

## DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

### Water Quality Control Commission

## REGULATION NO. 32 - CLASSIFICATIONS AND NUMERIC STANDARDS FOR ARKANSAS RIVER BASIN

### 5 CCR 1002-32

*[Editor's Notes follow the text of the rules at the end of this CCR Document.]*

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#### 32.1 AUTHORITY

These regulations are promulgated pursuant to section 25-8-101 et seq. C.R.S., as amended, and in particular, 25-8-203 and 25-8-204.

#### 32.2 PURPOSE

These regulations establish classifications and numeric standards for the Arkansas River, including all tributaries and standing bodies of water as indicated in section 32.6. The classifications identify the actual beneficial uses of the water. The numeric standards are assigned to determine the allowable concentrations of various parameters. Discharge permits will be issued by the Water Quality Control Division to comply with basic, narrative, and numeric standards and control regulations so that all discharges to waters of the state protect the classified uses. It is intended that these and all other stream classifications and numeric standards be used in conjunction with and be an integral part of Regulation No. 31 Basic Standards and Methodologies for Surface Water.

#### 32.3 INTRODUCTION

These regulations and tables present the classifications and numeric standards assigned to stream segments listed in the attached tables (See Appendix 32-1). As additional stream segments are classified and numeric standards for designated parameters are assigned for this drainage system, they will be added to or replace the numeric standards in the tables in Appendix 32-1. Any additions or revisions of classifications or numeric standards can be accomplished only after public hearing by the Commission and proper consideration of evidence and testimony as specified by the statute and the "Basic Standards and Methodologies for Surface Water".

#### 32.4 DEFINITIONS

See the Colorado Water Quality Control Act and the codified water quality regulations for definitions.

#### 32.5 BASIC STANDARDS

##### (1) Temperature

All waters of the Arkansas River Basin are subject to the following standard for temperature. (Discharges regulated by permits, which are within the permit limitations, shall not be subject to enforcement proceedings under this standard). Temperature shall maintain a normal pattern of diurnal and seasonal fluctuations with no abrupt changes and shall have no increase in temperature of a magnitude, rate, and duration deemed deleterious to the resident aquatic life. This standard shall not be interpreted or applied in a manner inconsistent with section 25-8-104, C.R.S.

(2) Qualifiers

See Basic Standards and Methodologies for Surface Water for a listing of organic standards at 31.11 and metal standards found at 31.16 Table III. The column in the tables headed "Water + Fish" are presumptively applied to all aquatic life class 1 streams which also have a water supply classification, and are applied to aquatic life class 2 streams which also have a water supply classification, on a case-by-case basis as shown in Appendix 32-1. The column in the tables at 31.11 and 31.16 Table III headed "Fish Ingestion" is presumptively applied to all aquatic life class 1 streams which do not have a water supply classification, and are applied to aquatic life class 2 streams which do not have a water supply classification, on a case-by-case basis as shown in Appendix 32-1.

(3) Uranium

- (a) All waters of the Arkansas River Basin are subject to the following basic standard for uranium, unless otherwise specified by a water quality standard applicable to a particular segment. However, discharges of uranium regulated by permits which are within these permit limitations shall not be a basis for enforcement proceedings under this basic standard.
- (b) Uranium levels in surface waters shall be maintained at the lowest practicable level.
- (c) In no case shall uranium levels in waters assigned a water supply classification be increased by any cause attributable to municipal, industrial, or agricultural discharges so as to exceed 16.8-30 µg/l or naturally-occurring concentrations (as determined by the State of Colorado), whichever is greater.
  - (i) The first number in the 16.8-30 µg/l 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.

(4) Nutrients

Prior to December 31, 2022 for chlorophyll *a* and prior to December 31, 2027 for total phosphorus, interim nutrient values will be considered for adoption only in the limited circumstances defined at 31.17(e) and (f). These circumstances include headwaters, Direct Use Water Supply (DUWS) Lakes and Reservoirs, and other special circumstances determined by the Commission. Additionally, prior to December 31, 2027, only total phosphorus and chlorophyll *a* will be considered for adoption. After December 31, 2027, total nitrogen will be considered for adoption per the circumstances outlined in 31.17(g).

Prior to December 31, 2027, nutrient criteria will be adopted for headwaters on a segment by segment basis for the Arkansas River Basin. Moreover, pursuant to 31.17(e) nutrient standards will only be adopted for waters upstream of all permitted domestic wastewater treatment facilities discharging prior to May 31, 2012 or with preliminary effluent limits requested prior to May 31, 2012, and any non-domestic facilities subject to Regulation 85 effluent limits and discharging prior to May 31, 2012. The following is a list of all permitted domestic wastewater treatment facilities discharging prior to May 31, 2012 or with preliminary effluent limits requested prior to May 31, 2012, and any non-domestic facilities subject to Regulation 85 effluent limits and discharging prior to May 31, 2012 in the Arkansas River Basin:

<b>Segment</b>	<b>Permittee</b>	<b>Facility name</b>	<b>Permit No.</b>
COARUA02b	Leadville MHC LLC	Lake Fork MHP	COG588060
COARUA03	Buena Vista Sanitation District	Buena Vista San Dist WWTF	CO0045748
COARUA03	Salida City of	Salida WWTF	CO0040339
COARUA04a	Fremont Sanitation District	Rainbow Park WWTF	CO0039748
COARUA05	Young Life Campaign Inc	Frontier Ranch	CO0034304
COARUA05	Moose Haven Condominiums	Moose Haven Condominiums	CO0047279
COARUA05	Mountain View Villages Water & Sanitation District	Mountain View Villages	CO0048372
COARUA06	Leadville Sanitation District	Leadville San Dist WWTF	CO0021164
COARUA12a	Mount Princeton Hot Springs Resort	Mount Princeton Hot Springs Resort WWTF	COG588017
COARUA12a	Christian Mission Concerns	Silver Cliff Ranch	COG588102
COARUA13	Monarch Mountain Lodge	Garfield WWTF	CO0028444
COARUA13	PowderMonarch LLC	Monarch Ski Area	CO0031399
COARUA14d	Penrose Sanitation District	Penrose WWTF	CO0046523
COARUA14d	Royal Gorge Company of Colorado	Royal Gorge	CO0029033
COARUA21a	Cripple Creek City of	Cripple Creek WWTF	CO0039900
COARUA23	Victor City of	Victor WWTF	CO0024201
COARMA04a; COARMA04g	Pueblo West Metro District	Pueblo West Metro District WWTF	CO0040789
COARMA04c	Sunset Metropolitan District	Ellicott Springs WWTF	CO0047252
COARMA04c	Woodmen Hills Metropolitan District	Woodmen Hills Metro Dist WWTF	CO0047091
COARMA04d	Avondale Water and Sanitation District	Avondale and Fort Reynolds WWTF	CO0021075
COARMA04f	Cherokee Metropolitan District	Cherokee Metropolitan District WRF	COX048348
COARMA09	Colorado City Metropolitan District	Colorado City Metro Dist WWTF	CO0021121
COARMA13b	Cucharas Sanitation and Water District	Cucharas WWTF	CO0043745
COARMA14	La Veta Town of	La Veta WWTF	CO0032409
COARMA14	City of Walsenburg	Walsenburg City of	CO0020745
COARFO02a	Fountain Sanitation District	Fountain Sanitation District WWTF	CO0020532
COARFO02a	Colorado Springs Utilities	Las Vegas Street WWTF	CO0026735

<b>Segment</b>	<b>Permittee</b>	<b>Facility name</b>	<b>Permit No.</b>
COARFO02a	Security Sanitation District	Security Sanitation District WWTF	CO0024392
COARFO02a	Widefield Water and Sanitation District	Widefield WSD WWTF	CO0021067
COARFO04	Academy Water and Sanitation District	Academy Water and San Dist WWTF	COG589020
COARFO04	Broadmoor Park Properties	Broadmoor Park Properties	COG589021
COARFO04	Academy School Dist 20	Edith Wolford Elem School	CO0048429
COARFO04	Lower Fountain Metropolitan Sewage Disposal District	HDTRWRF	CO0000005
COARFO06	Colorado Springs Utilities	J D Phillips Water Reclamation Facility	CO0046850
COARFO06	Tri-Lakes Wastewater Treatment Facility	Tri-Lakes WWTF	CO0020435
COARFO06	Donala Water and Sanitation District	Upper Monument Crk Reg WWTF	CO0042030
COARLA01a	Pueblo City of	James R Dilorio WRF	CO0026646
COARLA01a	Meadowbrook MHP LLC	Meadowbrook MHP	COG588022
COARLA01b	Crowley County Correctional	Crowley Correctional Facility	CO0046795
COARLA01b	Colorado Dept of Corrections	Fort Lyon Correctional Facility WWTF	CO0046311
COARLA01b	Colorado Dept of Corrections	Fort Lyon Correctional Facility WWTF	CO0048801
COARLA01b	Fowler Town of	Fowler WWTF	CO0021571
COARLA01b	Las Animas City of	Las Animas WWTF	CO0040690
COARLA01b	North La Junta Sanitation District	North La Junta San Dist WWTF	CO0039519
COARLA01b	Rocky Ford City of	Rocky Ford WWTF	CO0023850
COARLA02a	Boone Town of	Boone WWTF	COG589116
COARLA02a	Calhan Town of	Calhan WWTF	COG589018
COARMA13c	Country Host Motel	Country Host Motel	COG589038
COARLA02a	Crowley Town of	Crowley WWTF	CO0041599
COARLA02a	Eads Town of	Eads WWTF	COG589016
COARLA02d	Limon, Town of	Limon WWTF	COG589023
COARLA02a	Simla Town of	Simla WWTF	COG589031
COARLA02d	Springfield Town of	Springfield WWTF	COG589102
COARLA02d	Colorado Dept of Corrections	Trinidad Correctional Facility	CO0046094
COARLA02b	La Junta City of	La Junta WWTF	CO0021261
COARLA05b	Trinidad City of	Trinidad WWTF	CO0024015
COARLA05b; COARLA06a	Cokedale Town of	Cokedale WWTF	CO0048461
COARLA07	Hoehne School District R-3	Hoehne School	COG588110
COARLA07	Trinidad City of	Trinidad WWTF	CO0031232
Unclassified	Colorado Dept of Natural Resources	Arkansas Point WWTF	COG589008

Segment	Permittee	Facility name	Permit No.
Unclassified	Manzanola, Town of	Manzanola WWTF	COG589012
Unclassified	Wiley Sanitation District	Wiley San Dist WWTF	COG589007

Prior to May 31, 2022:

- For segments located entirely above these facilities, nutrient standards apply to the entire segment.
- For segments with portions downstream of these facilities, *nutrient standards apply only above these facilities*. A note was added to the total phosphorus and chlorophyll *a* standards in these segments. The note references the table of qualified facilities at 32.5(4).
- For segments located entirely below these facilities, nutrient standards do not apply.

A note was added to the total phosphorus and chlorophyll *a* standards in lakes segments as nutrients standards apply only to lakes and reservoirs larger than 25 acres surface area.

## 32.6 TABLES

### (1) Introduction

The numeric standards for various parameters in this regulation and in the tables in Appendix 32-1 were assigned by the Commission after a careful analysis of the data presented on actual stream conditions and on actual and potential water uses.

Numeric standards are not assigned for all parameters listed in the tables attached to Regulation No. 31. If additional numeric standards are found to be needed during future periodic reviews, they can be assigned by following the proper hearing procedures.

### (2) Abbreviations:

- (a) The following abbreviations are used in this regulation and the tables in Appendix 32-1:

Ac	=	acute (1-day)
°C	=	degrees Celsius
Ch	=	chronic (30-day)
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>
mg/l	=	milligrams per liter
MWAT	=	maximum weekly average temperature
OW	=	outstanding waters
sp	=	spawning
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

(b) In addition, the following abbreviations are used:

Fe(ch)	=	WS
Mn(ch)	=	WS
SO <sub>4</sub>	=	WS

These abbreviations mean: For all surface waters with an actual water supply use, the less restrictive of the following two options shall apply as numerical standards, as specified in the Basic Standards and Methodologies at 31.16 Table II and III:

- (i) existing quality as of January 1, 2000; or
- (ii) 

Iron	=	300 µg/l (dissolved)
Manganese	=	50µg/l (dissolved)
SO <sub>4</sub>	=	250 mg/l

For all surface waters with a “water supply” classification that are not in actual use as a water supply, no water supply standards are applied for iron, manganese or sulfate, unless the Commission determines as the result of a site-specific rulemaking hearing that such standards are appropriate.

(c) Temporary Modification for Water + Fish Chronic Arsenic Standard

- (i) The temporary modification for chronic arsenic standards applied to segments with an arsenic standard of 0.02 µg/l that has been set to protect the Water + Fish qualifier is listed in the temporary modification and qualifiers column as As(ch)=hybrid.
- (ii) For discharges existing on or before 6/1/2013, the temporary modification is: As(ch)=current condition, expiring on 12/31/2024. Where a permit for an existing discharge is reissued or modified while the temporary modification is in effect, the division will include additional permit Terms and Conditions, which may include requirements for additional monitoring, source identification, and characterization of source control and treatment options for reducing arsenic concentrations in effluent.
- (iii) For new or increased discharges commencing on or after 6/1/2013, the temporary modification is: As(ch)=0.02-3.0 µg/l (Trec), expiring on 12/31/2024.
  - (a) The first number in the range is the health-based water quality standard previously adopted by the Commission for the segment.
  - (b) The second number in the range is a technology based value established by the Commission for the purpose of this temporary modification.

- (c) 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.

(3) Table Value Standards

In certain instances in the tables in Appendix 32-1, the designation “TVS” is used to indicate that for a particular parameter a “table value standard” has been adopted. This designation refers to numerical criteria set forth in the Basic Standards and Methodologies for Surface Water. The criteria for which the TVS are applicable are on the following table.

**TABLE VALUE STANDARDS**  
(Concentrations in µg/l unless noted)

PARAMETER <sup>(1)</sup>	TABLE VALUE STANDARDS <sup>(2)(3)</sup>
Aluminum (T)	<p>Acute = <math>e^{(1.3695[\ln(\text{hardness})]+1.8308)}</math></p> <p>pH equal to or greater than 7.0</p> <p>Chronic = <math>e^{(1.3695[\ln(\text{hardness})]-0.1158)}</math></p> <p>pH less than 7.0</p> <p>Chronic = <math>e^{(1.3695[\ln(\text{hardness})]-0.1158)}</math> or 87, whichever is more stringent</p>
Ammonia <sup>(4)</sup>	<p>Cold Water = (mg/l as N) Total</p> $acute = \frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}}$ $chronic = \left( \frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) * MIN \left( 2.85, 1.45 * 10^{0.028(25 - T)} \right)$ <p>Warm Water = (mg/l as N) Total</p> $acute = \frac{0.411}{1 + 10^{7.204 - pH}} + \frac{58.4}{1 + 10^{pH - 7.204}}$ $chronic (Apr 1 - Aug 31) = \left( \frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) * MIN \left( 2.85, 1.45 * 10^{0.028(25 - T)} \right)$ $chronic (Sep 1 - Mar 31) = \left( \frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) * 1.45 * 10^{0.028 * (25 - MAX(T, 7))}$
Cadmium	<p>Acute(warm)<sup>(5)</sup> = <math>(1.136672 - (\ln(\text{hardness}) * 0.041838)) * e^{(0.9789 * \ln(\text{hardness}) - 3.443)}</math></p> <p>Acute(cold)<sup>(5)</sup> = <math>(1.136672 - (\ln(\text{hardness}) * 0.041838)) * e^{(0.9789 * \ln(\text{hardness}) - 3.866)}</math></p> <p>Chronic = <math>(1.101672 - (\ln(\text{hardness}) * 0.041838)) * e^{(0.7977 * \ln(\text{hardness}) - 3.909)}</math></p>

Chromium III <sup>(6)</sup>	<p>Acute = <math>e^{(0.819[\ln(\text{hardness})]+2.5736)}</math></p> <p>Chronic = <math>e^{(0.819[\ln(\text{hardness})]+0.5340)}</math></p>					
Chromium VI <sup>(6)</sup>	<p>Acute = 16</p> <p>Chronic = 11</p>					
Copper	<p>Acute = <math>e^{(0.9422[\ln(\text{hardness})]-1.7408)}</math></p> <p>Chronic = <math>e^{(0.8545[\ln(\text{hardness})]-1.7428)}</math></p>					
Lead	<p>Acute = <math>(1.46203-[\ln(\text{hardness})*(0.145712)]) * e^{(1.273[\ln(\text{hardness})]-1.46)}</math></p> <p>Chronic = <math>(1.46203-[\ln(\text{hardness})*(0.145712)]) * e^{(1.273[\ln(\text{hardness})]-4.705)}</math></p>					
Manganese	<p>Acute = <math>e^{(0.3331[\ln(\text{hardness})]+6.4676)}</math></p> <p>Chronic = <math>e^{(0.3331[\ln(\text{hardness})]+5.8743)}</math></p>					
Nickel	<p>Acute = <math>e^{(0.846[\ln(\text{hardness})]+2.253)}</math></p> <p>Chronic = <math>e^{(0.846[\ln(\text{hardness})]+0.0554)}</math></p>					
Selenium <sup>(7)</sup>	<p>Acute = 18.4</p> <p>Chronic = 4.6</p>					
Silver	<p>Acute = <math>\frac{1}{2}e^{(1.72[\ln(\text{hardness})]-6.52)}</math></p> <p>Chronic = <math>e^{(1.72[\ln(\text{hardness})]-9.06)}</math></p> <p>Chronic(Trout) = <math>e^{(1.72[\ln(\text{hardness})]-10.51)}</math></p>					
Temperature	TEMPERATURE TIER	TIER CODE	SPECIES EXPECTED TO BE PRESENT	APPLICABLE MONTHS	TEMPERATURE STANDARD (°C)	
					MWAT	DM
	Cold Stream Tier 1	CS-I	brook trout, cutthroat trout	June – Sept.	17.0	21.7
				Oct. – May	9.0	13.0
	Cold Stream Tier 2	CS-II	Other cold-water species	April – Oct.	18.3	24.3
				Nov. – March	9.0	13.0
	Cold Lakes <sup>(8)</sup>	CL	brook trout, brown trout, cutthroat trout, lake trout, rainbow trout, Arctic grayling, sockeye salmon	April – Dec.	17.0	21.2
				Jan. – March	9.0	13.0
	Cold Large Lakes (>100 acres surface area) <sup>(8)</sup>	CLL	rainbow trout, brown trout, lake trout	April – Dec.	18.3	24.2
				Jan. – March	9.0	13.0



	Warm Stream Tier 1	WS-I	common shiner, Johnny darter, orangethroat darter, stonecat	March – Nov.	24.2	29.0
				Dec. – Feb.	12.1	24.6
	Warm Stream Tier 2	WS-II	brook stickleback, central stoneroller, creek chub, longnose dace, northern redbelly dace, finescale dace, razorback sucker, white sucker, mountain sucker	March – Nov.	27.5	28.6
				Dec. – Feb.	13.8	25.2
	Warm Stream Tier 3	WS-III	all other warm-water species	March – Nov.	28.7	31.8
				Dec. – Feb.	14.3	24.9
	Warm Lakes	WL	black crappie, bluegill, common carp, gizzard shad, golden shiner, largemouth bass, northern pike, pumpkinseed, sauger, smallmouth bass, spottail shiner, stonecat, striped bass, tiger muskellunge, walleye, wiper, white bass, white crappie, yellow perch	April – Dec.	26.2	29.3
				Jan. – March	13.1	24.1
Uranium	Acute = $e^{(1.1021[\ln(\text{hardness})]+2.7088)}$ Chronic = $e^{(1.1021[\ln(\text{hardness})]+2.2382)}$					
Zinc	Acute = $0.978 * e^{(0.9094[\ln(\text{hardness})]+0.9095)}$ Chronic = $0.986 * e^{(0.9094[\ln(\text{hardness})]+0.6235)}$					

TABLE VALUE STANDARDS - FOOTNOTES

- (1) Metals are stated as dissolved unless otherwise specified.
- (2) Hardness values to be used in equations are in mg/l as calcium carbonate and shall be no greater than 400 mg/L, except for aluminum for which hardness shall be no greater than 220 mg/L. The hardness values used in calculating the appropriate metal standard should be based on the lower 95 per cent confidence limit of the mean hardness value at the periodic low flow criteria as determined from a regression analysis of site-specific data. Where insufficient site-specific data exists to define the mean hardness value at the periodic low flow criteria, representative regional data shall be used to perform the regression analysis. Where a regression analysis is not appropriate, a site-specific method should be used. In calculating a hardness value, regression analyses should not be extrapolated past the point that data exist.

- (3) Both acute and chronic numbers adopted as stream standards are levels not to be exceeded more than once every three years on the average.
- (4) For acute conditions the default assumption is that salmonids could be present in cold water segments and should be protected, and that salmonids do not need to be protected in warm water segments. For chronic conditions, the default assumptions are that early life stages could be present all year in cold water segments and should be protected. In warm water segments the default assumption is that early life stages are present and should be protected only from April 1 through August 31. These assumptions can be modified by the commission on a site-specific basis where appropriate evidence is submitted.
- (5) The acute(warm) cadmium equation applies to segments classified as Aquatic Life Warm Class 1 or 2. The acute(cold) cadmium equation applies to segments classified as Aquatic Life Cold Class 1 or 2.
- (6) Unless the stability of the chromium valence state in receiving waters can be clearly demonstrated, the standard for chromium should be in terms of chromium VI. In no case can the sum of the instream levels of Hexavalent and Trivalent Chromium exceed the water supply standard of 50 µg/l total chromium in those waters classified for domestic water use.
- (7) Selenium is a bioaccumulative metal and subject to a range of toxicity values depending upon numerous site-specific variables.
- (8) Lake trout-based summer temperature criteria [16.6 (ch), 22.4 (ac)] apply where appropriate and necessary to protect lake trout from thermal impacts.

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(4) **Assessment Criteria**

The following criteria shall be used when assessing whether a specified waterbody is in attainment of the specified standard.

- (a) Middle Arkansas Segment 4a, Wildhorse Creek, Se(ac)=2376, Se(ch)=2110: Selenium Assessment Location
  - Wildhorse Creek above Pesthouse Gulch: 38.296478, -104.649201
- (b) Middle Arkansas Segment 4g, Pesthouse Gulch, Se(ac)=389, Se(ch)=369: Selenium Assessment Location
  - Pesthouse above No Name: 38.309568, -104.672244
- (c) Middle Arkansas Segment 6b, St. Charles River, Se(ac)=173, Se(ch)=50: Selenium Assessment Locations

Determinations of attainment of the chronic and acute selenium standards will be based on the 85<sup>th</sup> and 95<sup>th</sup> percentile, respectively of all available data from the segment. The selenium assessment locations are:

- SC-5: St. Charles River approximately one mile downstream of the confluence with Edson Arroyo.

- SC-6-US: St. Charles River upstream of the confluence with Thomkins Arroyo and the Comanche discharge.
  - SC-7: Approximately 2 miles upstream of the Bessemer Canal crossing.
  - SC-8: Immediately upstream of the Bessemer Canal crossing.
  - SC-9: St. Charles River downstream of where the river flows under U.S. Highway 50, approximately 3 miles upstream of the confluence with the Arkansas River.
- (d) Middle Arkansas Segment 20, Pueblo Reservoir: Chlorophyll *a* Assessment Location
- Site 7b (USGS Site 381602104435200): Near the dam and the south outlet works
- (5) Stream Classifications and Water Quality Standards Tables
- The stream classifications and water quality standards tables in Appendix 32-1 are incorporated herein by reference.
- The following is information regarding duration and measured form of standards in Appendix 32-1:
- (a) E.coli criteria and resulting standards for individual water segments, are established as indicators of the potential presence of pathogenic organisms. Standards for E. coli are expressed as a two-month geometric mean. Site-specific or seasonal standards are also two-month geometric means unless otherwise specified.
  - (b) All phosphorus standards are based upon the concentration of total phosphorus. For total phosphorus, stream standards are expressed as an annual median and for lakes standards as a summer (July 1 - September 30) average in the mixed layer. For chlorophyll *a*, stream standards are expressed as a maximum of attached algae and lakes standards as a summer (July 1 - September 30) average in the mixed layer. For additional assessment details, see tables at Regulation 31.17(b) and (d).
  - (c) The pH standards of 6.5 (or 5.0) and 9.0 are an instantaneous minimum and maximum, respectively to be applied as effluent limits. In determining instream attainment of water quality standards for pH, appropriate averaging periods may be applied, provided that beneficial uses will be fully protected.
  - (d) All mercury standards apply to the total recoverable fraction of all forms, both organic and inorganic, of mercury in water.
- (6) Discharger Specific Variances
- (a) A Discharger Specific Variance (DSV) establishes a temporary water quality standard that represents the highest degree of protection of a classified use that is feasible within 20 years and is granted by the Commission pursuant to criteria contained in Regulation 31.7(4).
    - (i) In every case, the variance to the standard shall be temporary and must be re-examined not less than once every three years.

