

**COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
WATER QUALITY CONTROL COMMISSION**

5 CCR 1002-38

**REGULATION NO. 38
CLASSIFICATIONS AND NUMERIC STANDARDS
FOR
SOUTH PLATTE RIVER BASIN, LARAMIE RIVER BASIN
REPUBLICAN RIVER BASIN, SMOKY HILL RIVER BASIN**

**APPENDIX 38-1
Stream Classifications and Water Quality Standards Tables**

Effective 9/30/2022

Abbreviations and Acronyms

Aq	=	Aquatic
°C	=	degrees Celsius
CL	=	cold lake temperature tier
CLL	=	cold large lake temperature tier
CS-I	=	cold stream temperature tier one
CS-II	=	cold stream temperature tier two
D.O.	=	dissolved oxygen
DM	=	daily maximum temperature
DUWS	=	direct use water supply
E. coli	=	<i>Escherichia coli</i>
EQ	=	existing quality
mg/L	=	milligrams per liter
mg/m ²	=	milligrams per square meter
mL	=	milliliter
MWAT	=	maximum weekly average temperature
OW	=	outstanding waters
SSE	=	site-specific equation
T	=	total recoverable
t	=	total
tr	=	trout
TVS	=	table value standard
µg/L	=	micrograms per liter
UP	=	use-protected
WS	=	water supply
WS-I	=	warm stream temperature tier one
WS-II	=	warm stream temperature tier two
WS-III	=	warm stream temperature tier three
WL	=	warm lake temperature tier

REGULATION #38 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

Upper South Platte River Basin

15. Mainstem of the South Platte River from the Burlington Ditch diversion in Denver, Colorado, to a point immediately below the confluence with Big Dry Creek.							
COSPUS15	Classifications	Physical and Biological			Metals (ug/L)		
Designation			DM	MWAT			
			acute	chronic		acute	chronic
UP	Agriculture	Temperature °C	WS-I	WS-I	Arsenic	340	---
	Aq Life Warm 1				Arsenic(T)	---	0.02
	Recreation E				D.O. (mg/L)	TVS	TVS
	Water Supply				pH	6.0-9.0*	---
Qualifiers:					pH	6.5 - 9.0	---
Other:					chlorophyll a (mg/m ²)	---	---
Temporary Modification(s):					E. coli (per 100 mL)	---	126
Arsenic(chronic) = hybrid					Inorganic (mg/L)		
Expiration Date of 12/31/2024						acute	chronic
Discharger Specific Variance(s):					Ammonia	TVS*	TVS*
Selenium(acute) = TVS: no limit					Boron	---	0.75
Selenium(chronic) = TVS: 24 µg/L					Chloride	---	250
Expiration Date of 12/31/2023					Chlorine	0.019	0.011
*Ammonia(acute) = See section 38.6(4) for site-specific standards.					Cyanide	0.005	---
*Ammonia(chronic) = See section 38.6(4) for site-specific standards.					Nitrate	10	---
*Copper(acute) = Copper BLM-based FMB					Nitrite	1.0	---
Cu FMB(ac)=26.4 ug/l					Phosphorus	---	---
Downstream of the Metro Hite WWTF outfall.					Sulfate	---	WS
*Copper(chronic) = Copper BLM-based FMB					Sulfide	---	0.002
Cu FMB(ch)= 18.0 ug/l					Uranium	varies*	varies*
Downstream of the Metro Hite WWTF outfall.					Zinc	TVS	TVS
*Uranium(acute) = See 38.5(3) for details.							
*Uranium(chronic) = See 38.5(3) for details.							
*D.O. (mg/L)(acute) = See section 38.6(4) for site-specific standards.							
*D.O. (mg/L)(chronic) = See section 38.6(4) for site-specific standards.							
*pH(acute) = 6.0 - 9.0 from 64th Ave. downstream 2 miles							
*Variance: Selenium = see 38.6(6) for details.							

All metals are dissolved unless otherwise noted.
T = total recoverable
t = total
tr = trout

D.O. = dissolved oxygen
DM = daily maximum
MWAT = maximum weekly average temperature
See 38.6 for further details on applied standards.

