standards may not apply. The mixing zone is intended to serve as a zone of initial dilution in the immediate area of a discharge; however, the ecological and human health effects of some pollutants may be so adverse that a mixing zone for such pollutants will not be allowed.
- (b) The size and shape of the mixing zone will be determined by the Division considering the following:
 - (i) Where necessary to protect aquatic life, there shall be a zone of passage around the mixing zone which allows sufficient passage of aquatic life so as not to have a detrimental effect on their population.
 - (ii) Biological communities or populations of imported species shall not be interfered with to a degree which is damaging to the ecosystem in adjacent waters; nor shall there be detrimental effects to other beneficial uses.
 - (iii) There shall be no mixing zones for certain harmful substances such as those identified pursuant to 307(a) of the Federal Act.
 - (iv) Mixing zones shall not overlap so as to cause harmful effects in adjacent waters or interfere with zones of passage.
 - (v) Concentrations of harmful substances in the mixing zone shall not exceed the 96-hour LC-50 concentrations for biota significant to the aquatic community.
 - (vi) The conditions of the mixing zone shall be controlled so as to comply with items 1(a), (b) and (f) of the Basic Standards, Section 3.1.11.
 - (vii) In establishing a mixing zone, potential groundwater aquifer contamination shall be considered.
 - (viii) The Division will also be guided by other concerns and documents.

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Classifications:

Primary Contact
Recreation
Class 1

These surface waters are suitable or intended to become suitable for prolonged and intimate contact with the body or for recreational activities when the ingestion of small quantities of water is likely to occur. Such waters include but are not limited to those used for swimming.

Secondary Contact
Recreation
Class 2

These surface waters are suitable or intended to become suitable for recreational uses on or about the water which are not included in the primary contact subcategory.

Cold Water Aquatic
Life
Class 1

These are waters that (1) currently are capable of sustaining a wide variety of cold water biota, including sensitive species, or (2) could sustain such biota but for correctable water quality conditions. Waters shall be considered capable of sustaining such biota where physical habitat, water flows or levels, and water quality conditions result in no substantial impairment of the abundance and diversity of species.

Warm Water Aquatic
Life
Class 1

These are waters that (1) currently are capable of sustaining a wide variety of warm water biota, including sensitive species, or (2) could sustain such biota but for correctable water quality conditions. Waters shall be considered capable of sustaining such biota where physical habitat, water flows or levels, and water quality conditions result in no substantial impairment of the abundance and diversity of species.

Cold and Warm
Water Aquatic Life
Class 2

These are waters that are not capable of sustaining a wide variety of cold or warm water biota, including sensitive species, due to physical habitat, water flows or levels, or uncorrectable water quality conditions that result in substantial impairment of the abundance and diversity of species.

Domestic Water Supp.

These surface waters are suitable or intended to become suitable for potable water supplies. After receiving treatment (defined as coagulation, flocculation, sedimentation, filtration, and disinfection with chlorine or its equivalent) these waters will meet Colorado drinking water regulations and any revisions, amendments, or supplements thereto.

Agriculture

These waters are suitable or intended to become suitable for irrigation of crops usually grown in Colorado and which are not hazardous as drinking water for livestock.

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	All Classes	Primary Contact Class 1	Secondary Conta.. Class 2	Cold Water Aqua.. Class 1
Physical				
pH				
Upper Value		9.0	9.0	9.0
Lower Value		6.5	6.5	6.5
Dissolved Oxygen				
Upper Value		Narr.	Narr.	ng/L
Lower Value				7.0 ng/L
Temperature				Narr.
Upper Value				
Temperature Change				
Upper Value				3 C
Chlorides				
Upper Value	250	ng/L		
Sulfates				
Upper Value	250	ng/L		
Nutrients				
Ammonia				
Upper Value				0.02 ng/L as N
Nitrite				
Upper Value				0.05 ng/L as N
Toxic Metals				
Arsenic				
Upper Value		0.05 ng/L	0.05 ng/L	0.05 ng/L
Cadmium				
Upper Value				Narr.
Chromium - Hexavalent				
Upper Value				0.025 ng/L
Chromium - Trivalent				
Upper Value				0.1 ng/L
Copper				
Upper Value				Narr.
Cyanide				
Upper Value				0.005 ng/L
Iron				
Upper Value				1.0 ng/L
Lead				
Upper Value				Narr.
Mercury				
Upper Value		.00005 ng/L	Narr.	
Zinc				
Upper Value				Narr.
Beryllium				
Upper Value				Narr.
Manganese				
Upper Value				1.0 ng/L
Nickel				
Upper Value				Narr.