- (ii) For DSVs that are longer than five years in duration, the Commission will submit the results of its re-evaluation to EPA within 30 days of the date the Commission completes its re-evaluation. Pursuant to 40 CFR 131.14(b)(1)(v)-(vi), the DSV will no longer be the applicable water quality standard for purposes of the Clean Water Act if the Commission does not conduct a re-evaluation consistent with the specified frequency or if the Commission does not submit the results within 30 days of completion of the re-evaluation process.
- (b) The first number of the DSV is the underlying standard previously adopted by the Commission for the segment and represents the long-term goal for the waterbody. The first number will be used for assessing attainment for the waterbody and for the development of effluent limitations. The second number or narrative condition is the Commission's determination of the effluent concentration with the highest degree of protection of the classified use that is feasible for the discharger. Control requirements, such as discharge permit effluent limitations, shall be established using the first number 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 or narrative condition during the term of the DSV for the named discharger.

- (c) Lower Arkansas Segment 1a:

Discharger Specific Variance, City of Pueblo James R. Dilorio Water Reclamation Facility (CO0026646): Adopted 6/12/2018.

Selenium (acute) = 19.1 µg/L: narrative; Selenium (chronic) = 14.1 µg/L: narrative;  
Sulfate (chronic) = 329 mg/L: narrative. Expiration date: 12/31/2028.

Narrative alternative effluent limit: During the DSV term, Pueblo will be required to spend \$10 million to implement a comprehensive source control, sampling, analysis, and optimization adaptive management program to reduce selenium and sulfate concentrations in the effluent as much as feasible and to ensure that the discharge does not contribute to any lowering of the currently attained ambient water quality. The adaptive management program will include the following elements, in order of priority:

- Lining up to 175,000 ft<sup>2</sup> in the sewer collection system in Basins 2 and 3.
- Sealing up to 400 manholes in Basins 2 and 3.
- The amount of sewer lining and manhole sealing may be reduced by:
  - Repair of service taps in poor condition;
  - Repair of service lines in poor condition; or
  - Additional effort where epoxy sealing of manholes is insufficient to control I & I.
- A comprehensive long-term sampling and analysis program to identify source control projects and evaluate the effectiveness of implemented controls.
- Investigation of the contribution from sump pumps.

- Pilot testing to determine the feasibility of treatment optimization to reduce selenium, and implementation of feasible treatment optimization measures.

(d) Lower Arkansas Segment 1b:

- (i) Discharger Specific Variance, City of La Junta (CO0021261): Adopted 10/11/2016.

Selenium (acute) = TVS: no limit; Selenium (chronic) = TVS: 0.37 lbs/day as a 12-month rolling average. Expiration date: 12/31/2026.

- (ii) Discharger Specific Variance, City of Las Animas (CO0040690): Adopted 06/11/2018

Selenium (chronic) = TVS narrative. Effective Date: 12/30/2018; Expiration Date: 12/31/2025

Narrative alternative effluent limit: During the DSV term, Las Animas will implement a Pollutant Minimization Plan, which is expected to result in effluent concentrations between 0.8 – 28.4 µg/L. The following measures are required during the term of the variance to reduce selenium concentrations as much as feasible and to ensure the discharge does not contribute to any lowering of ambient in-stream water quality:

- Monitor selenium concentrations in each municipal water well and use the wells with the lowest selenium concentrations to meet water demand to the maximum extent feasible
- Initiate a water conservation program
- Locate and repair sources of water loss in the water distribution system.
- Maintain the ongoing sanitary sewer collection system replacement program to address groundwater infiltration
- Complete a wetland treatment pilot study by 12/31/2025, if compliance with water quality based effluent limits based upon the underlying standards remains infeasible after implementing the above measures.

**32.7 – 32.9      RESERVED**

## 32.10 STATEMENT OF BASIS AND PURPOSE

### I. Introduction

These stream classifications and water quality standards for State Waters of the Arkansas River Basin including all tributaries and standing bodies of water in all or parts of Lake, Chaffee, Custer, Fremont, El Paso, Pueblo, Huerfano, Las Animas, Otero, Bent, Prowers, Baca, Kiowa, Cheyenne, Lincoln, Teller, and Elbert Counties implement requirements of the Colorado Water Quality Control Act of 1981, C.R.S. 1973, 25-8-101 et seq. (Cum. Supp. 1980). They also represent the implementation of the Commission's Regulations Establishing Basic Standards and an Antidegradation Standard and Establishing a System for Classifying State Waters, for Assigning Standards, and for Granting Temporary Modifications (the "Basic Regulations")

The Basic Regulations establish a system for the classification of State Waters according to the beneficial uses for which they are suitable or are to become suitable, and for assigning specific numerical water quality standards according to such classifications. Because these stream classifications and standards implement the Basic Regulations, the statement of basis and purpose (Section 3.1.16) of those regulations must be referred to for a complete understanding of the basis and purpose of the regulations adopted herein. Therefore, that statement in the Basic Regulations is incorporated by reference. The focus of this statement of basis and purpose is on the scientific and technological rationale for the specific classifications and standards in the Arkansas River Basin.

Public participation was a significant factor in the development of these regulations. A lengthy record was built through public hearings, which began on December 15, 1980. A total of 22 persons requested and were granted party status by the Commission in accordance with C.R.S. 1973, 24-4-101 et seq. (Cum. Supp. 1980). A supplementary public rulemaking hearing was held September 15, 1981, restricted to those issues raised by the changes in the Act contained in Senate Bill 10 (1981). Such issues included but were not limited to: "The economic reasonableness" evaluation required by 25-8-102(5), the effect on water rights as required by 25-8-104; and the new considerations for the adoption of water quality standards required by 25-8-204 C.R.S. 1973, as amended. The record established in these hearings forms the basis for the classifications and standards adopted.

### II. General Considerations

1. These regulations are not adopted as control regulations. Stream classifications and water quality standards are specifically distinguished from control regulations in the Water Quality Control Act, and they need not be adopted as control regulations pursuant to the statutory scheme.
2. The Commission has been requested in public hearings to rule on the applicability of these and other regulations to the operation of water diversion facilities, dams, transport systems, and the consequent withdrawal, impoundment, non-release and release of water for the exercise of water rights. The Commission has determined that any such broad ruling is inappropriate in the context of the present regulations. The request does not raise specific questions as to proposed classifications and standards. However, the Commission has taken into account the fact that some issues are unresolved in adopting classifications and standards. On January 5, 1981, the Commission adopted a policy statement on quality/quantity issues that addresses a number of these concerns. Finally, the Commission has adopted these regulations in compliance with the requirements of the Water Quality Control Act as amended by S.B.10 in 1981 that have bearing on these issues (See e.g.) sections 102, 104, and 503(5).

**III. Definition of Stream Segments**

1. For purposes of adopting classifications and water quality standards, the streams and water bodies are identified according to river basin and specific water segments.
2. Within each river basin, specific water segments are defined, for which use classifications and numeric water quality standards are adopted. These segments may constitute a specified stretch of a river mainstem, a specific tributary, a specific lake or reservoir, or a generally defined grouping of waters within the basin (e.g., a specific mainstem segment and all tributaries flowing into that mainstem segment).
3. Segments are generally defined according to the points at which the use, water quality, or other stream characteristics change significantly enough to require a change in use classification and/or water quality standards. In many cases, such transition points can be specifically identified from available data. In other cases the delineation of segments is based upon best judgments of the points where instream changes in uses, water quality, or other stream characteristics occur.

**IV. Use Classifications — Generally**

1. The use classifications have been established in accordance with the provisions of Section 203 of the Water Quality Control Act and Section 3.1.6 and 3.1.13 of the Basic Regulations. Each classification is based upon actual current uses or existing water quality. In the latter case, even though the use may not be in place, the classification is attached if existing water quality would allow that use, and if the use may be reasonably expected in the future.
2. In all cases the basic regulation has been followed, in that an upstream use cannot threaten or degrade a downstream use. Accordingly, upstream segments of a stream are generally the same as, or higher in classification than, downstream segments. In a few cases, tributaries are classified at lower classifications than mainstems, where flow from tributaries does not threaten the quality of mainstem waters and where the evidence indicates that lower classifications for the tributaries is appropriate.
3. There have been no “High Quality Class 1” designations assigned in this basin.
4. The Commission has determined that it has the authority to assign the classification “High Quality Waters - Class 1” and High Quality Waters - Class 2” where the evidence indicates that the requirements of Sections 3.1.13(1)(e) of the basic regulations are met. The validity of this classification has been determined on a case-by-case basis. The classification “High Quality Waters - Class 2” has been assigned where these waters met the provisions of Section 3.1.13(e)(ii) of the basic regulation. Streams providing unique habitats for threatened species of fish have in some cases been classified “High Quality - Class 2” for one or more of the following reasons:
  - (a) waters are of a quality higher than necessary to protect specified uses;
  - (b) evidence in the record indicates the presence of water divisions within these areas;
  - (c) a question exists as to whether existing diversion structures can be maintained consistent with a “High Quality - Class 1” designation. Because of the questions regarding authority to regulate diversion, the Class 1 designation was deemed potentially too rigid. The Commission recognizes its authority to upgrade these segments if and when it is appropriate to do so.

5. Qualifiers — “Goal”

The “goal” qualifier (Section 3.1.13(2)(a), Basic Regulations) has been used in specific cases where waters are presently not fully suitable for the classified use, but are intended to become so within a 20 year period. In all such cases, water quality standards have been established to protect the classified uses and temporary modifications have been granted for specified parameters, to take into account existing conditions.

6. Recreation — Class 1 and Class 2

In addition to the significant distinction between Recreation - Class 1 and Recreation -Class 2 as defined in Section 3.1.13(1) of the Basic Regulations, the difference between the two classifications in terms of water quality standards is the fecal coliform parameter. Recreation - Class 1 generally has a standard of 200 fecal coliform per 100 ml; Recreation - Class 2 generally has a standard of 2000 fecal coliform per 100 ml.

In accordance with S.B. 10 the Commission has decided to classify as “Recreation - Class 2” those stream segments where primary contact recreation does not exist and cannot be reasonably expected to exist in the future, regardless of water quality. The Commission has decided to classify as “Recreation - Class 1” only those stream segments where primary contact recreation actually exists. The reasons for the application of Recreation Class 2 are as follows;

- (a) The mountain streams in this region are generally unsuitable for primary contact recreation because of water temperature and stream flows.
- (b) Fecal coliform is an indicator organism. Its presence does not always indicate the presence of pathogens. This depends on the source of the fecal coliform. If the source is agricultural runoff as opposed to human sewage, there may be no health hazard and therefore no significant need to reduce the presence of fecal coliform to the 200 per 100 ml. level. Also, control of nonpoint sources is very difficult.
- (c) Treating sewage to meet the 200 per 100 ml. level generally means the treatment plant must heavily chlorinate its effluent to meet the limitation. The presence of chlorine in the effluent can be significantly detrimental to aquatic life. Post-treatment of effluent to meet the residual chlorine standard is expensive and often results in the addition of more chemicals which have a negative effect on water quality and can be detrimental to aquatic life. Therefore, reducing the need for chlorine is beneficial to aquatic life.
- (d) Even where a treatment plant in this region might treat its effluent to attain the standard of 200 per 100 ml., agricultural runoff and irrigation return flows below the plant may result in the rapid increase of fecal coliform levels. Therefore, the benefits of further treatment are questionable.
- (e) The fecal coliform standard of 2000 per 100 ml. has been established to provide general public health protection. There is no significant impact on domestic drinking water treatment plants because they provide complete disinfection. The standard of 200 per 100 ml. is not intended to protect the water supply classification.



7. Water Supply Classification

The Commission finds that Colorado is a water short state and that it is experiencing considerable growth which places additional burdens on already scarce water supplies. These considerations mitigate in favor of a conservative approach to protecting future water supplies. Where existing water quality is adequate to protect this use, and in the absence of dischargers to these segments, or testimony in opposition to such classification, the water supply use has been assigned because it is reasonable to expect that it may exist in the future in such cases. For stream segments that flow through, or in the vicinity of, municipalities, this conclusion is further justified, since there is a reasonable probability that the use exists or will exist. Where the water supply classification has been opposed, the Commission has evaluated the evidence on a site specific basis, and in many cases the classification has been removed.

**V. Water Quality Standards — Generally**

1. The water quality standards for classified stream segments are defined as numeric values for specific water quality parameters. These numeric standards are adopted as the limits for chemical constituents and other parameters necessary to protect adequately the classified uses in all stream segments.

2. Not all of the parameters listed in the “Tables” appended to the Basic Regulations are assigned as water quality standards. This complies with Section 3.1.7(c) of the Basic Regulations.

Numeric standards have been assigned for the full range of parameters to a number of segments where little or no data existed specific to the segment. In these cases, there was reason to believe that the classified uses were in place or could be reasonably expected, and that the ambient water quality was as good as or better than the numeric standards assigned.

3. A numeric standard for the temperature parameter has been adopted as a basic standard applicable to all waters of the region in the same manner as the basic standards in Section 3.1.11 of the Basic Regulations.

The standard of a 3°C temperature increase above ambient water temperature as defined is generally valid based on the data regarding that temperature necessary to support an “Aquatic Life - Class 1” fishery. The standard takes into account daily and seasonal fluctuations; however, it is also recognized that the 3°C limitation as defined is only appropriate as a guideline and cannot be rigidly applied if the intention is to protect aquatic life. In winter, for example, warm water discharges may be beneficial to aquatic life. It is the intention of the Commission in adopting the standard to prevent radical temperature changes in short periods of time which are detrimental to aquatic life.

4. Numeric standards for nineteen organic parameters have been adopted as basic standards applicable to all waters of the region in the same manner as the basic standards in Section 3.1.11 of the Basic Regulations. These standards are essential to a program designed to protect the waters of the State regardless of specific use classifications because they describe the fundamental conditions that all waters must meet to be suitable for any use.

It is the decision of the Commission to adopt these standards as basic standards because the presence of the organic parameters is not generally suspected. Also, the values assigned for these standards are not detectable using routine methodology and there is some concern regarding the potential for monitoring requirements if the standards are placed on specific streams. This concern should be alleviated by Section 3.1.14(5) of the Basic Regulations but there is uncertainty regarding the interpretation of those numbers by other entities. Regardless of these concerns, because these constituents are highly toxic, there is a need for regulating their presence in State waters. Because the Commission has determined that they have uniform applicability here, their inclusion as basic standards for the region accomplishes this purpose.

5. In many cases, the numeric water quality standards are taken from the "Tables" appended to the Basic Regulations. These table values are used where actual ambient water quality data in a segment indicates that the existing quality is substantially equivalent to, or better than, the corresponding table values. This has been done because the table values are adequate to protect the classified uses.

Consistent with the Basic Regulations, the Commission has not assumed that the table values have presumptive validity or applicability. This accounts for the extensive data in the record on ambient water quality. However, the Commission has found that the table values are generally sufficient to protect the use classifications. Therefore, they have been applied in the situations outlined in the preceding paragraph as well as in those cases where there is insufficient data in the record to justify the establishment of different standards. The documentary evidence forming the basis for the table values is included in the record.

6. In many cases, instream ambient water quality provides the basis for the water quality standards (See 7 below). In those cases where the classified uses presently exist or have a reasonable potential to exist despite the fact that instream data reflects ambient conditions of lower water quality than the table values, instream values have been used. In these cases, the evidence indicates that instream values are adequate to protect the uses. In those cases where temporary modifications are appropriate, instream values are generally reflected in the temporary modification and table values are reflected in the corresponding water quality standard. (Goals are established for the appropriate classification affected by the parameter).

Cases in which water quality standards reflect these instream values usually involve the metal parameters. On many stream segments elevated levels of metals are present due to natural or unknown causes, as well as mine seepage from inactive or abandoned mines. These sources are difficult to identify and impractical or impossible to control. The classified aquatic life uses may be impacted and/or may have adjusted to the condition. In either case, the water quality standards are deemed sufficient to protect the uses that are present.

7. In most cases in establishing standards based on instream ambient water quality, a calculation is made based upon the mean (average) plus one standard deviation ( $\bar{x} + s$ ) for all sampling points on a particular stream segment. Since a standard deviation is not added to the water quality standard for purposes of determining the compliance with the standard, this is a fair method as applied to discharge.

Levels that were determined to be below the detectable limits of the sampling methodology employed were averaged in as zero rather than at the detectable limit. This moves the mean down but since zero is also used when calculating wasteload allocations, this method is not unfair to dischargers.

Metals present in water samples may be tied up in suspended solids when the water is present in the stream. In this form they are not "available" to fish and may not be detrimental to aquatic life. Because the data of record does not distinguish as to availability, some deviation from table values, as well as the use of  $\bar{x} + s$ , is further justified because it is unlikely that the total value in all samples analyzed is in available form.

A number of different statistical methodologies could have been used where ambient water quality data dictates the standards. All of them have both advantages and disadvantages. It is recognized that the  $\bar{x} + s$  methodology also has weaknesses, in that the standard may not reflect natural conditions in a stream 100 per cent of the time, even though the use of  $\bar{x} + s$  already allows for some seasonal variability. However the use of this methodology is nevertheless justified since it provides the most meaningful index of stream quality of all methodologies proposed for setting stream standards. Just as the Commission has not established standards that reflect the best water quality that may ever occur in a stream, so too it has rejected methodologies that would establish standards that reflect the worst water quality that may ever occur. The establishment of standards on any basis is more lenient than  $\bar{x} + s$  would not provide adequate protection for the classified uses.

Finally, the fairness and consistency of the use of any methodology in setting standards must turn on the manner in which the standards are implemented and enforced. It is essential that there be consistency between standard setting and the manner in which attainment or non-attainment of the standards is established based on future stream monitoring data. In addition the Division must take this methodology into account in writing and enforcing discharge permits.

8. No water quality standards are set below detectable limits for any parameter, although certain parameters may not be detectable at the limit of the standards using routine methodology. However, it must be noted that stream monitoring as opposed to effluent monitoring, is generally not the responsibility of the dischargers but of the State. Furthermore, the purpose of the standards is to protect the classified uses and some inconvenience and expense as to monitoring is therefore justifiable.

Section 3.1.15(5) of the Basic Regulations states that "dischargers will not be required to regularly monitor for any parameters that are not identified by the Division as being of concern". Generally, there is no requirement for monitoring unless a parameter is in the effluent guidelines for the relevant industry, or is deemed to be a problem as to a specific discharge.

9. The dissolved oxygen standard is intended to apply to the epilimnion and metalimnion strata of lakes and reservoirs. Respiration by aerobic micro-organisms as organic matter is consumed is the primary cause of a natural decrease in dissolved oxygen and anaerobic conditions in the hypolimnion. Therefore, this stratum is exempt from the dissolved oxygen standard.
10. When numeric standards are established based on historic instream water quality data at the level of  $\bar{x} + s$ , it is recognized by the Commission that measured instream parameter levels might exceed the standard approximately 15 percent of the time.
11. It is the Commission's intention that the Division implement and enforce these water quality standards consistent with the manner in which they have been established.
12. Hardness/Alkalinity

Where hardness and alkalinity numbers differed, the Commission elected to use alkalinity as the controlling parameter, in order to be consistent with other river basins and because testimony from the Division staff indicated that in most cases alkalinity has a greater effect on toxic form of metals than does hardness.

## VI. Water Quality Standards for Unionized Ammonia

For warm water class 2 segments having an ammonia standard greater than 0.06 mg/l the basis for higher than criteria value is that these streams generally contain both lesser numbers and types of species than those inhabiting class 1 streams due to physical habitat characteristics, flow or irreversible water quality characteristics. The Commission felt that the incremental expense to meet a 0.06 mg/l unionized ammonia standard for present or potential discharges along these streams cannot be justified. Flow in these segments is often intermittent or highly impacted by diversions.

Specifically, the Commission has relaxed unionized ammonia standards to .1 mg/l or greater on such streams for the following reasons:

1. limited nature of the aquatic life present;
2. limited recreational value of species present;
3. habitat limitations, primarily flow and streambed characteristics, that impose significant limitations on the nature of aquatic life, even if ammonia reductions were attained;
4. rapid dissipation of ammonia in streams, reducing the impact of such discharges downstream; and
5. economic costs of ammonia removal, especially where such costs would fall primarily on publicly-owned treatment works, and while the availability of construction grant funds is questionable.
6. Biosurveys with support from a bioassay conducted on fathead minnows performed in the Cache la Poudre River show that a .1 mg/l standard is appropriate to protect existing biota in that stream. The results of these studies may be reasonably extrapolated to similar plains streams; i.e., those streams that demonstrate similar chemical, physical, and biological characteristics.

Not all warmwater streams are comparable in terms of flow habitat, and types and numbers of species of aquatic life. Therefore, some variations in an appropriate ammonia standard must be tolerated, with the objective of protecting existing aquatic life. The Commission found this approach preferable to totally removing the aquatic life classification from impacted or marginal aquatic life streams.

## VII. Water Quality Standards for Uranium

Given the threat that radioactivity from uranium may pose to human health, it is advisable to limit uranium concentrations in streams to the maximum extend practicable. The Commission finds that based on the record of these hearings a uranium standard is particularly necessary to protect the water supply classification. In the face of significant controversy and conflicting testimony, the Commission has adopted a standard of 40 pCi/l or natural background where higher, for the following reasons:

1. 40 pCi/l generally reflects background concentrations of uranium that may be found in streams in Colorado and therefore this amount approximates routine human exposure.
2. The statistical risk of human health hazards is small at 40 pCi/l.
3. 40 pCi/l is an interim level, established now pending the outcome of further studies currently underway.

## **VIII. Water Quality Standards for Cyanide**

The Commission acknowledges that total cyanide is to be used in State Discharge permits until a method is authorized by EPA for measuring free cyanide, even though free cyanide is the parameter of concern. While cyanide has received special treatment in cases discussed in the segment - by - segment section which follows, a free cyanide standard based on Table Values has been established for most segments.

## **IX. Linkage of classifications and Standards**

The Commission holds that the classifications which it adopts and the standards it assigns to them are linked. Disapproval by EPA of the standards may require reexamination by the Commission of the appropriateness of its original classification. The reason for the linkage is that the Commission recognizes that there is a wide variability in the types of aquatic life in Colorado streams which require different levels of protection. Therefore, the numbers were chosen in some cases on a site specific basis to protect the species existing in that segment. If such a reclassification is deemed a downgrading, then it will be based upon the grounds that the original classification was in error.

## **X. Economic Reasonableness**

The Commission finds that these use classifications and water quality standards are economically reasonable. The Commission solicited and considered evidence of the economic impacts of these regulations. This evaluation necessarily involved a case-by-case consideration of such impacts, and reference is made to the fiscal impact statement for this analysis. Generally, a judgment was made as to whether the benefits in terms of improving water quality justified the costs of increased treatment. In the absence of evidence on economic impacts for a specific segment, the Commission concluded that the regulations would impose no additional economic burdens and would therefore be reasonable.

## **XI. Classifications and Standards - Special Cases**

### **1. Page 1, Segment 1(a) and 1(b), Upper Arkansas River (proposed as page 1, segment 1)**

This segment has been re-segmented based on water quality data and other information submitted by Trout Unlimited and Amax, Inc., indicating that water quality and habitat characteristics are different in each of these sub-segments and that there is some variability in the aquatic life present. Also, water supply and agriculture classifications have been dropped on segment 1(a).

Despite differences in the segments, such as the presence of some channelization in segment 1(b), the record discloses the presence of sensitive species such as trout in both segments. Therefore the Aquatic Life Class 1 classification has been adopted for both.

The record discloses the presence of no point source discharges in either segment, although an inactive gravel operation exists. Since the Commission has adopted no non-point source control regulations, no person is economically impacted by these classifications and standards. It is also impossible to evaluate the economic feasibility of treatment techniques in the absence of treatment requirements.