REGULATION #38 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

Clear Creek Basin

6. All tributaries to West Fork Clear Creek, including all wetlands, from the source to the confluence with Clear Creek, except for listings in Segments 7a and 8.							
COSPCL06	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable*	Aq Life Cold 1	Temperature °C	CS-I	CS-I	Arsenic	340	---
	Recreation E		acute	chronic	Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS	TVS
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0	---
Other:		pH	6.5 - 9.0	---	Chromium III	---	TVS
Temporary Modification(s):		chlorophyll a (mg/m ²)	---	150	Chromium III(T)	50	---
Arsenic(chronic) = hybrid		E. coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
Expiration Date of 12/31/2024					Copper	TVS	TVS
*Designation: 9/30/00 Baseline does not apply					Inorganic (mg/L)		
*Uranium(acute) = See 38.5(3) for details.					Iron	---	WS
*Uranium(chronic) = See 38.5(3) for details.					Iron(T)	---	1000
					Lead	TVS	TVS
		Ammonia	TVS	TVS	Lead(T)	50	---
		Boron	---	0.75	Manganese	TVS	TVS/WS
		Chloride	---	250	Mercury(T)	---	0.01
		Chlorine	0.019	0.011	Molybdenum(T)	---	150
		Cyanide	0.005	---	Nickel	TVS	TVS
		Nitrate	10	---	Nickel(T)	---	100
		Nitrite	---	0.05	Selenium	TVS	TVS
		Phosphorus	---	0.11	Silver	TVS	TVS(tr)
		Sulfate	---	WS	Uranium	varies*	varies*
		Sulfide	---	0.002	Zinc	TVS	TVS

7a. Mainstem of Woods Creek from the outlet of Upper Urad Reservoir to the confluence with West Fork Clear Creek.							
COSPCL07A	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Aq Life Cold 2	DM	MWAT	acute	chronic		
UP	Recreation N	Temperature °C	CS-I	CS-I	Arsenic	340	150
Qualifiers:			acute	chronic	Cadmium	TVS	TVS
Other:		D.O. (mg/L)	---	6.0	Chromium III	TVS	TVS
Temporary Modification(s):		D.O. (spawning)	---	7.0	Chromium VI	TVS	TVS
temperature(MWAT) = current condition	10/1 - 11/30	pH	6.5 - 9.0	---	Copper	TVS	TVS
temperature(MWAT) = current condition	4/1 - 5/31	chlorophyll a (mg/m ²)	---	---	Iron(T)	---	1000
Expiration Date of 12/31/2023		E. coli (per 100 mL)	---	630	Lead	TVS	TVS
*Uranium(acute) = See 38.5(3) for details.					Manganese	TVS	TVS
*Uranium(chronic) = See 38.5(3) for details.					Inorganic (mg/L)		
*TempMod: Temperature = Adopted 6/9/2015					Mercury(T)	---	0.01
					Molybdenum(T)	---	---
		Ammonia	TVS	TVS	Nickel	TVS	TVS
		Boron	---	---	Selenium	TVS	TVS
		Chloride	---	---	Silver	TVS	TVS(tr)
		Chlorine	0.019	0.011	Uranium	varies*	varies*
		Cyanide	0.005	---	Zinc	TVS	TVS
		Nitrate	---	---			
		Nitrite	---	0.05			
		Phosphorus	---	0.11			
		Sulfate	---	---			
		Sulfide	---	0.002			

All metals are dissolved unless otherwise noted.
T = total recoverable
t = total
tr = trout

D.O. = dissolved oxygen
DM = daily maximum
MWAT = maximum weekly average temperature
See 38.6 for further details on applied standards.

REGULATION #38 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

Clear Creek Basin

7b. Lower Urad Reservoir							
COSPCL07B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Aq Life Cold 2	DM	MWAT	acute	chronic		
UP	Recreation N	Temperature °C	CL	CL	Arsenic	340	150
Qualifiers:		acute	chronic	Cadmium	TVS	TVS	
Other:		D.O. (mg/L)	---	6.0	Chromium III	TVS	TVS
Temporary Modification(s):		D.O. (spawning)	---	7.0	Chromium VI	TVS	TVS
temperature(MWAT) = current	10/1 - 11/30	pH	6.5 - 9.0	---	Copper	TVS	TVS
condition		chlorophyll a (ug/L)	---	---	Iron(T)	---	1000
temperature(MWAT) = current	4/1 - 5/31	E. coli (per 100 mL)	---	630	Lead	TVS	TVS
condition					Manganese	TVS	TVS
Expiration Date of 12/31/2023		Inorganic (mg/L)			Mercury(T)	---	0.01
		acute	chronic	Molybdenum(T)	---	---	
*Uranium(acute) = See 38.5(3) for details.		Ammonia	TVS	TVS	Nickel	TVS	TVS
*Uranium(chronic) = See 38.5(3) for details.		Boron	---	---	Selenium	TVS	TVS
*TempMod: Temperature = Adopted 6/9/2015		Chloride	---	---	Silver	TVS	TVS(tr)
		Chlorine	0.019	0.011	Uranium	varies*	varies*
		Cyanide	0.005	---	Zinc	TVS	TVS
		Nitrate	---	---			
		Nitrite	---	0.05			
		Phosphorus	---	---			
		Sulfate	---	---			
		Sulfide	---	0.002			
8. Mainstem of Lion Creek from the source to the confluence with West Fork Clear Creek.							
COSPCL08	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Aq Life Cold 2	DM	MWAT	acute	chronic		
UP	Recreation E	Temperature °C	CS-I	CS-I	Arsenic	---	---
Qualifiers:		acute	chronic	Cadmium	---	---	
Other:		D.O. (mg/L)	---	6.0	Chromium III	---	---
*Uranium(acute) = See 38.5(3) for details.		D.O. (spawning)	---	7.0	Chromium VI	---	---
*Uranium(chronic) = See 38.5(3) for details.		pH	3.0-9.0	---	Copper	---	---
		chlorophyll a (mg/m ²)	---	150	Iron	---	---
		E. coli (per 100 mL)	---	126	Lead	---	---
					Manganese	---	---
		Inorganic (mg/L)			Mercury(T)	---	---
		acute	chronic	Molybdenum(T)	---	---	
		Ammonia	---	---	Nickel	---	---
		Boron	---	---	Selenium	---	---
		Chloride	---	---	Silver	---	---
		Chlorine	---	---	Uranium	varies*	varies*
		Cyanide	---	---	Zinc	---	---
		Nitrate	---	---			
		Nitrite	---	---			
		Phosphorus	---	---			
		Sulfate	---	---			
		Sulfide	---	---			