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	All Classes	Primary Contact Class 1	Secondary Conta.. Class 2	Cold Water Aqua.. Class 1
Selenium				
Upper Value				
Silver				0.05 ug/L
Upper Value				Narr.
Pesticides				
Aldrin & Dieldrin				
Upper Value				
DDT				0.003 ug/L
Upper Value				
DDD				0.001 ug/L
Upper Value				
DDE				0.001 ug/L
Upper Value				
Demeton				0.001 ug/L
Upper Value				
Endosulfan				0.1 ug/L
Upper Value				
Endrin				0.003 ug/L
Upper Value				
Guthion				0.004 ug/L
Upper Value				
Heptachlor				0.01 ug/L
Upper Value				
Lindane				0.001 ug/L
Upper Value				
Metoxychlor				0.01 ug/L
Upper Value				
Mirex				0.03 ug/L
Upper Value				
Parathion				0.001 ug/L
Upper Value				
Toxaphene				0.04 ug/L
Upper Value				0.005 ug/L
Organics				
Chlorophenol				
Upper Value				
Monohydric Phenol				0.001 ug/L
Upper Value				
PCBs				0.5 ug/L
Upper Value				0.001 ug/L
Bacteria				
Fecal Colifore				
Upper Value		Narr.	Narr.	

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	Warm Water Aqua.. Class 1	Cold and Warm Class 2	Domestic Water ..	Agriculture
Physical				
pH				
Upper Value	9.0		9.0	
Lower Value	6.5		5.0	
Dissolved Oxygen				
Upper Value	7.0	mg/L		
Lower Value	6.0	mg/L		
Temperature				Narr.
Upper Value	Narr.			
Temperature Change				
Upper Value	3	C		
Turbidity				
Upper Value			1.0	TPU
Nutrients				
Ammonia				
Upper Value	0.06	mg/L as N	0.5	mg/L as N
Nitrate				
Upper Value			10	mg/L
Nitrite				100
Upper Value	0.50	mg/L as N	1.0	mg/L as N
Toxic Metals				
Arsenic				
Upper Value	0.05	mg/L	0.05	mg/L
Cadmium		Narr.	0.1	mg/L
Upper Value	Narr.	Narr.	0.010	mg/L
Chromium - Hexavalent				
Upper Value			0.05	mg/L
Secondary Upper Limit			Narr.	mg/L
Chromium - Trivalent				
Upper Value			0.1	mg/L
Secondary Upper Limit			Narr.	mg/L
Copper				
Upper Value	Narr.		1.0	mg/L
Cyanide			0.2	mg/L
Upper Value	0.005	mg/L	0.2	mg/L
Iron		Narr.		
Upper Value	1.0	mg/L	0.3	mg/L
Lead		Narr.		
Upper Value	Narr.		0.05	mg/L
Mercury			0.1	mg/L
Upper Value			0.002	mg/L
Zinc				
Upper Value			5.0	mg/L
Barium			2.0	mg/L
Upper Value		Narr.		
Beryllium			1.0	mg/L
Upper Value	Narr.	Narr.		0.1

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	Warm Water Aqua.. Class 1	Cold and Warm Class 2	Domestic Water ..	Agriculture
Boron				
Upper Value		Narr.		0.75 ug/L
Manganese				
Upper Value	1.0 ug/L	Narr.	0.05 ug/L	0.2 ug/L
Nickel				
Upper Value	Narr.	Narr.		0.2 ug/L
Selenium				
Upper Value	0.05 ug/L	Narr.	0.01 ug/L	0.02 ug/L
Silver				
Upper Value	Narr.	Narr.	0.05 ug/L	
Pesticides				
Aldrin				
Upper Value	0.003 ug/L			
Chlordane				
Upper Value			0.004 ug/L	
DDT				
Upper Value	0.001 ug/L			
DDD				
Upper Value	0.001 ug/L			
DDE				
Upper Value	0.001 ug/L			
Demeton				
Upper Value	0.1 ug/L			
Endosulfan				
Upper Value	0.003 ug/L			
Endrin				
Upper Value	0.004 ug/L		0.02 ug/L	
Guthion				
Upper Value	0.01 ug/L			
Heptachlor				
Upper Value	0.001 ug/L			
Lindane				
Upper Value	0.01 ug/L		0.004 ug/L	
Methoxychlor				
Upper Value	0.03 ug/L		0.1 ug/L	
Mirex				
Upper Value	0.001 ug/L			
Parathion				
Upper Value	0.04 ug/L			
Toxaphene				
Upper Value	0.005 ug/L		0.005 ug/L	
Organics				
Chlorophenol				
Upper Value	0.001 ug/L		0.001 ug/L	
Monohydric Phenol				
Upper Value	0.5 ug/L		0.001 ug/L	
PCBs				
Upper Value	0.001 ug/L		Narr.	

Bacteria

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Fecal Coliform
Upper Value

Warm Water Aqua.. Cold and Warm
Class 1 Class 2

Domestic Water .. Agriculture

Narr.