2. Page 1, Segments 2(a), 2(b) and 2(c) (proposed as page 1, segment 2)

This reach of the Arkansas River has been re-segmented into three sub-segments based upon the request of Trout Unlimited and the evidence supporting such a change. The primary basis for this resegmentation is the severe water quality differences in the three segments due to the impacts of the Leadville Drain and California Gulch, in the upper reaches as well as the diluting effects of Lake Fork on the Arkansas River in segment 2c. However all three segments have been classified Aquatic Life Class 1, since they are water quality limited rather than habitat limited. Standards have been calculated for each segment based upon the existing quality in each segment.

The Agriculture classification is appropriate since the Table Values for Agriculture are met, and since the use is in place.

The water supply classification has not been adopted since there is no water supply intake in these segments. Also, high dissolved manganese levels prevent attainment of water quality suitable for such use.

Conflicting evidence was offered on the issue of future improvement of water quality in these segments, from both economic and technology standpoints. Although improvement may result if the quality of water from California Gulch improves, the prospects are too speculative, and it is impossible to predict the degree of improvement that might result. Therefore no "Goals" have been established for these segments.

3. Page 1, Segment 3 (proposed as page 1, segment 3)

In assigning a Class 2 Recreation classification in this segment, the Commission finds that rafting and fishing are the primary recreational uses. Although some swimming does occur here, there are no swimming areas. The Commission is also concerned that the imposition of a class 1 classification might have significant economic impacts on the municipalities discharging here, and that aquatic life would be negatively affected by possible additional chlorine use.

4. Page 2, Segment 4 (proposed as page 1, segment 4)

The Recreation Class 1 classification has been adopted because of the evidence that this reach is extensively used for swimming. A temporary modification for fecal coliform has been adopted because existing levels exceed the table value. The modification reflects existing levels for this parameter. Achievement of the underlying standard is expected and is economically reasonable because of the current expansion of the Canon City wastewater treatment plant that is underway.

Goals were not established for metals parameters for the reasons stated above with respect to segment 2.

5. Page 2, Segment 6 (proposed as page 1 segment 6)

California Gulch was found to be one of the most degraded streams in Colorado due to past mining activities and therefore the Commission adopted only a limited set of classifications and numeric standards. However, the Mined Land Reclamation Board testified that these waters were given clean-up priority for which monies generated by coal mining fees could be available.

A goal for the agriculture classification has been adopted based on the reasonable potential for improvement due to the Mined Land Program, but more importantly, because ASARCO is to eliminate its discharge to California Gulch. This use would be in place in this segment and downstream if the quality suitable to support it were in place. Treatment to meet the standards is economically reasonable and technologically feasible. Temporary modifications to reflect instream quality have been adopted to account for existing uncontrolled non-point source pollution and to recognize the possibility of improvement with respect to these parameters.

6. Page 2, Segment 8(a) and 8(b) (Proposed as page 2, segment 8)

Testimony indicating considerable water quality degradation immediately below ASARCO's water supply intake necessitated the resegmentation of Iowa Gulch.

For Segment 8(b) it is currently unknown as to what levels of cyanide can be achieved by the application of treatment generally recognized as best available technology economically achievable (BATEA). In view of this, a free cyanide standard was not established for this segment. The Commission finds it would be an unreasonable economic burden to ASARCO to meet a cyanide standard in this segment. The Division felt that due to the time required for passage of cyanide through beaver ponds and other features of the segment the cyanide would dissipate to a level where aquatic life would not be disturbed on the lower segment.

The testimony provided three basic reasons for the Commission's decision. They are: The economic burden of additional treatment; the requirement that ASARCO meet Best Practical Technology (BPT) or Best Available Technology (BAT) or Best Engineering Judgment (BEJ) regardless of the Commission's actions at this time; and that the dissipation effect would protect the downstream uses.

The numeric standards were set at proposed permit values which are expected to be attained through application of BPT or BEJ. This was justified by testimony indicating the ambient quality attributable to old mining practices may preclude the establishment of a fishery and that there is no existing fishery in the segment. The stream is intermittent in the upper portion of this segment and at times the discharge provides the entire stream. Class 2 aquatic life was based on potential improvement with treatment of discharge and return of fishery.

7. Page 3, Segment 9 (proposed as page 2 segment 9)

Although there are no point source discharges in this segment, it is affected by upstream water quality. Improvement of water quality in this segment will result if there is improvement upstream due to ASARCO. Accordingly, temporary modifications to reflect existing levels of Copper and Zinc have been adopted. However, a goal for aquatic life is inappropriate because sensitive species are already present.

8. Page 3, Segment 11 (proposed as page 2 segment 11)

The standard for Ph is based on ambient conditions which are due to uncontrollable non-point sources. There is no active mining in this segment. Despite evidence of low Ph there is a sufficient aquatic life community and habitat in this segment to support a class 1 aquatic life classification. This is most likely due to acclimatization to in-stream conditions.

9. Page 4, Segment 16(a), 16(b), and 16(c) (proposed as page 3, segment 16)

Special studies conducted in January and August, 1980 by the WQCD showed diverse populations of aquatic macroinvertebrates at all sampling stations located on Middle Tallahassee and Tallahassee Creek. Several types of aquatic insects inhabiting the stream are typically found in cold streams with moderate to fast current.

Segment 16 (proposed) was re-segmented into segment 16(a), 16(b), and 16(c) based upon evidence presented by Cyprus Mines that the upper segment (16(a)) had beaver ponds containing trout, but the stream became intermittent in the middle segment 16(b) with no evidence of a fishery. The lower segment, 16(c), was found by the Commission to be a perennial stream which contained a viable trout fishery.

Water Quality standards for boron in segments 16 through 18 are higher than table values. This parameter is established in order to protect the agriculture use classification. The table value protects sensitive crops, and the record shows that sensitive crops are not grown in this area.

10. Page 4, Segment 17(a), 17(b) Page 5 Segment 17(c) (proposed as Page 3, segment 17)

Segment 17 has been resegmented to take account of natural impediments to the attainment of the Aquatic Life Class 1 classification in segment 17(b). However, segments 17(a) and 17(c) presently supports a wide variety of sensitive species.

Water supply was not assigned as a classification for segment 17(b) due to the use not being in place and because of exceedance of the table value for sulfate.

There is no anticipated impact on Cottonwood Creek from the proposed Hansen Project.

11. Page 5, Segment 18(a) and 18(b) (proposed as page 3 segment 18)

Resegmentation is based on a difference in alkalinity in the two segments.

12. Page 5, Segment 21 (proposed as page 4 segment 18)

There is conflicting evidence in the record regarding an appropriate mercury standard for this segment. Although most values recorded were below detection limits, the Commission has determined that the use of  $\bar{x} + s$  to establish a standard is appropriate, rather than table values. As more data and better analytical techniques become available in the future, this standard may need to be re-evaluated.

The Commission has determined that it would be inappropriate, in establishing an iron standard to include in the calculation one value of 22 mg/l because it is three times higher than any other recorded value and probably in error or an aberration of some kind.

13. Page 6, Segment 23 (proposed as page 4, segment 23)

An ammonia footnote was agreed to for this segment to eliminate an immediate need for ammonia removal. If needed, it would cost the City of Victor \$19.50 per tap.

It was argued in testimony that the proposed water supply classification be dropped. However, since ambient quality of the water supports a water supply classification even though the segment's intermittent flow may make it an unreliable water supply, the classification is appropriate.



14. Page 7, Segment 3. (proposed as page 6, segment 3)

Although there is evidence that this segment is a transitional temperature zone, generally, the water temperature is appropriate to support the warm water classification. Both cold and warm water species are present. A warm water classification was adopted to protect downstream quality as the segment flows to warmer water. Evidence of channelization of the streambed and the results of fish surveys indicate that a warm water aquatic life classification is appropriate. A goal for cold water has been rejected because of the predominance of warm water species and due to a lack of evidence that the existence of cold water in this segment is predictable. The Commission also finds that the .06 unionized ammonia standard will not be harmful to the aquatic life in this segment should this level be reached because of the small numbers of cold water species in this segment.

15. Page 8, Segment 8 (proposed as page 7, segment 8)

Public Service Company (PSC) testified that the segment is frequently dry; that the (PSC) power station is often the sole source of flow in the segment; that the Division issued a permit in August which the Company can meet; that if the presently proposed standards for copper, aluminum, and zinc were to be promulgated, PSC would have to go to zero discharge at a cost of \$23,500,000 in 1983, and that the river would be dried up downstream. The City of Pueblo urged that aluminum standards not be adopted which would cause the stream to be dried up. Also levels of dissolved aluminum in the PSC discharge are not at a toxic level in the segment, but are close to table values for aquatic life. The Commission finds that BPT and BAT will adequately protect the stream as to aluminum, as evidenced by the presence of aquatic life.

The Commission set its standards for Copper (cu) and Zinc (zn) based on testimony that there was aquatic life in the segment and that to protect what aquatic life there is in the segment the assigned standards were deemed appropriate. These standards are the levels of these metals found in the Public Service Company discharge. The assigned standards are further justified by the fact that the discharge provides the entire flow of the segment during many times of the year when the upstream portions of the segment are dry. The Commission concluded from the testimony that any aquatic life in the segment was strictly the result of the discharge from the PSC facility and that were it not for such discharge there would be no water in the segment for aquatic life.

16. Page 10, Segments 22 and 23 (proposed as page 9, segments 22 and 23)

A High Quality Class 2 designation for segments 22 and 23 was based upon testimony that the segments contained the habitat for the two known remaining populations of greenback cutthroat trout which is a federally listed endangered species. Trout Unlimited requested classifications as High Quality Class 1 due to the federal status and the definition for High Quality 1 in the "Basic Standards." However the High Quality Class 2 was adopted to be consistent with Commission actions in other basins.

17. Page 11, Segment 2 (proposed as page 10, segment 2)

The Commission determined that it would not be appropriate to assign an aquatic life classification on this segment. The record indicates that the stream is largely barren of aquatic life except for some migration of the Arkansas Darter from selected tributaries. Because of the widespread social and economic impact which would result from the aquatic life classification and because this stretch of water shows past human induced conditions which appear uncorrectable in a 20 year time period, the aquatic life classification has been eliminated.

This segment was classified as a water supply because it is hydraulically connected to the Widefield aquifer, a major source of domestic water for several communities. The metals standards represent table numbers for a domestic water supply use.

17. Page 11, Segment 3(a) and 3(b) . (proposed as page 10 segment 3)

Segment 3 has been resegmented into 2 sub segments in order to recognize the presence of the Arkansas Darter in 3 tributaries to Fountain Creek as specified in segment 3(b). The standards adopted for segment 3(b) are intended to protect the Arkansas Darter.

18. Page 13, Segment 1 (proposed as page 12, segment 1)

The Commission adopted the aquatic life class 2 warm water classification because aquatic life are present in this segment despite some degraded conditions. Also, the evidence indicates perennial flows in this stream segment.

Because of the unique situation that exists in this stream from both environmental and economic stand-points, the Commission has adopted special dissolved oxygen and cyanide standards for that portion of this segment generally located downstream of the urbanized area of the City of Pueblo.

The record indicated that natural decreases in DO levels occur in this reach of the segment during the late summer and fall low flow periods. Excursions below the 5 mg/l dissolved oxygen standard are predictable in the future for this limited reach of segment 1. There is no evidence that the aquatic life that currently exists in this segment have been adversely affected by DO sags that have occurred in the past. Therefore, this dissolved oxygen standard will adequately protect the aquatic life that exists here. The Commission is aware that in this already economically impacted area, pending industrial siting decisions may turn on water quality considerations. The Commission finds that severe socio-economic impacts may occur if the more stringent standards were adopted for this entire segment. Also, this standard will accommodate the downstream users of the Arkansas River waters and will maximize such uses.

The record contains conflicting testimony on the level of free cyanide in this segment. This conflict centers around the proper laboratory techniques to measure free cyanide. The only free cyanide data available is from CF&I which indicates that ambient levels for free cyanide sometimes exceed table values. Despite these excursions, aquatic life still exists in this segment. The record supports the conclusion that CF&I may be severely impacted by the imposition of the free cyanide standard in the entire reach of this segment. For these reasons, a special standard has been adopted for total cyanide in that portion of segment 1 generally located downstream of the urbanized area of the City of Pueblo.

19. Page 13, Segments 5(a) and 5(b); Page 14, Segments 6(a) and 6(b) (proposed as page 12, segments 5 and 6)

These segments of the Purgatoire River were resegmented based on evidence presented by CF&I which used a geological basis to explain the difference between upstream and downstream quality. The lower boundary of the cold water portion of the Purgatoire was moved down to Interstate 25 due to evidence of cold water species below Trinidad Reservoir.

CF&I presented testimony on the appropriateness of setting mercury and silver standards higher than table values because of data showing elevated in-stream levels. Conflicting testimony on the analytical technique employed for certain data resulted in the decision to leave silver at the table value. Mercury was set at  $\bar{x} + s$  levels rather than the table value, however, because the instream data showed elevated background levels.

The Recreation classification was changed from Class 1 to Class 2 on the segment of the Purgatoire near the Allen and Maxwell Mines because of a domestic wastewater discharge and an absence of the swimming use.

20. Page 14, Segment 8(a) and 8(b) (proposed as page 13 and segment 8)

This segment was proposed as a high quality class 2 stream because it provides habitat for a threatened species i.e., the Colorado Cutthroat Trout. However, because this segment is located entirely within the boundaries of private property the Commission assigned specific use classifications, including cold water aquatic life class 1. The standards applicable to protect the aquatic life class 1 classification or sufficient to protect the Cutthroat Trout in this segment and no degradation of water quality for aquatic life habitat will result from the assignment of this classification.

FISCAL STATEMENT

Stream Classifications and Water Quality Standards for the Arkansas River Basin including all tributaries and standing bodies of water in all or parts of Lake, Chaffee, Custer, Fremont, El Paso, Pueblo, Huerfano, Las Animas, Otero, Bent, Prowers, Baca, Kiowa, Cheyenne, Lincoln, Teller, and Elbert Counties.

1. INTRODUCTION

The Water Quality Control Commission is charged with the responsibility to conserve, protect, and improve the quality of state waters pursuant to C.R.S. 1973, 25-8-101 et seq.

The Commission is further empowered and directed to classify waters of the State and to promulgate water quality standards for any measurable characteristic of the water in order to protect both the uses in place and those that can be reasonably expected in the future. (25-8-203 and 25-8-204) The above-titled document assigns use classifications and standards for the state waters in the listed areas in accordance with the "basic regulations" adopted May 22, 1979.

The measurable fiscal impacts which may be caused by these regulations are as follows;

- Cost of construction due to requirements for increased levels of treatment by municipal waste treatment facilities;
- Cost of construction due to requirements for increased levels of treatment by industrial/commercial waste treatment facilities;
- Cost of Operation and Maintenance associated with increased levels of treatment required of municipalities;
- Cost of Operation and Maintenance associated with increased levels of treatment required of industrial and commercial dischargers;
- Cost of instream monitoring and laboratory analysis for new parameters added by the standards.

Dischargers will not be required by the adoption of these regulations to do stream monitoring. The state, federal and local agencies now doing instream monitoring will have some increased cost; however, any additional frequency should be done to improve state surveillance and would be needed regardless of standard changes.

The stream classifications and standards adopted by the Commission will protect the water uses primarily through control of point source pollution. Nonpoint source pollution will be controlled primarily through management practices which are in existence or which will be implemented in the future. Future management practices need careful consideration and may be the result of 208 area-wide wastewater management plans developed by regional planning agencies and being updated annually. These plans involve local governments with general assistance from state government. Some of the possible nonpoint source pollution may be controlled through "Control Regulations" yet to be promulgated by the Commission. These types of controls could involve runoff from construction, mining activities, and urban areas. It is not certain what controls are needed at this time and there is no way that possible costs can be identified at this time.

Persons who benefit from standards which will protect existing and future anticipated uses can be identified as all persons benefiting from recreation, municipal water supply, and agriculture. These benefits are directly economic for agriculture, industry, and municipalities whose health benefit costs are reduced by having clean water, and are both economic and nonquantifiable for some uses such as fishing, recreation, and the aesthetic value of clean waters. Furthermore, benefits will result from human health protection and lack of debilitating disease. Figures have been developed for a recreation/fishing day which can be applied to that aspect of a water use; however, figures which have been developed for total recreation/fishing day uses have been developed statewide and could not be applied region-by-region or stream-by-stream.

The uses of water in this region are adequately protected by these standards. Most municipal treatment facilities and industrial facilities are currently adequate, or are already being upgraded, in order to meet previous requirements. Any additional facilities or expansions in this region will generally be caused by increased capacity required because of population growths or industrial enlargement. Industries are required by federal statute to meet effluent limitations described as "Best Available Technology Economically Achievable" (BAT) by 1983 or 1984. For most major industries in this region, the water quality standards should not require treatment beyond these limitations.

The fiscal impact of any regulatory decision must take into account only the incremental costs explicitly associated with the regulations as finally promulgated. Costs and expenditures associated with the status quo, regulations of other regulatory agencies, or regulations already in effect should not be included in an assessment of the fiscal impact of the Arkansas Basin classifications.

In addition, a distinction must be made between actual expenditures or dislocations that will be immediately or unavoidably necessary upon promulgation of these classifications and standards, and those costs which are speculative in nature. In keeping with concepts of "ExpectedValue", it is proper for the Commission to place more emphasis on definite impacts.

With the passage in 1981 of Senate Bill 10, amending the Colorado Water Quality Control Act, it became incumbent upon the Water Quality Control Commission to consider the economic impact of their decisions with more emphasis placed upon the concept of the "Economic Reasonableness". Supplementary hearings were held by the Commission on the Arkansas Basin to consider the new provisions of the Act. Charged with such a mandate, the Commission was quite sensitive to the objective of minimizing the socio-economic "price" of clean water while adhering to the antidegradation policy that water quality be preserved and protected in all cases, and improved wherever feasible.

The analysis and data which follows is derived primarily from testimony and exhibits offered by interested parties during the course of the rulemaking hearings. This was supplemented by staff estimates of potential impacts upon other major entities who were not formally represented. The impacts are separately presented for the public and private sections. Except for instances where explicit testimony was given by interested parties at the rulemaking hearing, no attempt has been made to identify future development costs as this type of data is not readily available and estimation techniques are dependent upon many highly subjective assumptions. Finally, to fully illustrate the degree to which costs were minimized where possible, two tables for each sector are presented.

The first table itemizes the impacts of the classifications as proposed while the second table depicts the impacts of the classifications as finalized.

## II. FISCAL IMPACT: PUBLIC SECTOR

The primary fiscal impact to the public sector in this basin involves the domestic wastewater treatment costs associated with the stream classifications and water quality standards. Other costs, such as tax and employment base impacts due to foregone industrial development opportunities or mitigated growth potentials, can be theoretically postulated but are difficult to quantify. Generally it is recognized that higher tap fees, service charges or property taxes associated with increased treatment costs can potentially affect industrial siting decisions. However, this is not as significant as increased levels of treatment that may be required of industries if they are dischargers. While the Commission acknowledges the existence of such potentials, the lack of firm evidence and actual tax base impact estimates make deliberative assessment impractical.

The two tables in this section illustrate the degree to which the Commission has considered, evaluated and accommodated the needs and concerns of municipalities. As proposed, the classifications and standards regulations had a potential impact of over 94 million dollars in capital outlays and 4.3 million dollars in annual operation and maintenance. As finalized, the municipal impacts will most likely be less than two million dollars in capital outlay and less than 350,000 dollars in annual operation and maintenance costs. In many cases evidence was given the proposed classifications and standards were to protect a marginal value of stream quality at exorbitant costs. In the case of the Pikes Peak area municipalities, aquatic life classifications were dropped from Fountain Creek segments in view of serious and irreversible degradation that the river had experienced. The benefits of aquatic life classifications were difficult to substantiate and the costs were quite high. A mixing zone for ammonia and special standards for dissolved oxygen for Pueblo should save over 14 million dollars without placing water quality in jeopardy. This is also true for LaJunta, where a mixing zone will alleviate the need for increased levels of treatment. Ammonia standards are "footnoted" for communities such as Cripple Creek and Victor to allow flexible planning for financially strapped municipalities while not impairing water quality. A slight movement of segment boundaries should save Trinidad a million dollars in capital requirements. It is felt that Salida's planned expansion will provide for compliance with the standards and, since an incremental cost was not provided, their costs drop out.

In summary, public participation and careful deliberation has resulted in regulations that will protect the quality of the waters of the Arkansas River Basin through classifications and standards that are economically reasonable in terms of the costs to the municipalities lying within the region.

TABLE ONE FISCAL IMPACT ON MUNICIPALITIES OF PROPOSED CLASSIFICATIONS

MUNICIPALITIES	NEEDED FACILITY	ESTIMATED CAPITAL EXPENDITURE	YEAR OF ESTIMATE	ESTIMATED ANNUAL OPERATING COSTS
Colorado Springs**	Ammonia Conv. Denitrification	\$ 70 Million	(1982)	\$ 2.387 Million
Widefield	Ammonia Conv.	\$ 1.2 Million	(1980)	\$ 112,000
Security	Ammonia Conv.	\$ 1.53 Million	(1980)	\$ 190,000
Monument	Ammonia Conv.	\$ 465,000	(1980)	\$ 65,000
Pueblo	Ammonia Conv.	\$ 14.1 Million Total Present Worth @ 14% Discount		
Cripple Creek	Ammonia Conv.	\$ 97,000	(1980)	\$ 21,300
Victor	Ammonia Conv.	\$164,000	(1980)	\$ 18,400
La Junta	Ammonia Conv	\$ 2.3 M (Bio-Plant)	(1980)	\$ 60,000
		\$ 700 K (B-P Chlor)	(1980)	\$ 500,00
Trinidad*	Ammonia Conv.	\$ 1.0 Million	(1980)	\$ 150,000 – \$ 200,000
Palmer Lake*	Ammonia Conv.	\$ 250,000 – \$500,000	(1980)	\$ 40,000 – \$80,000
Woodmore*	Ammonia Conv.	\$ 750,000	(1980)	\$ 150,000
Colo. City*	Ammonia Conv.	\$ 0–500,000	(1980)	\$ 0–100,000
Woodland Park*	Ammonia Conv.	\$ 750K–1M	(1980)	\$ 100K–200K
Salida	Ammonia Conv.	\$ 1 Million	(1980)	\$ 150–250K
Rye	Slight operational changes of unknown costs should bring the plant into compliance.			
Canon City	Incremental costs can be assumed for ammonia conversion but actual figures are not available nor can be reliably estimated in that Canon City will be participating in the Eastern Fremont County Wastewater Management Project due to be on line in early 1983. AWT not anticipated but still under study.			
Florence	Participation in Fremont County Project. See Canon City.			

\* Estimated potential expenditure - actual requirements and fiscal impact is undermined.

\*\* In addition to this Colorado Springs estimate of expenditures, representatives of the Pikes Peak Area Council of Governments estimated that the counties of Teller and El Paso will have to expend approximately \$29 million dollars to meet the standards of inorganic waste.

Table Two FISCAL IMPACT ON MUNICIPALITIES OF FINAL CLASSIFICATIONS

MUNICIPALITIES	NEEDED FACILITY	ESTIMATED CAPITAL EXPENDITURE	YEAR OF ESTIMATE	ESTIMATED ANNUAL OPERATING COSTS
Monument	Ammonia Conv.	\$ 465,000	(1980)	\$ 65,000
Palmer Lake*	Ammonia Conv.	\$ 250,000–500,000	(1980)	\$ 40,000–80,000
Woodland Park*	Ammonia Conv.	\$ 750K–1M	(1980)	\$ 100K–200K
Rye	Slight operational changes of unknown costs should bring the plant into compliance.			
Canon City	Incremental costs can be assumed for ammonia conversion but actual figures are not available nor can be reliably estimated in that Canon City will be participating in the Eastern Fremont County Wastewater Management Project due to be on line in early 1983. AWT not anticipated but still under study.			
Florence	Participation in Fremont County Project. See Canon City.			

\* Estimated potential expenditure - actual requirements and fiscal impact is undetermined.

### III. FISCAL IMPACT: PRIVATE SECTOR

It can be assumed that nearly every commercial entity with the Arkansas Basin would or could be affected in some way by the classifications regardless of whether they are dischargers or simply customers of water suppliers. Many firms apparently regarded utility increases as an additional cost of doing business in this locale and chose not to present evidence at the rulemaking hearings for this basin. It might be concluded that some felt there would be no impact or that it was unidentifiable at this time. However, some of the larger private interests that have discharge permits or would be seeking them in the future presented testimony indicating costs associated with metals removal and other treatment costs. Table Three summarizes the impact of the proposed classifications as testified to by interested parties.