All metals are dissolved unless otherwise noted.
T = total recoverable
t = total
tr = trout

D.O. = dissolved oxygen
DM = daily maximum
MWAT = maximum weekly average temperature
See 38.6 for further details on applied standards.

REGULATION #38 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS St. Vrain Creek Basin

6a. All tributaries to Dry Creek, including wetlands, from the source to the inlet of Boulder Reservoir.						
COSPSV06A	Classifications	Physical and Biological			Metals (ug/L)	
Designation	Agriculture	DM	MWAT	acute	chronic	
UP	Aq Life Warm 2 Recreation E	WS-II	WS-II	340	---	Arsenic
		acute	chronic	---	100	Arsenic(T)
Qualifiers:		D.O. (mg/L)	---	5.0		Cadmium
Other:		pH	6.5 - 9.0	---		Chromium III
Temporary Modification(s): Iron(chronic) = current condition* Expiration Date of 12/31/2023		chlorophyll a (mg/m ²)	---	---		Chromium III(T)
*Uranium(acute) = See 38.5(3) for details. *Uranium(chronic) = See 38.5(3) for details. *TempMod: Iron = Adopted 12/12/2016		E. coli (per 100 mL)	---	126		Chromium VI
		Inorganic (mg/L)				Copper
		acute	chronic	---	1000	Iron(T)
		Ammonia	TVS	TVS		Lead
		Boron	---	0.75		Manganese
		Chloride	---	---		Mercury(T)
		Chlorine	0.019	0.011		Molybdenum(T)
		Cyanide	0.005	---		Nickel
		Nitrate	100	---		Selenium
		Nitrite	---	0.5		Silver
		Phosphorus	---	---		Uranium
		Sulfate	---	---		Zinc
		Sulfide	---	0.002		

6b. All tributaries to St. Vrain Creek, including wetlands from Hygiene Road to the confluence with the South Platte River, except for specific listings in the Boulder Creek subbasin and in Segments 4a, 4b, 4c and 5 and 6a.						
COSPSV06B	Classifications	Physical and Biological			Metals (ug/L)	
Designation	Agriculture	DM	MWAT	acute	chronic	
UP	Aq Life Warm 2 Water Supply Recreation E	WS-II	WS-II	340	---	Arsenic
		acute	chronic	---	0.02-10 ^A	Arsenic(T)
Qualifiers:		D.O. (mg/L)	---	5.0		Cadmium
Other:		pH	6.5 - 9.0	---		Cadmium(T)
Temporary Modification(s): Arsenic(chronic) = hybrid Expiration Date of 12/31/2024		chlorophyll a (mg/m ²)	---	---		Chromium III
*Uranium(acute) = See 38.5(3) for details. *Uranium(chronic) = See 38.5(3) for details.		E. coli (per 100 mL)	---	126		Chromium III(T)
		Inorganic (mg/L)				Chromium VI
		acute	chronic	---	TVS	Copper
		Ammonia	TVS	TVS		Iron
		Boron	---	0.75		Iron(T)
		Chloride	---	250		Lead
		Chlorine	0.019	0.011		Lead(T)
		Cyanide	0.005	---		Manganese
		Nitrate	10	---		Mercury(T)
		Nitrite	---	0.5		Molybdenum(T)
		Phosphorus	---	---		Nickel
		Sulfate	---	WS		Nickel(T)
		Sulfide	---	0.002		Selenium
						Silver
						Uranium
						Zinc

All metals are dissolved unless otherwise noted.
T = total recoverable
t = total
tr = trout

D.O. = dissolved oxygen
DM = daily maximum
MWAT = maximum weekly average temperature
See 38.6 for further details on applied standards.

REGULATION #38 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

Lower South Platte River Basin

2. All tributaries to the South Platte River, including all wetlands, from the Weld/Morgan County line to the Colorado/Nebraska border.					
COSPLS02	Classifications	Physical and Biological		Metals (ug/L)	
Designation		DM	MWAT	acute	chronic
UP	Agriculture				
	Aq Life Warm 1	WS-II	WS-II	340	---
	Recreation E	acute	chronic	---	0.02
	Water Supply				
		D.O. (mg/L)	5.0	---	4.0
Qualifiers:		pH	6.5 - 9.0	---	
Other:		chlorophyll a (mg/m ²)	---	150*	
Temporary Modification(s):		E. coli (per 100 mL)	---	126	
Arsenic(chronic) = hybrid		Inorganic (mg/L)		Chromium III	TVS
Expiration Date of 12/31/2024				Chromium III(T)	---
Discharger Specific Variance(s):		Ammonia	TVS	TVS	TVS
Ammonia(ac/ch) = See Section 38.6(6) for details on the variance for the Town of Crook.		Boron	---	0.75	WS
Expiration Date of 12/31/2025		Chloride	---	250	1000
*chlorophyll a (mg/m ²)(chronic) = applies only above the facilities listed at 38.5(4).		Chlorine	0.019	0.011	TVS
*Phosphorus(chronic) = applies only above the facilities listed at 38.5(4).		Cyanide	0.005	---	50
*Uranium(acute) = See 38.5(3) for details.		Nitrate	10	---	TVS
*Uranium(chronic) = See 38.5(3) for details.		Nitrite	---	0.5	0.01
		Phosphorus	---	0.17*	150
		Sulfate	---	WS	TVS
		Sulfide	---	0.002	100
				Selenium	TVS
				Silver	TVS
				Uranium	varies*
				Zinc	TVS

3. Jackson Reservoir, Prewitt Reservoir, North Sterling Reservoir, Jumbo (Julesburg), Empire Reservoir, Vancil Reservoir.					
COSPLS03	Classifications	Physical and Biological		Metals (ug/L)	
Designation		DM	MWAT	acute	chronic
UP	Agriculture				
	Aq Life Warm 1	varies*	varies*	340	---
	Recreation E	acute	chronic	---	0.02
	Water Supply				
		D.O. (mg/L)	5.0	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	
Other:		chlorophyll a (ug/L)	---	20*	
*chlorophyll a (ug/L)(chronic) = applies only above the facilities listed at 38.5(4), applies only to lakes and reservoirs larger than 25 acres surface area.		E. coli (per 100 mL)	---	126	
*Phosphorus(chronic) = applies only above the facilities listed at 38.5(4), applies only to lakes and reservoirs larger than 25 acres surface area.		Inorganic (mg/L)		Chromium VI	TVS
*Uranium(acute) = See 38.5(3) for details.				Copper	TVS
*Uranium(chronic) = See 38.5(3) for details.		Ammonia	TVS	TVS	WS
*Temperature = See 38.6(4) for temperature standards.		Boron	---	0.75	1000
		Chloride	---	250	TVS
		Chlorine	0.019	0.011	50
		Cyanide	0.005	---	TVS
		Nitrate	10	---	TVS/WS
		Nitrite	---	0.5	0.01
		Phosphorus	---	0.083*	150
		Sulfate	---	WS	TVS
		Sulfide	---	0.002	100
				Selenium	TVS
				Silver	TVS
				Uranium	varies*
				Zinc	TVS

All metals are dissolved unless otherwise noted.
T = total recoverable
t = total
tr = trout

D.O. = dissolved oxygen
DM = daily maximum
MWAT = maximum weekly average temperature
See 38.6 for further details on applied standards.

STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS – FOOTNOTES

- (A) Whenever a range of standards is listed and referenced to this footnote, the first number in the range is a strictly health-based value, based on the Commission's established methodology for human health-based standards. The second number in the range is a maximum contaminant level, established under the federal Safe Drinking Water Act that has been determined to be an acceptable level of this chemical in public water supplies, taking treatability and laboratory detection limits into account. Control requirements, such as discharge permit effluent limitations, shall be established using the first number in the range as the ambient water quality target, provided that no effluent limitation shall require an "end-of-pipe" discharge level more restrictive than the second number in the range. Water bodies will be considered in attainment of this standard, and not included on the Section 303(d) List, so long as the existing ambient quality does not exceed the second number in the range.

- (B) Assessment of adequate refuge shall rely on the Cold Large Lake table value temperature criterion and applicable dissolved oxygen standard rather than the site-specific temperature standard.