Not all of the costs presented in Table Three are additional increments due to the proposed classifications and standards. Some reflect baseline treatment already required by permit, treatment capability already in place, costs incurred by other regulations, or potential costs for operations not currently active. A comparison between the two tables reveals a striking difference between "what could be" and "what will most likely be". The proposed classifications and standards had a potential impact of nearly 35 million dollars in capital expenditures and over one million dollars in annual expenses. The fiscal impacts of the classifications as finalized dramatically demonstrate the degree to which proper analysis and consideration of economic issues were taken into account in the deliberative process.

In the case of Public Service Company, the proposed aluminum and copper standards to protect aquatic life were stringent enough that they would have forced PSC into a zero discharge at a cost of over 20 million dollars. As the flow of the affected segment is largely PSC effluent, the very effort to protect aquatic life would do it great harm as the stream could be dry much of the time. Since this was a proposed upgrading, the final classifications and relaxed standards are consistent with the anti-degradation policy while eliminating a substantial cost.

The cost figures for ASARCO fall out because they reflect baseline treatment already required by permit and are thus not attributable to the finalized regulations. Cyprus Mines, the only potential uranium discharger in the basin, is not currently in operation so these costs become additional costs of doing business rather than actually realized burdens. It was not established whether or not Cyprus Mines would have to go beyond chemical treatment so the other costs for more exotic processes drop out. In addition, the phase of operation requiring water treatment would last only three years, so the annual operation and maintenance costs will not be incurred throughout the life of the project. Finally, changes in segment 16B may decrease costs associated with uranium and sulfide removal.

Hewlett-Packard offered estimates of potential costs if they expanded but these drop out because the proposed aquatic life designation for the segment of interest was not retained in the finalized classifications.

When evaluating the costs to CF&I Steel as reported in the tables, several mitigating factors must be considered. Although the capital costs reported between Tables Three and Four remain the same and reflect the maximum estimates provided by CF&I, the economic impact to CF&I Steel is most likely overstated. First, the evidence that was presented in the hearings had included costs associated with their air pollution discharge treatment which uses water as part of the process. To assign all of this cost to both air and water quality regulations constitutes a form of economic "Double Counting". At least some of this cost is more properly considered an air quality impact and not specifically due to water quality standards. Perhaps as much as fifty percent or more of the costs could be eliminated through more in-depth analysis. Secondly, CF&I did not segregate the zinc and cyanide treatments costs and since cyanide standards were relaxed, the actual costs would be less than indicated. In lieu of more detailed evidence, these cost reductions can be assumed but are not quantifiable. Third, it is also felt that some of these costs may reflect BAT requirements that would be necessary in any event. Fourth, the O&M costs do differ between the two tables as CF&I reported \$331,440 for operations already in place. These are not incrementally associated with the finalized classifications and standards and thus drop out. Finally, the concept of ability-to-pay mitigates whatever costs remain when compared to the annual net profit in excess of ten million dollars attributed to CF&I. At the very most, the one-time capital expenditures would barely exceed ten percent of one year's profit. In consideration of the benefits to be preserved and the over-statement of costs, it is felt that the Commission acted in an economically reasonable and responsible way by maintaining the zinc standard for the affected segment.

**TABLE THREE FISCAL IMPACT ON PRIVATE SECTOR OF PROPOSED CLASSIFICATIONS**

<b>COMPANY NAME</b>	<b>PARAMETER</b>	<b>ESTIMATED CAPITAL EXPENDITURE</b>	<b>YEAR OF ESTIMATE</b>	<b>ESTIMATED ANNUAL OPERATING COSTS</b>
Cyprus Mines <sup>1</sup> (Hansen Project)	Heavy Metals Uranium	\$ 1.9 Million (chemical treat.)	(1980)	\$ 300,000
				\$ 900,000 Total
		\$2.2 Million (Reverse Osmosis) <sup>1</sup>	(1980)	\$ 230,000



		\$ 435,000 <sup>1</sup> (Ion Exchange)	(1980)	\$ 36,000
ASARCO	Heavy Metals	\$ 2.25 Million	(1980)	no estimate
CF&I Steel	Heavy Metals Cyanide	\$ 1.38 Million	(1980)	\$ 701,440
Hewlett-Packard <sup>2</sup>	Metals, Chem.	\$ 250K-\$2 Million	(1980)	no estimate
Cripple Creek and Victor Gold Mine	Metals	Some treatment costs can be assumed for mine drainage. Not currently in operation-still under study.		
Public Service	Metals	\$ 23 Million Net Present Worth		

1 It is not determined if Cyprus Mines will be required to go beyond chemical treatment to comply with the standards and whatever permit may be written controlling their discharge. Not currently in operation. The only potential uranium discharger in the Arkansas Basin.

2 Hewlett-Packard is referring to a future plant expansion in the Colorado Springs area and these are the estimates of the costs that would be incurred to meet heavy metals standards due to the manufacturing nature of the new plant.

**TABLE FOUR FISCAL IMPACT ON PRIVATE SECTOR OF FINALIZED CLASSIFICATIONS**

COMPANY NAME	PARAMETER	ESTIMATED CAPITAL EXPENDITURE	YEAR OF ESTIMATE	ESTIMATED ANNUAL OPERATING COSTS
Cyprus Mines <sup>1</sup> (Hansen Project)	Heavy Metals Uranium	\$ 1.9 Million (chemical treat)	(1980)	\$ 300,000
				\$ 900,000 Total
CF&I Steel	Heavy Metals Cyanide	\$ 1.38 Million	(1980)	\$ 320,000
Cripple Creek and Victor Gold Mine	Metals	Some treatment costs can be assumed for mine drainage. Not currently in operation-still under study.		

1 It is not determined if Cyprus Mines will be required to go beyond chemical treatment to comply with the standards and whatever permit may be written controlling their discharge. Nor currently in Operation. The only potential uranium discharger in the Arkansas Basin.

#### FISCAL STATEMENT

Regarding the Adoption of Non-Substantive Corrections To The Classifications And Numeric Standards For The Arkansas, San Juan and Dolores, Rio Grande and South Platte Basins.

The Water Quality Control Commission found that clerical and editorial corrections to the Commission's current regulations numbered respectively 3.2.0, 3.4.0, 3.6.0, and 3.8.0 have no fiscal impact.

Dated this 8th day of November, 1982 at Denver, Colorado.

**STATEMENT OF BASIS AND PURPOSE REGARDING THE ADOPTION OF NON-SUBSTANTIVE CORRECTIONS TO THE CLASSIFICATIONS AND NUMERIC STANDARDS FOR THE ARKANSAS, SAN JUAN AND DOLORES, RIO GRANDE AND SOUTH PLATTE RIVER BASINS.**

In accordance with the requirements of 24-4-103(4), C.R.S. 1973, the Commission makes these findings and adopts this Statement of Basis and Purpose.

The Commission at a public rulemaking hearing November 8, 1982, adopted clerical and editorial corrections to the Commission's current regulations numbered respectively 3.2.0, 3.4.0, 3.6.0 and 3.8.0. These regulations are contained in Article 3, Water Quality Standards, of the Policies, Regulations, and Guidelines of the Water Quality Control Commission. (5 CCR 1002-8)

In adopting these corrections the Commission considered the economic reasonableness of its action, except as specified the corrections in no way change the classifications and numeric standards originally adopted by the Commission. Other than written comment from the City of Westminster no testimony was offered at the public hearing.

The consolidated changes adopted by the Commission are included in this Basis and Purpose for information. The Secretary of State was provided corrected pages for each of the regulations as replacements for the regulations previously published.

Dated this 8th day of November, 1982 at Denver, Colorado.

**32.11 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE - SEGMENT 8a, IOWA GULCH UPPER ARKANSAS RIVER, ARKANSAS RIVER BASIN**

The provisions of 25-8-202(1)(a)(b) and (2); 25-8-203; and 25-8-204 C.R.S. provide the specific statutory authority for adding the numeric standards adopted by the Commission in this matter.

The two year temporary modifications for the copper and lead standards on this segment which were adopted by the Commission are consistent with the Commission's established procedures for adopting water quality standards or temporary modifications based on ambient quality. The standards set represent a determination of ambient water quality where a shortage of reliable data, and discrepancies regarding analytical techniques, precluded the adoption with sufficient confidence of any more stringent standards.

Physical conditions in various portions of Segment 8a such as substrate, low flow, depth, lack of pools, freeze-out, and physical barriers preclude a viable fish population, and more stringent water quality standards than adopted cannot be justified for the protection of macroinvertebrate only, based on the aquatic life classification. The macroinvertebrate population which does exist in the segment does not appear stressed at ambient levels of pollutant concentration. Ambient levels of pollutant concentration do not now jeopardize downstream aquatic life. Testimony does not support the conclusion that the imposition of more stringent metals limits would lead to an improved aquatic habitat.

At such time as water quality improvements downstream in Segments 8b or 9 indicate either a potential for a viable fish community in Segment 8a or an approved fishery in Segment 8b or 9 and where the macroinvertebrate population in the upper segment is necessary for that fish community's survival, or during the triennial review of the basin, the standards for this segment may need to be reexamined to assure that downstream uses continue to be protected.

From evidence received at the public hearing, it appeared that the existing stream standards for copper and lead were periodically exceeded in several reaches of the segment. However, there was considerable disagreement among the parties and staff over the appropriateness and accuracy of the data presented at the hearing. Differences in analytical techniques resulted in non-comparable data, making the calculation of ambient quality, based on a determination of the mean value, difficult. The temporary modifications adopted for copper and lead reflect a continuation of ambient quality, which protect designated uses and recognize the need to protect the drinking water supply diversion at the lower end of the segment.

The agriculture use classification is retained because there is conflicting evidence regarding the existence and extent of the use necessitating further study. The standards in effect to protect this use do not impact the Sherman Tunnel discharge.

No change was made to the other pollutants for which change had originally been proposed because the data available did not conclusively support a change, and because the current stream standards adequately protect the classified uses. Evidence presented at the hearing indicated that the original classified uses remained appropriate.

BAT limits are being met by the sole discharger to the segment, the Hecla Mining Company. There has been no demonstration that more stringent water quality standards will provide any benefits to the aquatic life in the stream. The adopted temporary modifications will not require the discharger to provide additional treatment where there is in the record insufficient information to justify the adoption of standards that could result in additional treatment requirements. The adopted temporary modifications are thus determined to be economically reasonable.

It is further declared to be the Commission's intention that the temporary modifications are being established at this time to allow all interested persons to collect additional data to be analyzed in a uniform fashion and in conformance with existing Commission policies as well as upcoming modifications thereto, so that at such time as the temporary modifications expire or at any other appropriate time, the Commission will be able to determine appropriate final standards for all parameters on this segment.

**FISCAL IMPACT STATEMENT - SEGMENT 8a, IOWA GULCH, UPPER ARKANSAS RIVER, ARKANSAS RIVER BASIN**

The establishment of temporary modifications to the water quality numeric standards for lead and copper dramatically reduce the probability of further treatment requirements for mined located in this segment. Estimates indicate a potential savings of up to \$300,000 capital costs and \$16,000 operations and maintenance to accrue to the owner of the Sherman Mine. The Commission finds that these cost savings will not be had at the expense of current beneficial use degradation, based upon the evidence available.

There will be no fiscal impact on any other government or private entities.

**32.12 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE:**

The provisions of 25-8-202(1)(a)(b) and (2); and 25-8-204 C.R.S. provide the specific statutory authority for adding the numeric standards that were proposed.

The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statements of basis and purpose and fiscal impact.

**BASIS AND PURPOSE - ARKANSAS:**

The basis and purpose for the changes by segment is given below:

Segment 1, Upper Arkansas River - Two wilderness areas, Mt. Massive and Collegiate Peaks, were designated after the 1980 hearings. Creation of a new segment with High Quality - Class 2 designation will protect these areas and is consistent with Commission actions in other basins.

Segment 2b, Upper Arkansas River - Present description does not define the segment because of a typographical error. New description will define the segment.

Segment 3, Upper Arkansas River - Typographical error in cadmium standard. Change to 0.001 mg/l reflects the adopted standard.

Segment 25, Upper Arkansas River - Cottonwood Creek has been identified by the Colorado Division of Wildlife as habitat of the greenback cutthroat trout which is a State threatened and Federally endangered species. Creation of a new segment with High Quality - Class 2 designation will provide protection to the creek and is consistent with Commission actions in other basins.

Segment 4, Middle Arkansas River - Present description does not except Segment 24, should the Commission decide to create a new Segment 24. The change will be needed if Segment 24 is adopted.

Segment 15, Middle Arkansas River - Typographical error for zinc standard. Original testimony showed the ambient level of zinc to be 0.2 mg/l in this segment. Change will reflect the standard as adopted by the Commission in 1981.

Segment 24, Middle Arkansas River - The waters are the only known habitat in Colorado for the Southern Red Belly Dace, according to the Colorado Division of Wildlife. Creation of this new segment with a High Quality - Class 2 designation should protect this species.

Segment 2, Fountain Creek - Drinking water standard is for total cyanide. The change in cyanide description from free to total will reflect what is required to protect the domestic water supply use.

Segment 9, Lower Arkansas River - The standards reflect a classification of Cold Water Aquatic Life - Class 1 for waters that are Warm water Aquatic Life - Class 1 habitat. The change will reflect the Commission's intent in adopting the classifications and standards for this segment.

Segment 10, Lower Arkansas River - The standard for dissolved oxygen (D.O.), unionized ammonia (NH<sub>3</sub>) and nitrite (NO<sub>2</sub>) are table numbers for a Cold Water Aquatic Life - Class 1 designation. The change in the standards will reflect the Commission's intent in adapting the standards in 1981 and will provide protection to the Warm Water Aquatic Life residents to the waters.

#### **FISCAL IMPACT STATEMENT - ARKANSAS RIVER BASIN**

These regulations more accurately reflect the protections necessary for wilderness areas and rare and endangered species. In some cases, the only known habitat for certain species is identified. It is not anticipated that these changes will impact dischargers, except as a future development potential, yet will afford the benefit of protection of beneficial uses. In view of these facts, the Commission expects these regulations to be economically reasonable.

ADOPTED: December 6, 1985

#### **32.13 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE SEGMENT 8a, IOWA GULCH, UPPER ARKANSAS RIVER ARKANSAS RIVER BASIN**

The provisions of 25-8-202(1)(a),(b) and (2); 25-8-203; 25-8-204; and 25-8-207 C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. The Commission also adopted, in compliance with 24-4-103(4) C.R.S., the following statements of basis and purpose and fiscal impact.

## **BASIS AND PURPOSE:**

Leadville Corporation owns and operates the Sherman Mine at the upper end of Iowa Gulch on the side of Mount Sherman, a 14,000 foot peak. Under the provisions of C.R.S. 25-8-207, Leadville Corporation petitioned for a rulemaking hearing regarding Segment 8a, Iowa Gulch, to review whether new material facts demonstrate that the aquatic life classification is in error for Segment 8a, due to severe physical, natural, climatic, and structural constraints existing in Segment 8a which preclude a viable habitat for fish or shellfish life. Leadville Corporation also sought review of the agriculture classification for Segment 8a, stating that Segment 8a has no existing use or reasonably anticipated future use for agricultural purposes.

Leadville Corporation also sought a change in the applicable water quality standards for Segment 8a to reflect protection only of the domestic drinking water supply and recreation class 2 classifications of Segment 8a. The water quality standards for protection of the two uses proposed to be retained were proposed to be the table values from the Commission's Basic Standards and Methodologies Regulation.

In 1985, a hearing was held in which similar requests were made to delete classifications and modify water quality standards. Those 1985 requests were denied, but the Commission granted a temporary modification to the water quality standards for lead and copper in Segment 8a, Iowa Gulch. This temporary modification altered the standard for copper from 0.007 mg/l to 0.05 mg/l and the standard for lead from 0.022 mg/l to 0.05 mg/l. The temporary modification expires March 5, 1987.

In connection with granting the temporary modification the Commission directed Hecla Mining Co., the predecessor of Leadville Corporation, to conduct a water quality sampling program on Iowa Gulch, Segment 8a, and to analyze the results according to a laboratory method recommended by the Water Quality Control Division. The purpose of the sampling and analysis program, in part, was to ascertain whether the ambient water quality of Segment 8a, Iowa Gulch, justifies the standards which had been previously set by the Commission for this Segment.

Leadville Corporation asserted that the sampling and analysis program showed that the ambient water quality of Iowa Gulch, Segment 8a, exceeds the values the Commission set for at least three metals: copper, lead and cadmium, and that the existing and reasonably anticipated water uses in Segment 8a would not be adversely affected by a change in water quality standards to the table values, and, further, that the existing uses of Segment 8a would be protected if the requested rulemaking proposal were adopted by the Commission. Prior to the hearing, Leadville Corporation and Parkville Water District requested resegmentation of Segment 8a into two separate stream segments.

## **Summary of Action:**

Segment 8a of Iowa Gulch is resegmented into Segments 8a1 and 8a2, with the division between the new segments being at a point immediately below the confluence of the Hilltop Saddle drainage with Iowa Gulch. The existing classifications for Segment 8a are retained for new Segments 8a1 and 8a2. The existing numerical standards for Segment 8a are retained for new Segments 8a1 and 8a2, except for the following revisions:

	Cu	Cd	Zn	Pb
Segment 8a1	.017	.004	.10	.016
Segment 8a2	.009	.0011	.094	.012

For the reasons elaborated below, the Commission has determined that these changes are economically reasonable, even if they result in higher treatment costs for the Sherman Mine Portal discharge.

## **Resegmentation:**

The Commission finds that resegmentation of Segment 8a of Iowa Gulch into Segments 8a1 and 8a2 is appropriate. The evidence presented demonstrates that the stream has different physical characteristics above and below the Hilltop Saddle drainage confluence. For example, there is increased stream flow below this confluence. In addition, ambient water quality differs significantly above and below this point.

Finally, this resegmentation will allow the adoption of more stringent water quality standards for Segment 8a2 to fully protect the domestic water supply and other uses of that segment, while avoiding more stringent standards for the upstream Segment 8a1. This results from handling the water quality data for these two segments separately, rather than averaging all Segment 8a data. Leadville Corporation, Parkville Water District, and the Water Quality Control Division agreed that this resegmentation is appropriate.

**Classifications:**

The Commission finds that there has been no demonstration that the existing aquatic life and agriculture use classifications for Segment 8a were based upon material assumptions that were in error or no longer apply, and accordingly the Commission reconfirms the decision made in 1985 to retain the existing classifications. Moreover, the Commission finds that there has been no demonstration that the aquatic life classification for Segment 8a is more stringent than is necessary to protect fish life, shellfish life, and wildlife in a water body segment which is reasonably capable of sustaining such fish life, shellfish life, and wildlife from the standpoint of physical, streambed, flow, habitat, climatic, and other pertinent characteristics.

Notwithstanding the presence of certain physical barriers to fish in the new Segments 8a1 and 8a2, both are typical high mountain streams. For example, the macroinvertebrate populations are representative of typical streams of this type. No substantial evidence was presented to demonstrate that the previously established agriculture classification is erroneous. There was evidence presented of possible agricultural use of Segments 8a1 and 8a2. Therefore, the Commission has decided to retain the existing use classifications for both Segment 8a1 and 8a2. Leadville Corporation, Parkville Water District and the Water Quality Control Division stipulated to the retention of all existing classifications for Segment 8a2.

**Standards:**

Based upon the new ambient water quality data submitted at the hearing, the Commission has revised the water quality standards for Segment 8a of Iowa Gulch for four parameters: copper, lead, cadmium, and zinc. Separate standards have been established for new Segments 8a1 and 8a2. For Segment 8a2, Leadville Corporation and Parkville Water District stipulated their agreement with the standards recommended by the Division. At the hearing, Leadville corporation objected only to the Division's proposed lead standard for Segment 8a1.

In establishing revised standards for Segment 8a1, the Commission rejected as a matter of policy the position of Leadville Corporation that ambient water quality data from samples taken at the Sherman Mine Portal should be included in the calculation of standards. The Sherman Mine Portal drainage is a permitted point source discharge. Even if the source of this discharge is essentially ground water, this discharge to the stream would not exist except for the presence of mining operations.

The final revised standards take into account additional data submitted by Leadville Corporation and admitted into the record by the Commission on February 3, 1987. The revised standards are merely a recalculation of ambient quality for the relevant segments based on new data. Recalculation of ambient water quality for Segments 8a1 and 8a2 was done consistently with the policy of excluding certain "outliers" based on the screening process known as Chauvenet's criteria and two "outliers" for lead were excluded from the Division's data base as a result. The revisions do not constitute a downgrading of classified uses for these segments and do not authorize any change in the existing water quality of these segments. For lead and zinc in both segments, and for cadmium in Segment 8a2, the revised standards are in fact more stringent than existing standards.

**FISCAL IMPACT STATEMENT:**

The retention of the existing classifications for the resegmented Segments 8a1 and 8a2 of Iowa Gulch creates no new fiscal costs or benefits. The revised numerical standards for these segments may have fiscal impacts. The establishment of more stringent numerical standards for Segment 8a2 will provide better protection for the uses in that segment, including the domestic water supply diversion by the Parkville Water District. The water users and ratepayers of the Parkville Water District may benefit economically in terms of water treatment costs and reduced health impacts.

Leadville Corporation submitted evidence that adoption of the revised numerical standards for Segment 8a1 will require an expenditure of \$400,000 for treatment of the Sherman Mine Portal discharge. Currently, this is the only permitted mine water discharge in the State that is not treated. Although a determination whether such treatment will be required was not a subject of this hearing, the Commission finds that even if such costs are incurred, this economic impact is justified since the standards established are reasonably necessary to protect the uses of this segment of Iowa Gulch.

The actions taken are not expected to have a significant fiscal impact on the State's administration of water quality control programs.

Dated this 2nd day of March, 1987, at Denver, Colorado.

**FINDINGS REGARDING BASIS FOR EMERGENCY RULE SEPTEMBER 11, 1990:**

The Commission finds that the immediate adoption of this regulation is imperatively necessary for the preservation of public health, safety, or welfare and that compliance with normal notice requirements would be contrary to the public interest. The reasons for this finding are that action needs to be taken during this winter season to minimize the risk of uncontrolled releases of highly saline water from Cheraw Lake. Specifically, there is a possibility of significant damage to agricultural and domestic water supply uses downstream of Cheraw Lake if undiluted releases occur. There was evidence that the water level in Cheraw Lake currently is near the top of the outlet structure and that therefore releases could occur in the near future, depending on precipitation and return flows into the Lake.

The two release prohibitions which are scheduled to go into effect in 1990 would, of course, not become effective during the life of this emergency rule. However, the Commission finds that the two-year period established in the regulation is necessary for affected entities to take the actions necessary to come into compliance by that time. Necessary actions would include assessment of the problem, analysis of the feasibility of compliance options, arrangements for financing, and completion of design and implementation of any structures or facilities to achieve compliance. Therefore, the Commission finds there is an emergency basis for adopting these provisions, in order to provide adequate notice to affected entities, should these or similar provisions be adopted as permanent regulations. At the same time, the Commission intends to consider at the permanent adoption hearing any other options that may be developed by the Division or outside parties prior to that time.

Paragraph 4.4.2(3) prohibits any release of water from water collection systems into Cheraw Lake after March 15, 1990, irrespective of the quality of such releases. From the evidence provided, it appears that even if distilled water were released into Cheraw Lake, after mixing there is a substantial risk that the water released from Cheraw Lake would be of an unacceptable quality. Moreover, long-term downstream protection can not be accomplished solely by regulating controlled releases, since uncontrolled releases are likely to occur, depending on precipitation and return flows. Therefore water releases into Cheraw must be controlled in order to control outflows.

From the information currently available to the Commission, the limitation on releases into Cheraw Lake should have no adverse impact on water rights. The testimony indicated that there are no current water rights to the water in Cheraw Lake, and did not indicate that any water users upgradient of the Lake currently use the return flows that run into the Lake. In fact, diverting water around Cheraw Lake to comply with section 4.4.2(3) may have a beneficial impact on water rights by increasing the water supply downstream. Of course, should different information regarding a potential impact on water rights become available prior to the permanent adoption hearing, that may affect any action that the Commission would take as a result of that hearing.

Because of the Commission's extremely full agenda and the time necessary to develop a proposed regulation on this complex issue, the Commission finds that it may be necessary for the emergency regulation to be in effect for up to one year. Therefore, the regulation is to be effective immediately and continue in effect until the effective date of permanent regulations or for one year, whichever comes first. The Commission has agreed to schedule a permanent adoption hearing for November 7, 1988, which is the earliest available time on the Commission's agenda.

The purpose of this regulation is to protect the agricultural uses of water in Horse Creek (Otero and Bent counties) from the highly saline discharges from tributary Cheraw Lake, while also avoiding an unacceptable adverse impact on other downstream water uses, particularly domestic water supplies.

The saline condition of water in Cheraw Lake appears to be caused by highly alkaline native soils in the area together with routing of irrigation return flows to the lake. Traditionally, the shortage of water in the Arkansas River Basin has prevented the lake from overflowing into Horse Creek. Evaporation losses then contributed to the increase in salinity which has exceeded 17000 mg/l (TDS) in the upper layer and 60,000 mg/l at the bottom of the lake based on samples collected by the Division and the USGS. The excess of water caused by the past "wet" years has caused levels in the lake to rise significantly which, in turn, threatened to cause property damage to State Highway 109 and the Town of Cheraw. This led several parties to effect releases from the lake which have damaged and endangered the agricultural use downstream on Horse Creek. This statement is supported by the EPA "Red Book: criteria for irrigation water and Division water quality investigations of the Lake and Horse Creek.

The ambient quality of Horse Creek has exceeded 5000 ppm TDS without influence from Cheraw Lake based on the existing water quality database. Since the agricultural use of the Horse Creek water under those conditions did not appear to be impaired, the salinity levels of Horse Creek will be controlled based on the mean plus one standard deviation of the measured TDS levels in Horse Creek, which is 5270 mg/l. The TDS standard adopted for Horse Creek should help assure that this level is met in the future.

#### **FISCAL IMPACT STATEMENT REGARDING CHERAW LAKE EMERGENCY CONTROL REGULATION AND HORSE CREEK SALINITY STANDARD; AS ADOPTED JANUARY 22, 1988**

One group of persons who may incur additional costs as a result of these emergency regulations is anyone who may effect a controlled release of water from Cheraw Lake. Costs, which have not been quantified, would be incurred principally by acquiring a source of dilution water so that releases comply with the salinity limitation. In addition, if the provisions of the emergency regulations are permanently adopted, the prohibition of the release of water from water collection systems into Cheraw Lake after March 15, 1990 may impose substantial costs on the owners of water collection systems who would have to reroute such water away from Cheraw Lake.

The primary persons potentially benefiting from the regulations are agricultural and domestic water users downstream. These persons may benefit by the requirement for water released from Cheraw Lake to be diluted, and from the prohibition of releases of water into Cheraw Lake if that becomes permanent (since that prohibition would minimize the likelihood of further releases from Cheraw Lake). There was evidence submitted that even diluted water released from Cheraw Lake adversely impact downstream users. However, whether any such impacts would be greater or less than would occur without the emergency regulations depends on speculation regarding future precipitation and resulting water use patterns.



The emergency regulations should not have a significant fiscal impact on the State's administration of the water quality control program.

**32.14 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE (NOVEMBER, 1988, HEARING ON HORSE CREEK)**

The provisions of 25-8-202(1)(b) and (2); and 25-8-204; C.R.S. provide the specific statutory authority for adoption of the attached regulatory amendments. The Commission also adopted in compliance with 24-4-103(4), C.R.S., the following Statement of Basis and Purpose.

**BASIS AND PURPOSE:**

The purpose of the water quality standard for TDS adopted for Horse Creek is to help protect downstream agricultural and domestic water supply uses, to the degree feasible, taking ambient water quality conditions into account. This standard is intended to operate in conjunction with the Cheraw Lake control regulation, which is being adopted concurrently. The purpose of the control regulation is to protect the agricultural uses of water in Horse Creek (Otero and Bent Counties) from the highly saline discharges from tributary Cheraw Lake, while also avoiding an unacceptable adverse impact on other downstream water uses, particularly domestic water supplies.

The regulation takes into account the intermittent nature of any discharges from Cheraw Lake, and the possibility that any discharge could be diluted before the water reaches Horse Creek. The regulation does not impose any specific treatment or best management practice requirements. Rather, it provides flexibility regarding the means of compliance, so long as the specific level of salinity can be achieved in Horse Creek.

The saline condition of water in Cheraw Lake appears to be caused by highly alkaline native soils in the area together with routing of irrigation return flows to the lake. Traditionally, topography and the shortage of water in the Arkansas River Basin has prevented the lake from overflowing into Horse Creek. Evaporation losses then contributed to the increase in salinity which has exceeded 17000 mg/l (TDS) in the upper layer and 60000 mg/l at the bottom of the lake based on samples collected by the Division and the USGS. The excess of water caused by the past "wet" years has caused levels in the lake to rise significantly which, in turn, threatened to cause property damage to State Highway 109 and the Town of Cheraw. This led several parties to effect releases from the lake which have damaged and endangered the agricultural use downstream on Horse Creek. This statement is supported by the EPA "Red Book" criteria for irrigation water and Division and USGS water quality investigations of the Lake and Horse Creek.

The ambient quality of Horse Creek has exceeded 5000 ppm TDS without influence from Cheraw Lake based on the existing water quality database. Since the agricultural use of Horse Creek water was not impaired under those conditions, salinity levels of Horse Creek will be controlled based on the 85th percentile of 65 USGS measurements of specific conductance prior to the 1985 releases from Cheraw Lake. This value was then converted to TDS using a linear regression developed by USGS and Division staff. The calculated TDS standards is 4300 mg/l.

**PARTIES TO NOVEMBER, 1988 HEARING**

1. Town of Cheraw
2. Holbrook Drainage District
3. Holbrook Mutual Irrigating Company
4. Arkansas Valley Ditch Association
5. Catlin Canal Company
6. High Line Canal Company
7. Board of County Commissioners, County of Otero
8. David & Dolores Direzza

9. George L. Bender and Sam Turner

**32.15 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE;  
NOVEMBER, 1989 HEARING ON SEVERAL SEGMENTS:**

The provisions of 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402 C.R.S. provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted, in compliance with 24-4-103(4), C.R.S., the following statement of basis and purpose.

**Basis and Purpose:**

First, the Commission has adopted new introductory language for the tables in section 6. The purpose of this language is to explain the new references to "table value standards" (TVS) that are contained in the Tables. The other changes considered and adopted are addressed below by segment.

**A. Aquatic Life Class 1 with Table Values; New High Quality 2 Designations**

Upper Arkansas segments 12, 13, 15, 16a, 16c, 17a, 17c, 18a, 19, 20, 23, 24  
Middle Arkansas segments 5, 6, 9, 10, 11, 14, 16, 19, 20, 21  
Fountain Creek segments 4 and 5  
Lower Arkansas segments 3, 5b, 6a, 8, 11

Numerical standards for metals for these segments have in most instances previously been based on table values contained in Table III of the Basic Standards and Methodologies for Surface Water. Table III has been substantially revised, effective September 30, 1988. From the information available, it appears that the existing quality of these segments meets or exceeds the quality specified by the revised criteria in Table III, and new acute and chronic table value standards based thereon have therefore been adopted. There are also some of these segments whose previous standards were values based on alkalinity ranges. However, these segments generally have much higher hardness than alkalinity, and the new table values (based on hardness-dependent equations) are now appropriate as standards.

Second, in addition to these standards changes, the use classifications have been revised where necessary so that each of these segments has the following classifications:

Recreation - Class 1  
Cold Water Aquatic Life - Class 1  
Water Supply  
Agriculture

These classifications are appropriate because the existing quality is adequate to protect these uses.

Third, a High Quality 2 designation has been established for each of these segments. The best available information in each case indicates that the existing quality for dissolved oxygen, pH, fecal coliform, cadmium, copper, iron, lead, manganese, mercury, selenium, silver and zinc is better than that specified in Tables I, II and III of the Basic Standards and Methodologies for Surface Water, for the protection of aquatic life class 1 and recreation class 1 uses.

Wilson Creek, Upper Arkansas segment 23, has been reclassified from aquatic life cold, class 2 to aquatic life class 1, with a High Quality 2 designation. A field review by the Division indicates the presence of aquatic life in the segment including reproducing brook trout. Table value standards were adopted because ambient water quality is better than specified by the standards at ambient hardness.

**B. Existing High Quality 2 Segments; New Classifications and Standards**

Upper Arkansas segments 1a, 25  
Middle Arkansas segments 22, 23, 24

These segments were already described as High Quality Class 2, and available information indicates that the parallel new High Quality 2 designation continues to be appropriate for each. Upper Arkansas segment 1a is within the Collegiate Peaks wilderness area. Upper Arkansas segment 25 and Middle Arkansas segments 22, 23, and 24 contain an endangered species of cutthroat trout. In addition, the following use classifications and associated table value standards were adopted for these segments:

Recreation - Class 1  
Cold Water Aquatic Life - Class 1  
Water Supply  
Agriculture

These classifications and standards are appropriate based on the best available information regarding existing quality. These provisions would apply in the event that degradation is determined to be necessary following an activity-specific antidegradation review.

**C. New Use-Protected Designations; No Change in Numeric Standards**

Upper Arkansas segments 8a1, 8a2, 14, 22, 26  
Middle Arkansas segments 4, 13, 18  
Fountain Creek segments 3a, 8  
Lower Arkansas segments 2, 6b, 13  
Cimarron River segment 1

These segments all qualify for a use-protected designation based on their present classifications. Lower Arkansas segment 6b and Upper Arkansas segments 8a1, 8a2, and 14 have cold water class 2 classifications. The remaining segments have warm water class 2 classifications. Existing standards are recommended because these segments either have no metal standards or because no dissolved metals data is available for them at this time (Upper Arkansas segments 8a1 and 8a2).

**D. New Use-Protected Designations; Revised Numeric Standards**

Middle Arkansas segments 3, 7, 8, 15, 17  
Fountain Creek segments 6 and 7  
Lower Arkansas segments 1, 4, 7, 9, 14  
Cimarron River segment 2

Middle Arkansas segments 7, 8, 15 and 17; Fountain Creek segments 6, 7; Lower Arkansas segments 1, 4, 7, 9 and 14, and Cimarron River segment 2 are qualified for a use-protected designation because they are classified recreation class 2 and aquatic life warm class 1 or 2.

Table value standards are adopted for all constituents, except as noted below.

<u>Segment</u>	<u>Constituent(s)</u>
Fountain Creek, 7	Fe
Lower Arkansas, 1	SO <sub>4</sub> , Fe

**E. No Change in Designation; Revised Numeric Standards**

Upper Arkansas segments 1b, 1c, 2a, 2b, 2c, 3, 4, 5, 6, 10, 16b, 17b, 21, 27

Middle Arkansas segments 1, 2, 12

Fountain Creek segments 3b, 9

Lower Arkansas segments 5a, 10, 10a, 12, 12a

The principal issues considered for segment 1b of the Upper Arkansas were the addition of an agriculture classification and the assignment of ambient based standards for zinc, lead, and copper. Consideration of a use-protected designation was also discussed but rejected because the data was in total recoverable form and not dissolved. The Commission declined to adopt the agriculture classification because although the quality of the water would support the use, the water was not currently being used for this purpose and was not likely to be in the future. Table value standards were adopted for zinc, lead and copper with a temporary modification of 250 ug/l for zinc, 12 ug/L for lead and 10 ug/L for copper, each as total recoverable, to expire December 31, 1992. In setting these standards, the Commission rejected deletion of the runoff data and considered adopting seasonal standards. Seasonal standards were not adopted because this would result in spring runoff standards several times higher than the acute criterion.

The Commission's action in adopting the temporary modifications and underlying standards for zinc, lead, and copper on segment 1b assumes that dissolved data will be available for the next triennial review (1991), and that revisions to both the temporary modifications and the underlying standards, if appropriate, can be made at that time.

On segments 2c and 3 the Commission has adopted temporary modifications and underlying standards due to the metals loading from the Leadville area, i.e. California Gulch and the Leadville Tunnel. On segment 2c an underlying TVS standard for cadmium was adopted with a 3-year temporary modification of 2.3 ug/l. The zinc standard was set at 118 ug/l with a 3-year temporary modification of 565 ug/l. On segment 3, an underlying zinc standard of 130 ug/l was adopted with a 250 ug/l temporary modification, the temporary modification only in effect on that portion of the segment from Lake Creek to US Highway 25. On both segments the underlying zinc standard is based on the EPA chronic zinc criterion for the average hardnesses in each segment. This modification from Colorado's criterion of 45 ug/l was justified by site-specific Division of Wildlife bioassays in these reaches of the Arkansas River. The temporary modification to the cadmium and zinc standards are based on the 85 percentile values of the dissolved cadmium and zinc data available on each segment. It is felt that the underlying standards will easily be obtained in the next 3 years with the clean-up of the Leadville Tunnel and the Yak Tunnel on California Gulch.

Segment 4 is classified cold water aquatic life class 1, recreation class 1. Table value standards are met for all constituents in this segment except total recoverable iron. An ambient standard of 1,200 ug/l is adopted for iron and table values are adopted for the rest.

The water supply use classification was removed from Upper Arkansas segment 9 because the ambient concentration of sulfate and manganese in the segment are inconsistent with the criteria for water supply and there is no existing or historic water supply uses of segment 9 waters.

New segments, Lower Arkansas 10a and 12a were created for Lakes Meredith and Henry, respectively. Lower Arkansas segments 10 and 12, which include several plains reservoirs, were designated high quality class 2 because they have the necessary use classifications. With respect to Lakes Meredith and Henry, the City of Colorado Springs testified that these two reservoirs are frequently dried up during the exercise of water rights, and thus should not be designated high quality.

Existing use classifications (Recreation 1, warm water aquatic life 1, water supply, and agriculture) and TVS were adopted for segments 10a and 12a. Segments 10a and 12a were not designated high quality 2.

Consideration of standards for Upper Arkansas segments 2a, 2b and 6 was continued until April, 1990 because of concerns that proposed standards were not protective of aquatic life and may be inconsistent with clean-up goals of the Leadville Drain and California Gulch Superfund projects. Existing classifications remain in place for all three segments. For segment 6, all numerical standards except fecal coliform have been deleted. No party objected to this change. For segments 2a and 2b, the Commission has adopted table value standards as the underlying numerical standards, with eight- year temporary modifications based on existing ambient quality.

At the time that the original classifications and standards were adopted for segments 2a and 2b, in 1982, the Commission concluded that the prospects for future improvement of water quality were "too speculative" to adopt more-stringent-than-ambient water quality standards for these segments. Since then, the prospects for improvement have changed substantially. In view of the pending treatment of Leadville Tunnel water and the Superfund actions addressing California Gulch clean-up, the Commission now believes that it is appropriate to adopt table value standards for these segments, to serve as a goal for future clean-up, and protection from any new discharges.

There is some uncertainty at this time as to the precise metals levels that will be achieved instream following pending cleanup actions. The eight-year temporary modifications will not only allow time for substantial cleanup to occur, but will allow two triennial reviews to further assess the appropriateness of the underlying standards before they go into effect. If better information available in the future indicates that different underlying standards are appropriate, the standards can be modified at that time. As a matter of policy, the Commission does not believe that leaving ambient-quality-based standards in place as the sole standards for these segments at this time is appropriate, since that would suggest that the existing quality is acceptable for the future. That result would ignore the clean-up actions already planned and would be inconsistent with the Water Quality Control Act policy of improving water quality where necessary and reasonable.

**F. Fountain Creek, Segment 2**

1. At the November 6, 1989, rulemaking hearing, the Water Quality Control Division recommended the adoption of an Aquatic Life Class 2 classification for Fountain Creek, Segment 2, because of the presence of propagating fish in the 50-mile-long stream segment.

2. The City of Colorado Springs, the major discharger to the segment, contended that the Aquatic Life Class 2 classification was not an attainable use. The Division and Colorado Division of Wildlife, however contended that the use is in place. A Use Attainability Analysis (UAA) performed by the City showed there were 13 species of fish, in the minnow, sucker, perch, killifish, sunfish, and strickleback families, but found only from time to time and scattered over the 50-mile-long reach. At least 30 species of aquatic macroinvertebrates were also found. The UAA demonstrated that the fish population density, or abundance, was very low. But the Division noted in its testimony, the density was as expected for a plains stream. The UAA included evidence that both the high sediment loading and the high flooding flows due to both natural and anthropogenic causes substantially impaired habitat for fish, consistent with the Class 2 warmwater aquatic life classification. (The impairment was due to highly erosive soils, a shale and grain sand stream bottom, significant change in topographical elevation and a history of flash flooding; the anthropogenic causes included agricultural diversion dams, agricultural activities, stream channelization, and storm water runoff.) The UAA demonstrated that the fish above and below the wastewater discharge point were the same in quantity and kind despite the unionized ammonia discharged. Levels of unionized ammonia monitored at downstream sites have reached levels known to be acutely and chronically toxic to warmwater fish, according to the literature. However, testimony was uncertain whether any increased toxic effects occurred at any point further downstream. The City testified that there would be no increase in the number of fish due to the water quality improvements because of the habitat impairment. The City urged that the absence of any value from the additional treatment justified the conclusion that the Aquatic Life Class 2 was not attainable. The Division expected improved numbers and kinds of fish in the reach below the discharge.
3. According to a USGS report, 93 percent of the total nitrogen load to Widefield aquifer was from the Colorado Springs Sewage Treatment Plant effluent in 1982.
4. Because of the conflicting and strongly disputed testimony regarding the attainability of the aquatic life use, the Commission conducted extensive deliberations regarding this issue. The importance of this determination was also reflected by substantial testimony from the City of Colorado Springs regarding the costs of additional treatment facilities and the resulting economic impact. At the suggestion of the parties, the Commission suspended its deliberations for several months, to allow discussions among the City, the Division, and EPA, in an effort to achieve a mutually acceptable resolution of the issues presented. These discussions have resulted in a proposal that is acceptable to these three entities, as described below. EPA did not participate as a party and has yet to review or approve a Commission decision, but EPA has participated and offered recommendations in discussions on the package of decisions. After review, the Commission has determined that this proposed resolution is appropriate, and is supportable by the facts presented in the hearing.
5. The City agreed not to contest the Aquatic Life Class 2 classification if a six-year Temporary Modification is provided to enable approximately a six-year period for construction of required advanced waste treatment facilities. These facilities are designed primarily to remove total inorganic nitrogen (TIN) to protect the Widefield Aquifer drinking water quality. This goal will also have the added benefit of protecting aquatic life.

6. An underlying standard of 0.1 mg/L unionized ammonia will be attained at the end of the Temporary Modification. During the Temporary Modification, existing (1989) conditions, as reflected by a 20 mg/L (30-d average) effluent concentration shall be maintained. The duration of the Temporary Modifications is based upon the construction schedule shown in "Advanced Wastewater Treatment Evaluation and Facility Plan Update," dated April 16, 1990 by Brown & Caldwell, Consulting engineers for the City of Colorado Springs. That schedule requires design work during 1990 into early 1991; first phase construction from 1991 into 1993; and second phase construction from 1993 to the end of 1995. Compliance with the unionized ammonia standard is expected when the temporary modification expires on July 30, 1996. This schedule assumes optimum design, scheduling, construction, and start up conditions. This Facility Plan will meet the total ammonia limit for the purpose of protecting aquatic life, and will reduce TIN for the purpose of protecting the drinking water in the Widefield Aquifer. A three-year study on the Widefield aquifer may require the construction of additional facilities beyond those presently anticipated. The Division has indicated that based upon this study, the permit may be modified to include a compliance schedule and an interim limit for TIN to allow the City more time to construct additional nitrogen removal facilities. The justification for the Temporary Modification, as provided in Commission Regulation 3.1.7, is the time required to construct extensive advanced waste treatment facilities to implement measures to achieve compliance with standards. The temporary modification will be reviewed at the triennial review in 1994.
7. The Commission concludes that table value standards for all metals except iron are appropriate since the 85th percentile of ambient dissolved metals data is below a calculated TVS standard at a conservative hardness of 140 mg/l. The 85th percentile of total recoverable iron is 3,200 ug/l and was the basis for that standard.
8. The Water Quality Control Division has indicated that the Colorado Springs discharge permit would be written in the following manner. In lieu of a nitrate effluent limit to protect the drinking water use in the Widefield Aquifer, a total inorganic nitrogen (TIN) limit shall be used for permitting purposes. The exact effluent concentration limit will be derived after a City conducted three-year study is completed concerning the relationship between stream and groundwater concentrations of ammonia, nitrate, and total nitrogen. Unless additional treatment facilities are required as a result of the TIN study, the permit shall require compliance with the TIN effluent limit at the time that the .1 mg/L unionized ammonia standard becomes effective. Recent Colorado Ammonia Model analysis-the assumptions used therein having consensus of support-identified a seasonal ammonia limit of 6 mg/L necessary to protect the .1 mg/L unionized ammonia stream standard. Both a total ammonia effluent limit necessary to protect the aquatic life standard and a TIN limit to protect the drinking water use in the Widefield Aquifer will be included in the permit. Compliance with effluent limits will be based upon a flow weighted average of the two effluent discharge points for all parameters for which such computation is appropriate. The treatment facilities to achieve the presently anticipated standards and effluent limits are expected to cost approximately \$20 million. This estimate is down from the original estimate of \$42 million for nitrification and denitrification facilities at both the trickling filter and the activated sludge portions of the City of Colorado Springs wastewater plant. The Commission concludes that the permitting approach described above is consistent with the stream classifications and water quality standards adopted.

Parties to the Hearing

1. AMAX, Inc.
2. ASARCO, Incorporated & Res ASARCO Joint Venture
3. CF&I Steel Corporation
4. Colorado Division of Wildlife
5. City of Colorado Springs, Water & Wastewater Divisions

6. Board of Water Works of Pueblo
7. City of Pueblo
8. City of Salida

**FINDINGS REGARDING BASIS FOR EMERGENCY RULE SEPTEMBER 11, 1990:**

The Commission held this emergency rulemaking hearing to readopt the classifications and numeric standards for one segment of the Arkansas River Basin to correct typographical errors in the original filing. The affected regulation was amended on June 5, 1990 and was filed within the required timeframes with the Secretary of State's Office and the Office of Legislative Legal Services. The Commission learned shortly after the filings that there was an error on page 12, segment 2, Fountain Creek of the tables.

The Commission finds that the immediate adoption of this regulation is imperatively necessary for the preservation of public health, safety, or welfare and that compliance with normal notice requirements would be contrary to the public interest. Emergency adoption is necessary to assure that the published regulation is consistent with the regulation that the commission adopted, to avoid confusion for the public and to assure that the revised discharge permit for the City of Colorado Springs is consistent with the Water Quality Control Commission's action.

**32.16 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE; FEBRUARY, 1991, HEARING:**

The provisions of 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402 C.R.S. provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted, in compliance with 24-4-103(4), C.R.S., the following statement of basis and purpose.

**Basis and Purpose:**

- (1) On June 5, 1990, following rulemaking hearings on November 6 and 7, 1989 and April 3, 1990, the Commission took final action to adopt numerous revisions to water quality classifications and standards throughout the Arkansas River Basin. On September 10, 1990 the Commission held an emergency rulemaking hearing to correct certain typographical errors in the revisions as filed following the June 5 action, specifically relating to segment 2 of Fountain Creek. To reflect the proper classifications and standards for this segment, the correction of these typographical errors has now been made permanent.
- (2) Section 3.2.5(4) of this regulation contained provisions regarding a "footnote for un-ionized ammonia and nitrate." The purpose of this section of the regulation was to implement a statutory provision that has subsequently been repealed. In addition, the footnotes provided for in this section had previously been deleted from the Arkansas Basin tables. Therefore, to conform with current law and avoid confusion, this section has been deleted.
- (3) Section 3.2.6(3) has been revised to apply new zinc criteria as table value standards in the basin, in place of the table values set forth in Table III of the Basic Standards and Methodologies for Surface Water. The revised zinc criteria are based on new equations that have been determined to be more appropriate, and which have been developed since the Basic Standards and Methodologies for Surface Water were revised.



- (4) A dissolved manganese standard of 50 ug/l was adopted for segment 2 of Fountain Creek even though the 85th percentile of representative data collected from Fountain Creek upstream of the Colorado Springs Wastewater Treatment Plant showed ambient levels of approximately 70 ug/l. This ambient level exceeds the 50 ug/l criterion contained in Table III of the Basic Standards which is meant to protect against objectional aesthetic qualities such as staining of laundry and taste problems in the finished water. Segment 2 was classified for water supply in 1980 based on its hydraulic connection to the Widefield Aquifer which is a major water supply for several municipalities and private residences. There were no surface withdrawals of water from segment 2 for domestic use in 1980 nor are there any at present or anticipated in the future. For these reasons and testimony from Colorado Springs that it is not feasible for their wastewater treatment plant to comply with either a 50 or 70 ug/l stream standard now or in the future, the Commission accepted the proposal that compliance with the standards would be based on maintaining a level below 50 ug/l at a point in the aquifer which should be most sensitive to changes in concentration caused by loadings to segment 2 of Fountain Creek.

**PARTIES TO THE FEBRUARY 3, 1991 RULEMAKING HEARING FOR THE ARKANSAS RIVER BASIN'**

1. City of Colorado Springs
2. Division of Wildlife
3. ASARCO Incorporated & RES-ASARCO Joint Venture

**FINDINGS REGARDING BASIS FOR EMERGENCY RULE FEBRUARY 5, 1991:**

The Commission held this emergency rulemaking hearing to revise the numerical standards for one segment of the Arkansas River Basin. Specifically, the dissolved manganese standard has been removed and other metals standards for Upper Arkansas segment 9 corrected, to reflect the fact that the water supply classification was previously removed from this segment.

The Commission finds that the immediate adoption of this regulation is imperatively necessary for the preservation of public health, safety, or welfare and that compliance with normal notice requirements would be contrary to the public interest. Emergency adoption is necessary because the Commission previously removed the water supply classification from this segment and inadvertently did not correspondingly change the numerical standards, and because the ASARCO discharge permit for a discharge to this segment, which will be affected by these standards, expires in March of this year.

**32.17 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE; AUGUST, 1991, HEARING:**

The provisions of 25-8-202(1), (b) and (2); 25-8-204; and 25-8-402 C.R.S. provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted, in compliance with 24-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE:**

On February 5, 1991, the Commission held an emergency rulemaking hearing to revise the numerical standards for one segment of the Arkansas River Basin. Specifically, the dissolved manganese standard was removed and other metals standards for Upper Arkansas segment 9 corrected, to reflect the fact that the water supply classification was previously removed from this segment. Emergency adoption was deemed appropriate because the Commission previously removed the water supply classification from this segment and inadvertently did not correspondingly change the numerical standards. The factual basis for these revisions is unchanged and the Commission has therefore made them permanent. In addition, the Commission has added an expiration date for the temporary modifications for this segment. The intent of the Commission in adopting the date selected is that expiration correspond with the next triennial review of this segment, at which time it is anticipated that dissolved metals data will be available to set new standards consistent with the criteria of the basic standards.

PARTIES TO THE AUGUST 5, 1991 RULEMAKING HEARING FOR THE UPPER ARKANSAS  
SEGMENT 9 ARKANSAS RIVER BASIN

1. Res-ASARCO Joint Venture

**32.18 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE; NOVEMBER  
2, 1992:**

The provisions of 25-8-202, 204; and 402 C.R.S., provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted, in compliance with 25-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE:**

The Commission adopted temporary modifications for Segment 1b as a result of its November 1989 hearing on the Arkansas River Basin. These temporary modifications are scheduled to expire December 31, 1992. A hearing for the Arkansas River Basin has been scheduled by the Commission for June 6, 1994. The Commission extended the expiration date of the temporary modification to December 31, 1994, so that the Commission will have an opportunity to hear evidence as to whether these temporary modifications continue to be necessary.

PARTIES TO THE NOVEMBER 2, 1992 RULEMAKING HEARING

1. Climax Molybdenum Company
2. City of Arvada
3. Division of Wildlife
4. Hazardous Materials & Waste Management Division, Colorado Department of Health
5. City of Westminster

**32.19 SPECIFIC STATUTORY AUTHORITY AND PURPOSE; MARCH 1, 1993 HEARING:**

The provisions of 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402 C.R.S. provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE:**

The changes to the designation column eliminating the old High Quality 1 and 2 (HQ1, HQ2) designations, and replacing HQ1 with Outstanding Waters (OW) designation were made to reflect the new mandates of section 25-8-209 of the Colorado Water Quality Act which was amended by HB 92-1200. The Commission believes that the immediate adoption of these changes and the proposals contained in the hearing notice is preferable to the alternative of waiting to adopt them in the individual basin hearings over the next three years. Adoption now should remove any potential for misinterpretation of the classifications and standards in the interim.

In addition, the Commission made the following minor revisions to all basin segments to conform them to the most recent regulatory changes:

1. The glossary of abbreviations and symbols were out of date and have been replaced by an updated version in section 3.2.6(2).
2. The organic standards in the Basic Standards were amended in October, 1991, which was subsequent to the basin hearings. The existing table was based on pre-1991 organic standards and are out of date and no longer relevant. Deleting the existing table and referencing the Basic Standards will eliminate any confusion as to which standards are applicable.

3. The table value for ammonia and zinc in the Basic Standards was revised in October, 1991. The change to the latest table value will bring a consistency between the tables in the basin standards and Basic Standards.
4. The addition of acute un-ionized ammonia is meant to bring a consistency with all other standards that have both the acute and chronic values listed. The change in the chlorine standard is based on the adoption of new acute and chronic chlorine criteria in the Basic Standards in October, 1991.

Finally, the Commission confirms that in no case will any of the minor update changes described above change or override any segment-specific water quality standards.

**32.20 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: AUGUST 2, 1993 RULEMAKING HEARING:**

The provisions of 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402, C.R.S. provide the specific statutory authority for adoption of these regulation amendments. The Commission also adopted in compliance with 24-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE:**

The Arkansas River mainstem segment temporary modifications (Segments 2a and 2b) were originally established to accommodate a Superfund cleanup schedule. The Iowa Gulch temporary modification (Segment 9) was to facilitate Asarco treatment process scheduling. Changes in the expiration dates for temporary modifications on these three segments were necessary to facilitate the scheduled rulemaking hearings for the Arkansas Basin without overextending the expiration date beyond the required three-year maximum. The basin hearing is scheduled for November, 1994. New data will likely be presented at that hearing which will result in either altered, new, or eliminated temporary modifications. Extending the current temporary modifications will accommodate that schedule without disrupting the regulatory decisions that are based on the current modifications.

**32.21 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: SEPTEMBER 7, 1993 RULEMAKING HEARING:**

The provisions of 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402, C.R.S. provide the specific statutory authority for adoption of these regulation amendments. The Commission also adopted in compliance with 24-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE:**

On November 30, 1991, revisions to "The Basic Standards and Methodologies for Surface Water", 3.1.0 (5 CCR 1002-8), became effective. As part of the revisions, the averaging period for the selenium criterion to be applied as a standard to a drinking water supply classification was changed from a 1-day to a 30-day duration. The site-specific standards for selenium on drinking water supply segments were to be changed at the time of rulemaking for the particular basin. Only one river basin, the South Platte, has gone through basin-wide rulemaking since these revisions to the "Basic Standards". Through an oversight, the selenium standards was not addressed in the rulemaking for this basin and has since become an issue in a wasteload allocation being developed for segments 15 and 16 of the South Platte. Agreement on the wasteloads for selenium is dependent upon a 30-day averaging period for selenium limits in the effected parties permits. Therefore, the parties requested that a rulemaking hearing be held for the South Platte Basin to addressing changing the designation of the 10 ug/l selenium standard on all water supply segments from a 1-day to a 30-day standard. The Water Quality Control Division, foreseeing the possibility of a selenium issue arising elsewhere in the state, made a counter proposal to have one hearing to change the designation for the selenium standard on all water supply segments statewide. The Commission and the parties concerned with South Platte segments 15 and 16 agreed that this would be the most judicious way to address the issue.

The change in the averaging period may cause a slight increase in selenium loads to those segments which have CPDS permits regulating selenium on the basis of a water supply standard. However, these segments are only five in number and the use will still be fully protected on the basis that the selenium criterion is based on 1975 national interim primary drinking water regulations which assumed selenium to be a potential carcinogen. It has since been categorized as a non-carcinogen and new national primary drinking water regulations were promulgated in 1991 that raised the standard to 50 ug/l.

The Commission also corrected a type error in the TVS for Silver by changing the sign on the exponent fro the chronic standards for Trout from + 10.51 to - 10.51.

**32.22 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE: JUNE, 1994 RULEMAKING**

The provisions of 25-8-202(1)(b) and (2); 25-8-204; and 25-8-402 C.R.S. provide the specific statutory authority for adoption of these regulatory amendments. The Commission adopted, in compliance with 25-4-103(4) C.R.S. the following Statement of Basis and Purpose.

**BASIS AND PURPOSE:**

The Commission has scheduled a rulemaking hearing to reconsider water quality classifications and standards throughout the Arkansas River Basin in April, 1995. For efficient utilization of resources, the Commission has extended the temporary modifications for four specific stream segments from December, 1994 to December, 1995, so that these temporary modifications can be considered along with other issues in the overall Arkansas Basin rulemaking hearing.

**32.23 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE (1995 Silver hearing)**

The provisions of C.R.S. 25-8-202(1)(b) and (2), and 25-8-204; provide the specific statutory authority for adoption of these regulatory amendments. The Commission adopted, in compliance with 25-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE:**

The changes described below are being adopted simultaneously for surface water in all Colorado river basins.

This action implements revisions to the Basic Standards and Methodologies for Surface Water adopted by the Commission in January, 1995. As part of a July, 1994 rulemaking hearing, the Commission considered the proposal of various parties to delete the chronic and chronic (trout) table values for silver in Table III of the Basic Standards. As a result of that hearing, the Commission found that the evidence demonstrated that ionic silver causes chronic toxicity to fish at levels below that established by the acute table values. It was undisputed that silver is present in Colorado streams and in the effluent of municipal and industrial dischargers in Colorado. The evidence also demonstrated that the removal of silver from wastewater can be costly. However, there was strongly conflicting scientific evidence regarding the degree to which silver does, or could in the absence of chronic standards, result in actual toxicity to aquatic life in Colorado surface waters. In particular, there was conflicting evidence regarding the degree to which the toxic effects of free silver are mitigated by reaction with soluble ligands to form less toxic compounds and by adsorption to particulates and sediments.

The Commission concluded that there is a need for additional analysis of the potential chronic toxicity of silver in streams in Colorado. The Commission encouraged the participants in that hearing, and any other interested parties, to work together to develop additional information that will help resolve the differences in scientific opinions that were presented in the hearing. The Commission believes that it should be possible to develop such information within the next three years.

In the meantime, the Commission decided as a matter of policy to take two actions. First, the chronic and chronic (trout) table values for silver have been repealed for the next three years. The Commission is now implementing this action by also repealing for the next three years, in this separate rulemaking hearing, all current chronic table value standards for silver previously established on surface waters in Colorado. Any acute silver standards and any site-specific silver standards not based on the chronic table values will remain in effect. The Commission intends that any discharge permits issued or renewed during this period will not include effluent limitations based on chronic table value standards, since such standards will not currently be in effect. In addition, at the request of any discharger, any such effluent limitations currently in permits should be deleted.

The second action taken by the Commission was the readoption of the chronic and chronic (trout) table values for silver, with a delayed effective date of three years from the effective date of final action. The Commission also is implementing this action by readopting chronic silver standards with a corresponding delayed effective date at the same time that such standards are deleted from the individual basins. The Commission has determined that this is an appropriate policy choice to encourage efforts to reduce or eliminate the current scientific uncertainty regarding in-stream silver toxicity, and to assure that Colorado aquatic life are protected from chronic silver toxicity if additional scientific information is not developed. If the current scientific uncertainty persists after three years, the Commission believes that it should be resolved by assuring protection of aquatic life.

In summary, in balancing the policy considerations resulting from the facts presented in the July 1994 rulemaking hearing and in this hearing, the Commission has chosen to provide relief for dischargers from the potential cost of treatment to meet chronic silver standards during the next three years, while also providing that such standards will again become effective after three years if additional scientific information does not shed further light on the need, or lack of need, for such standards.

Finally, the Division notes that arsenic is listed as a TVS standard in all cases where the Water Supply classification is not present. This is misleading since Table III in the Basic Standards lists an acute aquatic life criterion of 360 ug/l and a chronic criterion of 150 ug/l for arsenic, but a more restrictive agriculture criterion of 100 ug/l. It would be clearer to the reader of the basin standards if, for each instance where the standard "As(ac/ch)=TVS" appears, the standard "As=100(Trec)" is being inserted as a replacement. This change should make it clear that the agriculture protection standard would prevail in those instances where the more restrictive water supply use protective standard (50 ug/l) was not appropriate because that classification was absent.

The chemical symbol for antimony (Sb) was inadvertently left out of the "Tables" section which precedes the list of segments in each set of basin standards. The correction of this oversight will aid the reader in understanding the content of the segment standards. Also preceding the list of segment standards in each basin is a table showing the Table Value Standards for aquatic life protection which are then referred to as "TVS" in the segment listings. For cadmium, two equations for an acute table value standard should be shown, one for all aquatic life, and one where trout are present. A third equation for chronic table value should also be listed. The order of these three equations should be revised to first list the acute equation, next the acute (trout) equation, followed by the chronic equation. This change will also aid the reader in understanding the intent of the Table Value Standards.

**PARTIES TO THE PUBLIC RULEMAKING HEARING JUNE 12, 1995**

1. Coors Brewing Company
2. The Silver Coalition
3. Cyprus Climax Metals Company
4. The City of Fort Collins
5. The City of Colorado Springs

**32.24 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: AUGUST 14, 1995 HEARING**

The provisions of 25-8-202(1)(a), (b) and (2), 25-8-203; 25-8-204; and 25-8-402 C.R.S. provide the specific statutory authority for adoption of these regulatory amendments. The Commission adopted, in compliance with 25-4-103(4) C.R.S. the following Statement of Basis and Purpose.

**BASIS AND PURPOSE**

**INTRODUCTION:**

The amendment to the Classifications and Numeric Standards for Arkansas River Basin, 3.2.0 (5 CCR 1002-8) are the result of the second in a series of comprehensive basin reviews of Colorado's stream classifications and standards. The Commission has established a schedule to continue these comprehensive reviews until all seven basins have undergone a thorough review using current data supplied through the Division's concentrated basin monitoring program, supplemented by USGS and other current data.

In the process of revising the classifications, designations, and standards for the Arkansas basin, the Commission relied heavily on the data and analysis supplied by the Division in its Exhibit 1. Where reference is made to the Division's recommendations in this statement, that reference is to Division Exhibit 1 unless specifically noted otherwise. Several parties to the hearing also supplied data and recommendations which the Commission used in arriving at a final set of classifications and standards and those sources are referenced as appropriate. The organization of this statement first addresses those general issues applicable to most or all segments, followed by a discussion of decisions applicable to individual segments.

**GENERAL ISSUES:**

1. Resegmentation: Extensive renumbering of segments was made throughout the basin due to information which showed that:
  - a. The original reasons for segmentation no longer applied.
  - b. New water quality data showed that streams should be resegmented based on changes in their water quality.

- c. Certain segments could be grouped together in one segment because they had similar quality and uses.

Rather than list here all the resegmentation that was made, the reader is advised to contact the Division if there are questions as to which streams are found in which segment descriptions.

- 2. Wetlands: In March, 1993, the Commission amended the Basic Standards and Methodologies for Surface Water 3.1.0 (5 CCR 1002-8) to include wetlands in the stream classification and standards system for the state. Due to that action, it became necessary to revise the segment description for all segments of the "all tributary" type to clarify that wetlands were also part of the tributary system for a given mainstem segment. All tributary wetlands now clearly carry the same classifications and standards as the stream to which they are tributary as provided for in 3.1.13(1)(e)(iv).
- 3. Conversion to Dissolved Metals: Several segments in the previous version of the classifications and standards contained standards for metals as "total recoverable". The Commission previously determined that standards for most metals should be expressed as dissolved necessitating conversion of those metals for the following segments:

Upper Arkansas, segments 1b (temporary modifications for total recoverable metals deleted), 7, 8a1, 8b, 9 and 11.

Fountain Creek, segment 1.

- 4. Changes Necessary to Comply with "Swimmable" Requirements: The Commission has reached an understanding with EPA regarding the classification and standards necessary to comply with the requirements contained in the federal Clean Water Act that all waters of the nation be suitable for recreation in and on the water. In Colorado, that requirement translates into a Recreation, Class 1, with the 200 fecal coliform/100 ml standard wherever swimming, rafting, etc. are in place or have the potential to occur; Recreation, Class 2, with 200 FC/100 ml standard wherever secondary contact recreation only is practiced, and the existing quality supports a class 1 recreation use and little or no impact to dischargers will result; and Recreation, Class 2, with the 2000 FC/100 ml standard in most other situations. This policy has resulted in recreation classification and/or coliform standard modifications to the following segments:

Upper Arkansas, segments 1b, 2a, 2b, 2c, 3, 5, 7, 8a, 8b, 9, 10, 11, 16b, 17b, 21, and 27.  
Middle Arkansas, segment 3.  
Fountain Creek, segments 1 and 6.  
Lower Arkansas segments 1, 5a, 7, 9a, 9b, 9c, 13.  
Cimarron River, segment 2.

The detailed rationale for these changes is found in WQCD Exhibit 1. A more complete basis and purpose for those segments where these changes were controversial is found in the segment-by-segment discussion which follows these general issues.

- 5. Upgrading of Class 2 Aquatic Life Segments : The Commission decided to adopted upgraded classifications and/or a more complete set of standards for several segments where the Division recommended same based on recent sampling of the biota by the Division of Wildlife (DOW) and the Water Quality Control Division. In general, these segments were previously thought to contain very little aquatic life, and were appropriate for the Class 2, minimal standards application found on most intermittent plains streams. However, the biological data referred to above indicated that a more diverse and rich aquatic life community existed, including threatened species. The Commission has chosen to recognize these facts by the adoption of a higher aquatic life classification and/or a complete set of protective standards. The streams so affected are:

Middle Arkansas.	segment 10; Sixmile Creek
.	segment 18; Rush and Boggs Creeks
Lower Arkansas,	segment 9a; Rush Creek and forks, Antelope Creek, Horse Creek, West May Valley Drain
.	segment 9b; Apache Creek, Breckenridge Creek, Little Horse Creek, Bob Creek, Cheyenne Creek, Wildhorse Creek, Buffalo Creek, Wolf Creek, Big Sandy Creek
.	segment 9c; Rule Creek, Muddy Creek, Caddoa Creek, Clay Creek, Cat Creek, Two Butte Creek, Trinchera Creek, Mustang Creek, Chicosa Creek, Smith Canyon
Cimarron River,	segment 2; North Carrizo Creek, East and West Carrizo Creeks, Cottonwood Creek, Tecolote Creek

6. Arsenic Standard: On all segments where arsenic was shown as "As(ac/ch)=TVS", the Commission changed the standard to read "AS(ch)-100(Trec)". This change was made because the Basic Standards (3.1.0) lists a lower Table Value Standard for agricultural use classification than the chronic aquatic life standard. Where water supply is a classified use, the Table Value Standard of 50 ug/l was retained since it was more restrictive.
7. Manganese Standard: On all segments classified for water supply and aquatic life uses, the total recoverable manganese standard of 1,000 ug/l was stricken. The aquatic life manganese criterion was changed in 1991 revisions to the Basic Standards from total recoverable to dissolved and on these segments a more stringent dissolved manganese water supply standard of 50 ug/l is in place.
8. Mercury Standard: The Basic Standards include the note that the standard for mercury is based on the Final Residual Value (FRV), and that mercury in the total form is the proper way to express that value. Therefore, the Commission decided to change the (TREC) notation for mercury to (tot) in all cases where it appeared.
9. Selenium Standard: The Commission revised the selenium water supply use criterion in the Basic Standards from 10 ug/l (Trec) to 50 ug/l (dis) in 1994. As a result, the chronic aquatic life criterion is now more stringent than the water supply value. In this action, the Commission decided to replace the old 10 ug/l standard with the TVS for aquatic life, namely "Se(ac/ch) = TVS" on all segments assigned a full set of standards for the protection of aquatic life.
10. Use Protected Designation: In a previous rulemaking, the Commission changed the basis for assigning the Use Protected designation by eliminating the automatic assignment where Recreation Class 2 was a classified use. In this comprehensive review of the Arkansas basin classifications, designations, and standards, the Commission revised several segment designations in order to be consistent with that Basic Standards revision. Those segments are:

Middle Arkansas	Segment 3; Arkansas River mainstem through Pueblo.
.	Segment 14; Cucharas River from la Veta to Cuchara Reservoir.
Lower Arkansas	Segment 9a; Various small tributaries to the lower Arkansas River.
.	Segment 13; Various reservoirs and ponds in the lower Arkansas basin.



11. Ambient-Based Standards: The Division presented extensive information in its Exhibit 1 regarding ambient chemical quality of many segments in the basin. In most cases ambient quality was well within the limits prescribed by the Basic Standards for the protection of the various classified uses, prompting the Commission to assign those Table value standards as segment standards. In a few cases, however, ambient quality exceeded the Table Values, yet there was information to suggest that the use was in place nonetheless. The available information lead to the conclusion that there was little hope of reversing the cause for degradation within twenty years. In those instances, the Commission followed the recommendation of the Division to adopt the 85th percentile of the ambient data as the standard (ambient-based standard). Division Exhibit 1 explains the basis for these ambient-based standards in detail, but the following is a list of those segments where such standards have been adopted:

Upper Arkansas, Segments 8b, 10, 11, and 19.  
Middle Arkansas, Segments 5, 7, and 12.  
Fountain Creek, Segments 2, 6.  
Lower Arkansas, Segments 1 and 4.

12. Temporary Modifications: In several instances, the Commission decided to establish temporary modifications to Table Value Standards as an alternative to establishing an ambient-based standard. This practice was followed where there was information to suggest the underlying standard could be met within three years, or where there were questions surrounding the data which could be clarified with additional sampling. The segments where temporary modifications were established or modified are:

Upper Arkansas, Segments 1b, 2b, 2c, 9, 20, and 22.

A more complete rationale for the establishment of these temporary modifications for several of the segments listed above is found in the segment specific discussion which follows this general issues discussion.

13. Full Standards Not Applied to Aquatic Life Segments: EPA raised the issue of why were the full set of inorganic aquatic life protection standards not applied to various segments recommended for aquatic life class 2 classification. These segments typically were assigned only dissolved oxygen, pH, and fecal coliform standards. It was EPA's position that if there were dischargers located on the segments with the potential to produce toxic levels of one or more of the pollutants not contained in the abbreviated list of standards, the aquatic life in the segment could be jeopardized. Rather than adopt the full set of inorganic standards, the Commission was persuaded by the Division's arguments in Exhibit 1 that the abbreviated list of standards was sufficient to protect the rudimentary aquatic life found in these intermittent streams, and that there was a very low probability that any of the few dischargers located on these segments would discharge toxic effluents. The segments where this policy was followed are:

Upper Arkansas, Segments 14 and 26.  
Middle Arkansas, Segments 4 and 15  
Fountain Creek, Segment 4  
Lower Arkansas, Segments 2 and 6b  
Cimarron, Segment 1

14. Water + Fish Organics Not Applied to Aquatic Life Segments: It is the policy of the Commission to establish the Water+Fish organics standards found in the Basic Standards for those Class 2 aquatic life segments where there is evidence that angling for edible species is at least occasionally practiced. No party, including the Division and Dow, produced such evidence at this hearing. Therefore, the Commission has chosen not to assign the Water+Fish organics to any of the Class 2 Aquatic life segments.

15. Ambient-Based Selenium Standards: The Commission decided to establish an ambient-based standard for selenium for Segment 2 of Fountain Creek and Segment 4 of the Lower Arkansas based on testimony of the Division in Exhibit 1. This action was taken with the understanding that the overall issue of the proper selenium standards for the state will be considered in an upcoming hearing, and that the proper methodology for establishing ambient-based selenium standards will also be a subject of that hearing. This action on two Arkansas basin segments is not intended to be definitive on the issue of selenium standards for the state, but rather, is merely a recognition of existing ambient conditions with respect to the current selenium Table Values.
16. Manganese Table Value for Agriculture Not Applied: EPA pointed out that the Commission has not proposed to include the Table Value for manganese of 200 ug/l for all segments in the Arkansas basin. The Commission was persuaded by the Division's arguments in its rebuttal statement that this table value was properly applied only to segments where site-specific information showed that acidic soils were under irrigation which might produce damaging levels of manganese.

**SEGMENT-SPECIFIC ISSUES and DECISIONS:**

UA, Segment 1a, Waters in the Mount Massive and Collegiate Peaks Wilderness Areas: The Commission followed the recommendations of the Division in assigning the Outstanding Waters (OW) designation to all waters in these wilderness areas. Division data showed all antidegradation parameters to be well within Table Values and the wilderness waters provided habitat to ecologically significant species i.e. greenback cutthroat trout and the boreal toad. There was no opposition voiced by the parties or the public.

UA, Segment 1b, East Fork of the Arkansas River: Cyprus Climax Metals Company, a party to this hearing, and the Division resolved differences on this segment through the preparation of a stipulated agreement regarding Water Supply Classification, various standards, and the deletion and addition of various temporary modifications. The Commission concurred with the stipulation and adopted the contents as a result. The Division's rebuttal statement contains a full explanation of the basis for the stipulation.

UA, Segments 2b, 2c, 6, Upper mainstem of the Arkansas River; California, St. Kevin's Gulch: Although not objecting to the specific proposal of the Division, Resurrection Mining asked that certain language in the Division's Exhibit 1 be resided. The Commission declined to make such changes reasoning that the Division had the right to draw up its testimony (Exhibit 1) as it so chose, and that if there was misinformation or errors in that testimony, the Commission would prepare a separate rationale for the action it took on the particular segments in question. For the segments in question by Resurrection, the Commission has not found any reason to prepare a rationale different from that prepared by the Division.

UA, Segment 3, Mainstem of the Arkansas River to Pueblo Reservoir: The Division of Wildlife asked that a pond (slough or oxbow lake) in Florence be separated out for classification to protect several important species which resided there. The Division testified that it considered that body of water part of Segment 3, the mainstem of the Arkansas, and would advise any regulatory program using the stream standards to base decisions affecting the pond on Segment 3 standards. With that understanding, the Commission decided not to separate out the pond, and rely on Division interpretation of Segment 3 description to protect the waterbody.

UA, Segments 19, 20, 21, and 22, Fourmile Creek, Cripple Creek, and Arequa Gulch: The Division, Cripple Creek and Victor Gold Mining (CC&V), agreed on segmentation, classification, temporary modifications, and standards for streams in the Cripple Creek area. "Citizens for Victor!" took a position that the standards should not be changed. Using the water quality data supplied by CC&V and commitments by CC&V to continue to monitor ambient quality, the Division and CC&V presented to the Commission a stipulated agreement on the segmentation, classifications, temporary modifications, and standards. Citizens for Victor! did not sign the stipulation. The Commission carefully considered the two positions and decided that because the TVS underlay the water quality parameters for which temporary modifications would expire and be reviewed in two years, the Division and CC&V proposal was the most appropriate in view of the uncertainties as to exactly how the water chemistry would change upon relocation of the tailings materials and the plans and commitments for operations and reclamation (through the mining and reclamation permit) of CC&V.

MA, Segment 3, Mainstem Arkansas River through Pueblo: The Division, City of Pueblo, Pueblo Waterworks, Pueblo West, and St. Charles Mesa all took various positions regarding the proper designation, recreation classification, aquatic life classification, and fecal coliform standard on the segment. Partial consensus was reached on the recreation classification, but the other issued remained for Commission decision. The Commission concluded that the proper designation was "reviewable" since the segment exhibited class 1 warm water characteristics and the quality was better than table values for all parameters. In addition, the Commission decided that 200 fecal coliforms/100 ml was appropriate since ambient quality met that level and no impact to dischargers would be felt with that standard in place. An additional factor in the coliform decision was the support that St. Charles Mesa had for the standard as additional protection for its water supply. The concerns from Pueblo and Pueblo West regarding possible financial impacts if the coliform standard and reviewable designation were adopted appeared speculative to the Commission.

MA, Segment 18, Warm Water Tributaries to the Arkansas River: Pueblo West took a position opposite that of the Division and DOW regarding the appropriateness of the aquatic life classification for the tributaries included in this segment. Pueblo West argued that not enough information was available to set the full set of standards recommended by the Division and Dow. The Commission felt there was sufficient rationale for the Division's recommendations, and adopted the classifications and standards accordingly. Dow asked that Rush Creek and Boggs Creek be included in Segment 18, and the Commission concurred.

FC, Segment 3, Tributaries to Fountain Creek on NF or USAF Lands: Colorado Springs asserted that the segment description as proposed by the Division was confusing and asked for clarification. After debating several alternatives for describing the segment, the Commission agreed upon a clarifying change.

FC, Segment 6, Monument Creek: The Division, Woodmoor, Donala, and USAF Academy had various positions regarding the appropriate recreation classification, coliform standard, and manganese standard for the mainstem of Monument below the National Forest boundary. As a result of meetings and conversations with the Division prior to the hearing, the parties decided not to oppose the Division's proposals for this segment. These parties intend to undertake additional monitoring to further assess the appropriateness of the standards for this segment. As a result, the Commission adopted the Division's recommendations as explained in Division Exhibit 1 for the segment.

LA, Segment 1, Mainstem Arkansas River to Kansas Line: The City of Pueblo recommended that the fecal coliform standard remain at 2000 FC/100ml for segment 1 because it was protective of the actual recreation uses of the segment and because there was a potential for economic impact to the city through increased wastewater treatment costs. The Division recommended the standard be lowered to 200 FC/100ml because of the agreed upon approach to meeting the "swimmable" goals of the Clean Water Act, because the segment met the 200 coliform limit, and because Pueblo's treatment plant appeared to easily meet low coliform levels in its effluent. After considering the two positions, the Commission agreed with the Division's recommendations and adopted the 200 FC/100ml standard.

The DOW asked that segment 1 (Fountain Creek to Kansas border) be resegmented at Nepesta, with a lowered ammonia standard of 0.06 mg/l (un-ionized) applied to the lower portion of the segment below Nepesta. Dow reasoned that several fish species in decline in the state were found in this reach, and that there was a correlation between high nutrient levels and the disappearance of these species elsewhere in the state. DOW also noted that the ambient levels of ammonia was consistently less than 0.06 mg/l unionized throughout the segment. The Division, City of Pueblo, and CF&I Corporation disagreed with the DOW on the need for an ammonia standard lowered from the existing and proposed standard of 0.1 mg/l. They argued that DOW had not offered proof that ammonia was the cause for decline in these species anywhere, let alone in the lower Arkansas River and that a reduced ammonia standard could cause an economic impact on dischargers to that segment. The Commission shared the DOW's concern over the decline in certain native fish species in the state, but wanted further information regarding the cause for that decline before setting an ammonia standard which might cause financial hardship without clear benefit. Therefore, the Commission decided to continue with the 0.1 mg/l un-ionized ammonia standard with the understanding that in about one year, the Division and DOW would update the Commission on the status of the declining species and their sensitivity to ammonia, and on the true impacts to the dischargers on the segment. Based on the update, the Commission may at that time decide to reconsider the matter or continue with the 0.1 mg/l standard.

**PARTY STATUS LIST/MAILING LIST STATUS AUGUST 14, 1995**

1. The Cripple Creek & Victor Gold Mining Co.
2. Cyprus Climax Metals Co.
3. St. Charles Mesa Water District
4. The City of Pueblo
5. Resurrection Mining Co.
6. Colorado Division of Wildlife
7. City of Colorado Springs Water Resources Dept.
8. The Board of Water Works of Pueblo, Colorado
9. Pueblo West Metropolitan District
10. Citizens for Victor!
11. Woodmoor Water and Sanitation District
12. U.S. Environmental Protection Agency's Region VIII Office
13. CF&I Steel, L.P.
14. Donala Water and Sanitation District, Forest Lakes Metropolitan District and Triview Metropolitan District
15. Westplains Energy
16. Philip Voegtler

**32.25 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; JULY, 1997 RULEMAKING**

The provisions of sections 25-8-202 and 25-8-401, C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. The Commission also adopted, in compliance with section 24-4-103(4) C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE**

The Commission has adopted a revised numbering system for this regulation, as a part of an overall renumbering of all Water Quality Control Commission rules and regulations. The goals of the renumbering are: (1) to achieve a more logical organization and numbering of the regulations, with a system that provides flexibility for future modifications, and (2) to make the Commission's internal numbering system and that of the Colorado Code of Regulations (CCR) consistent. The CCR references for the regulations will also be revised as a result of this hearing.

**32.26 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE:  
SEPTEMBER, 1997 RULEMAKING**

The provisions of sections 25-8-202(1)(a) and (b); 25-8-203; 25-8-204; and 25-8-402, C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. The Commission also adopted, in compliance with section 24-4-103(4) C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE**

This hearing was originally scheduled by CC&V for the principal purpose of eliminating the temporary modifications currently applicable in Cripple Creek and Arequa Gulch, and the adoption of revised surface and ground water standards in this area. Prior to the hearing, CC&V and the Water Quality Control Division stipulated to postpone the hearing to early 1998, because some of the issues involved in the hearing before the Water Quality Control Commission were similar to those to be heard in an adjudicatory hearing on the CC&V discharge permit. In order to conserve hearing resources, the Commission has agreed to schedule a new hearing in September, 1998 to consider the CC&V proposal. In order to preserve the status quo until a new hearing has been completed, the existing temporary modifications in Arequa Gulch and Cripple Creek are extended to December 31, 1998.

**32.27 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: FEBRUARY,  
1998 RULEMAKING**

The provisions of sections 25-8-202(1)(a) and (b); 25-8-203; 25-8-204; and 25-8-402, C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. The Commission also adopted, in compliance with section 24-4-103(4) C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE**

The Colorado Water Quality Control Commission has:

1. added a new segment 7 to Fountain Creek which includes only Willow Springs Pond #1 and Willow Springs Pond #2 and is classified as Aquatic Life Class 2 Warm, Recreation Class 2 and Agriculture with accompanying table value standards;
2. applied the Human Health Based Water + Fish standards for organic chemicals, including 0.8 micrograms per liter ( $\mu\text{g/L}$ ) of tetrachloroethylene, also known as perchloroethylene (PCE), to this new segment 7 of Fountain Creek; and
3. applied a temporary modification of 2.0  $\mu\text{g/L}$  PCE to Willow Springs Pond #1 with an expiration date of June 30, 1999.

The El Paso County Parks Department closed the Willow Springs Ponds to fishing on September 10, 1997 when it became aware that PCE was present in the tissue of two fish species from the ponds and in the water of the ponds. Large numbers of people fished in these ponds and for several years, the Colorado Division of Wildlife has stocked the ponds with fish as part of the "Fishing is Fun" program. Because segment 7 of Fountain Creek has been classified as Aquatic Life Class 2, and these ponds contain fish of a catchable size which are normally consumed by humans and where fishing takes place on a recurring basis, the Human Health Based Water + Fish Standards for organic chemicals, including the 0.8  $\mu\text{g/L}$  standard for PCE, have been applied to segment 7 of Fountain Creek in this rulemaking.

All parties to the rulemaking hearing before the Colorado Water Quality Control Commission, including El Paso County, Schlage Lock Company, the City of Colorado Springs and the Colorado Department of Public Health and Environment's Water Quality Control Division, stipulated to the classifications and standards described above.

In addition, these entities agreed that monitoring to assess compliance with the PCE standard will occur at the following points:

1. in Willow Springs Pond #1, at the approximate center of the pond, the average calculated for the water column consisting of, at a minimum, values from samples collected at the surface, 5 foot and 10 foot depths; and
2. in Willow Springs Pond #2, at the approximate center of the pond, one sample collected at the surface.

#### **PARTIES TO THE RULEMAKING HEARING**

1. El Paso County Parks Department
2. City of Colorado Springs
3. Schlage Lock Company
4. Hazardous Materials and Waste Management Division

#### **32.28 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE (September 1998 Rulemaking)**

The provisions of 25-8-202(1)(a) and (b), (2); 25-8-203; 25-8-204; and 25-8-402 C.R.S. provides the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted, in compliance with 24-4-103(4) C.R.S., the following Statement of Basis and Purpose.

#### **BASIS AND PURPOSE**

1. Upper Arkansas Segment 1b - Temporary Modifications

This segment previously had temporary modifications for manganese, lead and zinc which expired at the end of 1997. In this hearing, Climax Molybdenum Company proposed that ambient quality-based standards be adopted for these parameters on this segment. Based on the evidence presented to the Commission, the expired temporary modifications were reviewed and were readopted to March 31, 2002. This was done to accommodate TMDL studies that are underway on the segment, which the Commission understands will include an opportunity for participation by Climax Molybdenum Company.

2. Upper Arkansas Segments 2b and 2c - Temporary Modifications

Upper Arkansas segments 2b and 2c had temporary modifications (Cd(ch) and Zn(ch) for 2b and Zn(ch) for 2c) that were due to expire at the end of 1998. The quality of water in these segments will be affected by the Superfund remediation efforts on California Gulch, which are not yet complete. Based on evidence presented to the Commission, the existing temporary modifications were extended until March 31, 2002. In addition, the Commission's action clarifies that underlying Zn(ac) standards = TVS will be in place for these segments, with a temporary modification of "no Zn(ac)" until March 31, 2002.

3. Upper Arkansas Segment 9 - Temporary Modifications

This segment, which is the lower portion of Iowa Gulch, had a temporary modification for zinc that was due to expire at the end of 1998. Based on the evidence submitted, the Commission has adopted a revised temporary modification for “Zn(ac/ch) = existing quality, if determined less stringent than TVS”, with a March 31, 2002 expiration date. The adoption of the narrative temporary modification to the underlying zinc standards is in recognition that the only available dissolved zinc data for segment 9 at the time of the hearing was exclusively in the most downstream reach of the segment and may not be representative of the quality found throughout the segment. Dissolved zinc data collected in the late 80's and early 90's in segment 8b which is immediately upstream of segment 9 would tend to indicate that the zinc levels in the upstream portion of segment 9 could be significantly higher than the 85th percentile of the present available data and may exceed TVS values. It is understood that ASARCO, the operator of the Black Cloud Mine which discharges to segment 8b, will collect additional data from several points in segment 9 over the duration of the temporary modification. This should establish the existing quality in segment 9. The Commission hopes that this information will be useful in determining the appropriate standards for the segment.

4. Upper Arkansas Segments 21, 22a and 22b - Site-specific Standards

Segment 22 has been divided into two segments, Arequa Gulch and Squaw Gulch. Arequa Gulch, Segment 22a, was previously classified by the Commission in 1995. At that time, the Commission adopted table value water quality standards and temporary modifications. This hearing was contemplated to review and revise the standards, as necessary.

Arequa Gulch

For this hearing, Cripple Creek and Victor Gold Mining Company (CC&V) proposed site-specific standards for Arequa Gulch based on application of 5 CCR 1002-31.7(1)(b)ii) Ambient Quality-Based Standards, and on 5 CCR 1002-31.7(1)(b)iii) Site-Specific-Criteria-Based Standards. At the outset of the hearing, CC&V withdrew its proposed standards based on 5 CCR 1002-31.7(1)(b)ii) in view of the Division's and EPA's general support for the proposed site-specific-criteria-based standards (with the exception of pH). CC&V emphasized that its election to withdraw the ambient quality-based standards proposal was not intended as an admission by CC&V that the water quality in Arequa Gulch is not natural or irreversible human-induced. The Commission is making no determination as to the “natural or irreversible human-induced quality” issue in this hearing.

The site-specific standards for metals in Arequa Gulch adopted by the Commission in this hearing are based on 5 CCR 1002-31.7(1)(b)iii). However, the use attainability analysis showed that the recalculation procedure resulted in water quality standards that are less restrictive for some parameters than existing water quality. In light of this, CC&V proposed that the standards for Arequa Gulch for aluminum, manganese and zinc be the more restrictive of either the recalculated value or the existing water quality value based on the 85th percentile of the data. More specifically, the aluminum acute and chronic standard of 11,000 µg/L is recalculation-based; the chronic manganese standard of 6,300 µg/L and chronic zinc standard of 800 µg/L are existing quality-based; and the acute manganese standard of 18,500 µg/L and acute zinc standard of 3,500 µg/L are recalculation-based. The Division supported this more conservative proposal and the Commission adopted it.

The Division and EPA opposed establishment of the site-specific-criteria-based standard for pH of 5.5 – 9.0 proposed by CC&V. The Division and EPA stated, however, that they would support a temporary modification of 5.5 – 9.0 with underlying standards of 6.5 – 9.0 in order to provide time for additional and appropriate studies to be performed by CC&V to evaluate CC&V's claim that the 5.5 pH level is protective of the aquatic life use in Arequa Gulch. CC&V agreed with this approach for pH so long as the temporary modification is not construed as a determination that the water quality in Arequa Gulch is not natural or irreversible human-induced. Citizens for Victor! questioned whether temporary modifications could be assigned without deciding that the existing water quality is caused by human-induced conditions.

The Commission believes that adoption of a pH temporary modification with a limited duration is consistent with applicable regulations and appropriate in view of the facts presented. The temporary modification adopted for pH reflects current in-stream water quality. The Commission believes that in these circumstances the adoption of a short-duration temporary modification reflecting that existing quality is an appropriate, conservatively protective course of action. The Water Quality Control Commission recognizes that this action suggests that the existing quality may be human-induced, but the Commission is making no determination on that issue at this time. Rather, the Water Quality Control Commission is reserving any determination as to whether pH levels reflect natural or irreversible human-induced conditions. That issue may need to be resolved in a future hearing addressing this segment, depending on the results of pending studies.

The pH temporary modification recognizes existing water quality while holding out the possibility that these conditions may be correctable in the future if additional studies should demonstrate that a narrower pH range is necessary to protect aquatic life in Arequa Gulch. In the present circumstances, it appears that the appropriate first step toward "eliminating the need for the temporary modification" is completion of the additional studies. In view of the above, the Commission adopted the temporary modification for pH of 5.5 – 9.0 until November 30, 2000, which the Commission believes should provide adequate time to complete the anticipated studies, so that the issue of appropriate pH standards can be resolved.

Citizens for Victor! also argued in this hearing that Arequa Gulch should be bifurcated into two segments, with more restrictive standards applying to the downstream reach. The Commission believes that the evidence submitted in this hearing is not adequate to warrant resegmentation of Arequa Gulch at this time. However, the Commission requests that additional information be developed regarding water quality in different reaches of Arequa Gulch, so that this issue regarding segmentation can be reviewed with better information in the future.

#### Squaw Gulch

Segment 22b is a new segment for Squaw Gulch from its source to the confluence with Cripple Creek. This segment is classified aquatic life cold 2, agriculture and recreation 2, and is designated use-protected. Because flow seldom exists in Squaw Gulch, only physical and biological standards have been adopted. This is consistent with the Commission's action in similar segments elsewhere in Colorado.

#### Cripple Creek (Segment 21)

The temporary modifications adopted in 1995 for iron and manganese for Cripple Creek, Segment 21, have been deleted.



5. Fountain Creek Segments 2a and 2b - Resegmentation and Adoption of Ambient Standards

The mainstem of Fountain Creek from immediately above the confluence with Monument Creek to the confluence with the Arkansas River (formerly Segment 2) was bifurcated into the two segments described below upon analysis of water quality data that showed that differing ambient standards are appropriate for the two segments. The elevation of the water quality above table value standards for the parameters is due to natural and/or uncontrollable sources of pollutants.

Fountain Creek Segment 2a - Mainstem of Fountain Creek from immediately above the confluence with Monument Creek to immediately above the confluence of Steele Hollow Creek. Ambient standards adopted:  $\text{SO}_4 = 330 \text{ mg/l}$ ;  $\text{Se}(\text{ch}) = 6 \text{ ug/l}$ ;  $\text{Fe}(\text{ch}) = 8000 \text{ ug/l}$  (which is the same as the previous iron standard for segment 2).

Fountain Creek Segment 2b - Mainstem of Fountain Creek from immediately above the confluence of Steele Hollow Creek to the confluence with the Arkansas River. Ambient standards adopted:  $\text{SO}_4 = 490 \text{ mg/l}$ ;  $\text{Fe}(\text{ch}) = 5100 \text{ ug/l}$  (Trec);  $\text{Se}(\text{ac}) = 20 \text{ ug/l}$  (no chronic standard).

6. Lower Arkansas Segment 1a, 1b, and 1c - Resegmentation, Adoption of Ambient Standards and Deletion of Special Standards

The mainstem of the Lower Arkansas River from immediately above the confluence with Fountain Creek to the Colorado/Kansas border (formerly Segment 1) was bifurcated into the three segments described below upon analysis of water quality data that showed that differing ambient standards are appropriate for the three segments. The elevation of the water quality above table value standards for the parameters is due to natural and/or uncontrollable sources of pollutants.

Lower Arkansas Segment 1a - Mainstem of the Arkansas River from immediately above the confluence with Fountain Creek to immediately above the Colorado Canal headgate near Avondale, Colorado. Ambient standards adopted:  $\text{SO}_4 = 310 \text{ mg/l}$ ;  $\text{Fe}(\text{ch}) = 1900 \text{ ug/l}$  (Trec);  $\text{Se}(\text{ch}) = 17 \text{ ug/l}$ ; Temporary Modifications for  $\text{Se}(\text{ac})$ ,  $\text{Se}(\text{ch})$  and  $\text{SO}_4 =$  existing quality until 7/1/2008.

Shallow groundwater in the University Park and Fairmount areas of Pueblo has very high concentrations of selenium and sulfate. These two constituents are naturally occurring in the Pierre Shale formation that underlies this portion of Pueblo. While urbanization of the City is an irretrievable human-caused condition that may result in increased water infiltration into and dissolution of selenium and sulfate in the shale, high natural ground water levels may also contribute to the problem. Much of this ground water flow is intercepted by basements in the University Park and Fairmount subdivisions and then in turn it is discharged to the sanitary sewer. The contribution of selenium and sulfates from industrial or other sources to the sewer system is virtually nil compared to the basement source. The Commission has determined that prohibiting this discharge to the sewer system would probably increase the amounts of selenium reaching Fountain Creek and subsequently Arkansas River segment 1a through naturally occurring groundwater flow and would have a substantial and widespread economic and social impact. Approximately 50 percent of the selenium load to the Arkansas River is removed through the serendipitous interception and removal of selenium by the Pueblo Wastewater Treatment Plant. No adverse impacts on beneficial uses from the discharges of selenium or sulfates have been documented. The Commission agrees with the Division and the parties that a long-term temporary modification for selenium (existing quality until 7/1/2008) for this segment is warranted, with underlying standards set at the 85th percentile of ambient conditions. The temporary modification will be reviewed every three years, but will expire in 10 years. This is in recognition that science, technology or nonpoint management may sufficiently advance in the future so that economically reasonable means of reducing selenium become available.

Lower Arkansas Segment 1b - Mainstem of the Arkansas River from immediately above the Colorado Canal headgate to the inlet of John Martin Reservoir. Ambient standards adopted: S04 = 1090 mg/l; Fe(ch) = 1900 ug/l (Trec); Se(ch) = 16 ug/l. Comments received from the City of La Junta expressed concern that the original proposal for this hearing would have relaxed the previous sulfate standard in effect for these waters. The Commission notes that the final standard adopted is somewhat more stringent than the previous standard.

Lower Arkansas Segment 1c - Mainstem of the Arkansas River from the outlet of John Martin Reservoir to the Colorado/Kansas border. Ambient standards adopted: S04 = 2400 mg/l; Mn(ch) = 290 ug/l; Se(ch) = 19 ug/l.

In reviewing the above segments, the Commission elected to delete section 32.5(6) which had established a "variance" to the table value standard for free cyanide for a portion (identical to now segment 1a) of segment 1. It was determined that the basis and purpose for the special standard which was established in 1980 to protect a discharger (no longer in existence) from potential economic harm was no longer valid.

The Commission deleted section 32.5(5) which established site-specific dissolved oxygen (D.O.) standards for segment 1a. This action was taken because certain assumptions made for the justification of the standards in 1981 never materialized and a use attainability analysis (UAA) was not done which meets present day criteria. Because of concerns on the effects of the removal of the D.O. standards for segment 1a on the City of Pueblo whose wastewater treatment plant discharges to segment 1a, the Commission adopted a 3-year temporary modification to the 5 mg/l D.O. standards for segment 1a. It is anticipated that during the 3-year period, the City in consultation with the Division will develop a UAA that will provide information to the Commission at the next rulemaking hearing on the need for site-specific D.O. standards for segment 1a and, if needed, proposed standards.

#### 7. Selenium Standards

The Commission in 32.6(3) revised the table value standards (TVS) for selenium applicable to aquatic life segments in the Arkansas Basin to 20 ug/l acute and 5 ug/l chronic. This change reflects the TVS values in 31.16 of the "Basic Standards" which were adopted in October of 1995.

The Commission applied the new TVS values to most aquatic life segments of the Arkansas Basin that had the previous TVS standards in place. Exceptions were made for segments that showed existing concentrations of selenium exceeding the chronic TVS of 5 ug/l due to natural and/or uncontrollable sources of selenium and there was no evidence of interference with classified uses. These segments are:

Fountain Creek Segment 2a	Se(ch) = 6
Fountain Creek Segment 2b	Se(ac) = 20
Lower Arkansas Segment 1a	Se(ch) = 17 ug/l, temp. mod. of Se(ch) = "existing quality"
Lower Arkansas Segment 1b	Se(ch) = 16
Lower Arkansas Segment 1c	Se(ch) = 19
Lower Arkansas Segment 4	Se(ac) = 20
Lower Arkansas Segment 7	Se(ch) = 9

8. Manganese

The Commission adopted an addition to section 32.6(3) to reflect the new table value aquatic life criteria for manganese. The aquatic life manganese criterion was changed in 1998 revisions to the Basic Standards from the 1,000 ug/l chronic to acute and chronic hardness based equations. On all segments with aquatic life uses with no water supply classification, the dissolved manganese standard of 1,000 ug/l was stricken and replaced with the acute and chronic aquatic life TVS.

9. Changes Necessary to Comply with "Swimmable" Requirements

In continuation of the Commission's efforts comply with the federal Clean Water Act requirements that all waters of the nation be suitable for recreation in and on the water, two existing recreation class 2 waters for which recreational use was documented were upgraded to recreation class 1 and fecal coliform standards of 200 /ml were adopted. The waters upgraded are: Upper Arkansas segment 20 (Fourmile Creek) and Two Buttes Pond below Two Buttes Reservoir (moved from Lower Arkansas segment 9a to segment 10).

10. Water + Fish Organics Applied to Aquatic Life Segments

It is the policy of the Commission to establish the water + fish organics standards found in the Basic Standards for those class 2 aquatic life segments where fish of a catchable size and which are normally consumed are present and there is evidence that angling takes place on a recurring basis. Based on these criteria and the testimony submitted, the Commission has chosen to assign the water + fish organics standards to the following class 2 aquatic life segments:

Cimarron River segment 2

In addition, the Commission has added several lakes and reservoirs to existing class 1 segments which would afford them the protection of the water + fish standards. These waters were identified by the Colorado Division of Wildlife as public waters which are stocked with gamefish which are regularly caught and consumed. Most of these waters had previously been included under the all tributaries, lakes and reservoirs characterization of class 2 aquatic life segments that had the minimal set of standards. That classification and standards are intended to be applied to intermittent streams or reservoirs with only rudimentary aquatic life. The segments to which waters were added, and the waters are:

Middle Arkansas segment 3	Valco Ponds, Fountain Lake
Fountain Creek segment 7	Monument Lake, Pikeview Reservoir, Prospect Lake, Quail Lake
Lower Arkansas segment 5b	Long Canyon Reservoir
Lower Arkansas segment 10	Two Buttes Pond
Lower Arkansas segment 13	American Crystal Reservoir, Chancellor Ponds, Hugo Ponds, Jim Davis Pond, John Robertson Ponds, Kinney Pond, Mayhem Pond, Olney Springs Pond, Otero Pond, Pursley Ponds, Ranch Reservoir, Reynolds Gravel Pit, Ryan Ponds, and Turks Pond
Cimarron River segment 2	Fitzler Pond

The Water Quality Control Division originally proposed also moving Runyon Lake from Middle Arkansas segment 4 (which has an aquatic life warm 2 classification) to Middle Arkansas segment 3. The Commission has decided to leave Runyon Lake in segment 4 at this time, until additional information is available regarding what species are present in this segment and whether they are reproducing.

The City of Colorado Springs opposed the inclusion of Prospect Lake into Fountain Creek Segment 7. In 1988, the Division believed that the Lake, which is an entirely man-made recreational facility, did not constitute "waters of the state" since it was filled entirely with potable water and apparently qualified for the exemption found in C.R.S. 25-8-103(19), i.e. "waters withdrawn for use until use and treatment have been completed." In 1997, the City began to pump a limited amount of ground water into the Lake. It has not been demonstrated to the Commission that there is no connection between the Lake and the underlying aquifer. Currently, the Division does believe that Prospect Lake constitutes "waters of the state."

Based on the evidence presented, the Commission believes that the Lake is waters of the state and should be included within Segment 7. The Commission is aware of the fact that both fishing and swimming activities have occurred in the Lake over the past 20 years without any observed adverse impacts on either use. The Lake has been filled with chlorinated potable water and receives additional chlorination for protection of the swimming use. The Commission acknowledges that it will take time to determine the current ambient water quality of the Lake, re-examine the appropriate classifications for the Lake, and determine what measures, if any are required to achieve attainment of the standards. In addition, the City may need time to properly budget for the implementation of these measures. Given these facts and the indication of no current concerns associated with the uses of the Lake, the Commission granted the City's request for a temporary modification of "existing quality" which will expire on March 31, 2002. During that time, the City and Division will undertake such steps as are necessary to re-examine the appropriate use classifications for the Lake, and determine what measures must be taken to ensure that the standards are attained.

11. Full Standards Not Applied to Aquatic Life Segments

The Commission reviewed information regarding aquatic life class 2 segments where the full set of inorganic aquatic life protection standards have not been applied. These are generally often dry segments with only rudimentary aquatic life. The Commission's policy has been that rather than adopt the full set of inorganic standards for these segments, standards for dissolved oxygen, pH and fecal coliform are protective. The Commission has upheld the previous decisions that there is a very low probability that any of the few dischargers located on these segments would discharge toxic effluents. The segments where this policy was followed are:

Upper Arkansas Segment 14  
Upper Arkansas Segment 26  
Middle Arkansas Segment 4  
Middle Arkansas Segment 15  
Fountain Creek Segment 4  
Lower Arkansas Segment 2  
Lower Arkansas Segment 6b  
Cimarron River Segment 1

12. Ambient Quality-Based Standards

The Commission reviewed information regarding use attainment on segments in the Arkansas River basin with standards less restrictive than the table value standards. The following segments were reviewed and the existing ambient standards were deemed appropriate all due to natural and/or man-induced irreversible causes:

Upper Arkansas Segment 11	pH = 5, Al(ac)=750, Fe(ch) = 2000(Trec)
Upper Arkansas Segment 19	Mn (ch) = 99
Middle Arkansas Segment 5	Cd(ch) = 0.65
Middle Arkansas Segment 7	Cd(ch) = 0.85
Middle Arkansas Segment 12	Fe(ch) = 1100(Trec)
Lower Arkansas Segment 4	Fe(ch) = 1200(Trec)

Lower Arkansas Segment 5a	Cd(ch) = 2
Lower Arkansas Segment 11	Mn(ch) = 90

The Commission also instituted ambient standards on the following segments based on the determination that elevation of the water quality above table value standards for the parameters was due to natural and/or uncontrollable sources of pollutants.

Fountain Creek Segment 2a	Se =6
Fountain Creek Segment 2b	S04 = 490, Fe(ch) = 5100(Trec), Se(ac) =20
Lower Arkansas segment 1a	S04= 310, Fe(ch) = 1900(Trec), Se(ch) =17
Lower Arkansas segment 1b	S04 = 1090, Fe(ch) = 1900(Trec), Se(ch) =16
Lower Arkansas segment 1c	S04 = 2400, Mn(ch) = 290(dis), Se(ch) =19
Lower Arkansas Segment 4	Se(ac) = 20
Lower Arkansas Segment 7	Se(ch) = 9

#### **PARTY STATUSLIST STATUS FOR THE SEPTEMBER, 1998 RULEMAKING HEARING**

1. Hazardous Materials and Waste Management Division
2. Resurrection Mining Company
3. Climax Molybdenum
4. Cripple Creek & Victor Gold Mining Company (CC&V)
5. Citizens for Victor!
6. ASARCO Incorporated
7. City of Colorado Springs
8. City of Pueblo
9. Board of Water Works of Pueblo, Colorado
10. U.S. Fish and Wildlife Service
11. Colorado Division of Wildlife
12. US EPA Region VIII

#### **32.29 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE; SEPTEMBER, 2000 RULEMAKING**

The provisions of sections 25-8-202(1)(b) and (2); 25-8-204; and 25-8-402, C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. The Commission also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

#### **BASIS AND PURPOSE**

In this rulemaking the Commission extended the expiration date for the existing temporary modification for pH for Arequa Gulch, segment 22a of the Upper Arkansas River, to July 31, 2001, so that this temporary modification does not expire prior to a separate rulemaking hearing scheduled for February, 2001. The February, 2001 rulemaking will consider a proposal by the Cripple Creek & Victor Gold Mining Company to revise the pH standards for Arequa Gulch.

#### **32.30 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE; FEBRUARY, 2001 RULEMAKING**

The provisions of sections 25-8-202(1)(b) and (2); 25-8-204; and 25-8-402, C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. The Commission also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

## **BASIS AND PURPOSE**

The Commission established site-specific metals standards for Arequa Gulch in 1998. At that time Cripple Creek and Victor Gold Mining Company also requested that the Commission adopt a site-specific standard for pH of 5.5 – 9.0. The Commission instead adopted a temporary modification of 5.5 – 9.0 and asked that “additional and appropriate studies be performed by CC&V to evaluate CC&V’s claim that the 5.5 pH level is protective of aquatic life in Arequa Gulch.” Since the 1998 hearing, CC&V performed additional biological studies and a Whole Effluent Toxicity study. CC&V submitted the study results to the Division and to the parties to this hearing. The parties and the Division agreed to postpone the Commission hearing on this matter to the Arkansas River Basin triennial rulemaking hearing scheduled for November 12, 2001. In order to accommodate these objectives, the Commission extended the temporary modification to June 30, 2002 in order to give the Division, the parties, and CC&V additional time to evaluate the study results; give EPA additional time to consult with its Office of Research and Development; identify additional studies, if necessary; and implement such studies.

### **PARTIES TO THE RULEMAKING HEARING**

1. Cripple Creek and Victor Gold Mining Company
2. Sierra Club and Mineral Policy Center
3. U.S. EPA Region VIII

#### **32.31 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: MAY, 2001 RULEMAKING**

The provisions of sections 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402, C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. The Commission also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

## **BASIS AND PURPOSE**

As a result of a July, 2000 rulemaking hearing the Commission adopted numerous revisions to the Basic Standards and Methodologies for Surface Water, Regulation #31 (5 CCR 1002-31). These revisions included revisions to the table values in Tables II and III, which are intended to apply to site-specific waters in the various river basins wherever the Commission has adopted “table value standards”. In this current rulemaking, the Commission adopted revisions to section 32.6(3) of this regulation to conform with the revisions to the Basic Standards.

#### **32.32 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE: NOVEMBER, 2001 RULEMAKING**

The provisions of §25-8-202(1)(a) and (b); §25-8-204; and §25-8-402 C.R.S. provide specific statutory authority for the amendments to this regulation adopted by the Commission. The Commission also adopted, in compliance with §24-4-103(4), C.R.S., the following statement of basis and purpose.

### **Basis and Purpose**

The Colorado Water Quality Control Commission established site-specific metals standards for Arequa Gulch, Segment 22a of the Upper Arkansas River Basin in 1998. In the September, 1998 Classification and Standards Rulemaking Hearing for the Arkansas River Basin, the Commission decided to continue the temporary modification of pH for Arequa Gulch of 5.5 to 9.0. The temporary modification was effective until November 30, 2000. This expiration date was later extended by the Commission to June 30, 2002. In the Statement of Basis, Specific Statutory Authority and Purpose, the Commission adopted this temporary modification “in order to provide time for additional and appropriate studies to be performed by CC&V to evaluate CC&V’s claim that the 5.5 pH level is protective of the aquatic life use in Arequa Gulch”.

Since the 1998 rulemaking, CC&V performed additional studies on Arequa Gulch including biological studies, a supplemental Use Attainability Analysis, and reviewed appropriate scientific literature. Based on the results of these studies and consideration of appropriate scientific literature, CC&V proposed to replace the existing temporary modification of 5.5 to 9.0 and underlying standard of 6.5 to 9.0 for pH in Arequa Gulch, and to add a site-specific standard of 5.5 to 9.0. Based on its review of the CC&V studies and scientific literature, the Division recommended an alternative proposal of removing the existing temporary modification and underlying standard, and adding a permanent site-specific standard of 6.0 to 9.0 with a new temporary modification of 5.6 to 9.0 that will be effective until December 31, 2007. This alternate proposal was accepted by CC&V. The Division's proposal for a new underlying standard of 6.0 to 9.0 was based upon the last 3 years of pH data because they have remained relatively constant over this period of time. The lower 15th percentile of these data showed a value of 6.06. Further, the Division's review of the scientific literature show that a pH of 6.0 to 9.0 would be protective of pH-sensitive species that would be expected to be found in Arequa Gulch. [Basic Standards, §31.7(1)(b)(iii)]. The Division's proposal for a temporary modification of 5.6 to 9.0 was based upon the lowest observed value in the last 3 years of data (5.6) and was intended to allow time to determine if the trend of improving pH will continue and thus resolve any uncertainty about the appropriateness of the underlying standard. [Basic Standards, §31.7(3)].

The Commission adopted the Division's alternative proposal and requested that CC&V continue its monitoring efforts during the term of the temporary modification. If, during this time the pH conditions in Arequa Gulch do not improve or show a declining trend, a rulemaking hearing to re-evaluate the temporary modification may be requested. CC&V committed to continue its efforts with regard to its operation of an experimental passive treatment system in Arequa Gulch at the upcoming Arkansas River basin-wide hearing in July of 2002.

#### **PARTIES TO THE RULEMAKING HEARING**

1. Cripple Creek & Victor Gold Mining Company
2. Sierra Club and Mineral Policy Center
3. U.S. Environmental Protection Agency's Region VIII

#### **32.33 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE, DECEMBER, 2001 RULEMAKING**

The provisions of sections 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402, C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. The Commission also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

#### **BASIS AND PURPOSE**

In the spring of 2001, the Commission established a new schedule for major rulemaking hearings for each of its water quality classifications and standards regulations, as part of the triennial review process. As part of the transition to this new schedule, in order to facilitate an efficient and coordinated review of all water quality standards issues in this basin, in this hearing the Commission decided to extend the existing temporary modifications of water quality standards previously adopted for segments in this basin, so that such temporary modifications will not expire prior to the next scheduled major rulemaking hearing for this basin. the Commission decided to extend the existing temporary modifications of water quality standards previously adopted for segments in this basin, so that such temporary modifications will not expire prior to the next scheduled major rulemaking hearing for this basin.

**32.34 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; JULY, 2002  
RULEMAKING**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE**

**A. Resegmentation**

Some renumbering and/or creation of new segments was made in the basin due to information which showed that: a) the original reasons for segmentation no longer applied; b) new water quality data showed that streams should be resegmented based on changes in their water quality; and/or c) certain segments could be grouped together in one segment because they had similar quality and uses. The following changes were made:

Upper Arkansas segment 12a:	Chalk Creek
Upper Arkansas segment 14a:	Big Red, Little Red, Rush and Hardscrabble Creeks
Upper Arkansas segment 15:	Newlin Creek from Upper Arkansas segment 14
Middle Arkansas segment 4a:	Wildhorse Creek
Middle Arkansas segment 4b:	Rock, Salt and Peck Creeks from Middle Arkansas segment 4d
Middle Arkansas segment 4c:	Chico Creek and tributaries from Middle Arkansas segment 4d
Middle Arkansas segment 7:	Graneros and North Muddy Creeks from Middle Arkansas 4d
Middle Arkansas segment 11:	Turkey Creek from Lower Arkansas 2
Middle Arkansas segment 17:	North Apache Creek from Lower Arkansas 2
Middle Arkansas segment 18a:	Boggs Creek
Fountain Creek segments 2a, 2b:	Segment boundary moved from Steele Hollow Creek to "a point immediately above the Highway 47 Bridge"
Fountain Creek segments 7a, 7b:	Divide former segment 7 into 7a and 7b
Lower Arkansas 3b:	Dry tributaries from Lower Arkansas 3a
Lower Arkansas 4:	Lorencito Canyon from Lower Arkansas segment 6
Lower Arkansas segment 5b:	Lake Dorothee from Lower Arkansas 2
Lower Arkansas 9a:	Cheyenne Creek, Buffalo Creek from Lower Arkansas 9b
Lower Arkansas 13:	Ramah Reservoir from Lower Arkansas 2

**B. Selenium**

The Commission adopted table value standards for selenium and temporary modification of existing ambient quality for selenium for

Middle Arkansas segments 2, 3, 4a, 5, 10, 12, and 18a

Fountain Creek segments 2b and 6

Lower Arkansas segment 1a, 1b, 1c, 3a, 4, 7, 9a, 9c, and 11

The temporary modifications were adopted pursuant to section 31.7(3)(a)(iii) of the Basic Standards regulation, based on the fact that there is significant uncertainty as to the appropriate underlying selenium standard for these segments.



C. Recreation Classifications/Fecal Coliform and E. Coli Standards

The biological standards were updated to include the dual standards for E. coli and fecal coliform, which were adopted by the Commission in the 2000 revisions to the Basic Standards. As stated in the statement of basis and purpose for the Basic Standards revisions, the Commission intends that dischargers will have the option of either parameter being used in establishing effluent limitations in discharge permits. In making section 303(d) listing decisions, in the event of a conflict between fecal coliform and E. coli data, the E. coli data will govern. The Commission believes that these provisions will help ease the transition from fecal coliform to E. coli standards.

In a continuation of the Commission's efforts to comply with the requirements contained in the federal Clean Water Act that all waters of the nation should be suitable for recreation in and on the water (known as the "swimmable" goal), the Commission reviewed all Recreation Class 2 segments. In Colorado, the "swimmable" goal translates into Recreation Class 1a, with the 200/100 ml fecal coliform and 126/100 ml E. Coli standard, and Class 1b with the 325/100 ml fecal coliform and 205/100 ml E. coli standard. Class 1a indicates waters where primary contact uses have been documented or are presumed to be present. Class 1b indicates waters where no use attainability analysis has been performed demonstrating that a recreation class 2 classification is appropriate. To maintain the existing Recreation Class 2 with the 2000/100 ml standard on a segment, it must be shown that there is minimal chance that a Recreation Class 1 activity could exist (e.g. ephemeral or small streams that have insufficient depth to support any type of Recreation Class 1 use or very restricted access).

A recreation class 1a classification of a segment is not intended to imply that the owner or operator of property surrounding and waterbody in a segment would allow access for primary contact recreation. The application of recreation classifications to state waters pursuant to these provisions does not create any rights of access on or across private property for the purposes of recreation in or on such waters. A recreation class 1a classification is intended to only affect the use classification and water quality standards of a segment, and does not imply public or recreational access to waters with restricted access within a segment.

For segments changing to recreation Class 1a because no information was available about actual recreational uses, the last paragraph of section 31.6(2)(b) will apply to future changes to the recreation classification where a proper showing is made through a use attainability analysis that a recreation Class 2 classification is appropriate, without application of the other downgrading criteria in this section. Moreover, the Commission is relying in part on the testimony from EPA that completion of a use attainability analysis showing that a lower recreation classification is appropriate satisfies applicable downgrading criteria. Based on these factors, the Commission intends that in a future rulemaking hearing, the test for adopting a recreation Class 2 classification would be the same as if it had been considered in this hearing.

The following segments with existing Recreation Class 1 classifications were changed to Class 1a:

Upper Arkansas segments 1a, 3, 9, 10, 12a, 12b, 13, 15, 16a, 16c, 17a, 17c, 18, 19, 20, 23, 24, 25 and 27.

Middle Arkansas segments 1, 2, 5, 7, 8, 11, 13, 16, 17, 18a, and 18b

Lower Arkansas segments 3a, 5a, 5b, 8, 10, 11, and 12

Based on the information received that showed Recreation Class 1a uses are in place or are presumed to be present in at least a portion of the segment, the Commission changed the following segments from Class 2 to Class 1a with a 200/100 ml fecal coliform and 126/100 ml E. coli standard:

Upper Arkansas segments 1b, 2a, 2b, 2c, 5, 7, 8a, 8b, 11, 14a, 14b, 16b, 17b, 21, and 26

Middle Arkansas segments 3, 4a, 4b, 4c, 4d, 6, 9, 10, 12, 14, and 15

Fountain Creek segments 1, 2a, 2b, 3, 4, 6, and 7b  
Lower Arkansas segment 1a, 1b, 1c, 4, 6, 7, 9a, 9b, 9c, and 13  
Cimarron segment 2

Based on evidence presented, the Commission has changed the following from Recreation Class 2 to Recreation Class 1b:

Fountain Creek segment 7a

The following segments retained their Recreation Class 2 classification with 2,000/100mL fecal coliform and 630/100 ml E. coli standard after sufficient evidence was received that a Recreation Class 1a or 1b use was unattainable.

Upper Arkansas segments 6, 22a and 22b  
Fountain Creek segment 5  
Lower Arkansas segment 2 and 3b  
Cimarron segment 1

D. Aquatic Life Segments without Full Standards

The Commission reviewed information regarding Aquatic Life Class 2 segments where the full set of inorganic aquatic life protection standards have not been applied. Generally, these are dry segments with only rudimentary aquatic life. The Commission's policy has been that rather than adopt the full set of inorganic standards for these segments, standards for dissolved oxygen, pH and fecal coliform provide sufficient protection.

Segments where investigation showed that fish populations were present were upgraded with the addition of the full suite of inorganic standards. These segments are:

Upper Arkansas segment 14a  
Upper Arkansas segment 26  
Middle Arkansas segment 4a  
Middle Arkansas segment 4b  
Middle Arkansas segment 4c

E. Revised Aquatic Life Use Classifications

The Commission reviewed information regarding existing aquatic communities. The following segment's aquatic life classifications were upgraded from aquatic life class 2 to aquatic life class 1 based on information presented that showed diverse aquatic communities in these segments.

Middle Arkansas segment 4c  
Lower Arkansas segment 7

F. Ambient Quality-Based Standards

There are several segments in the Arkansas River Basin that contain ambient standards. Ambient standards are adopted where natural or irreversible man-induced conditions result in water quality levels higher than table value standards. EPA had requested that the Commission review the information that is the basis for these standards as well as any new information that would indicate whether they are still appropriate, need to be modified, or should be dropped.

The Division reviewed the information about ambient water quality levels and provided testimony that justified revising the ambient standards on the following segments:

Upper Arkansas segment 8b: Zn(ch)  
Upper Arkansas segment 10: Cu(ch)  
Upper Arkansas segment 19: Mn(ch)  
Upper Arkansas segment 22a: Zn(ch)  
Fountain Creek segment 2a: SO<sub>4</sub>, Fe(ch), Se(ch)  
Fountain Creek segment 2b: Fe(ch), SO<sub>4</sub>  
Fountain Creek segment 6: Fe(ch)  
Lower Arkansas segment 1a: Fe(ch), SO<sub>4</sub>  
Lower Arkansas segment 1b: Fe(ch), SO<sub>4</sub>  
Lower Arkansas segment 1c: Mn(ch), SO<sub>4</sub>  
Lower Arkansas segment 4: Fe(ch)  
Lower Arkansas segment 11: Mn(ch)

Ambient standards were removed from the following segments due to new data and/or changes to the basic standards which indicated ambient standards were no longer appropriate:

Middle Arkansas segment 5: Cd(ch) and Zn(ch)  
Middle Arkansas segment 7: Cd(ch)  
Middle Arkansas segment 12: Fe(ch)  
Fountain Creek segment 6: Mn(ch)  
Lower Arkansas segment 5a: Cd(ch)

G. Temporary Modifications

There were several segments where temporary modifications that reflect current ambient conditions were adopted or retained. Temporary modifications were set to expire on 12/31/07 to coincide with the next triennial review. The segments and the constituents are:

Upper Arkansas segment 1b: Pb(ch), Zn(ch)  
Upper Arkansas segment 2b: Cd(ch), Zn(ch)  
Upper Arkansas segment 2c: Zn(ch)  
Upper Arkansas segment 3: Pb(ch), Zn(ch)  
Upper Arkansas segment 5: Zn(ch)  
Upper Arkansas segment 7: Zn(ch)  
Upper Arkansas segment 22a: pH  
Middle Arkansas segment 10: Zn(ch)  
Middle Arkansas segment 13: F. Coli  
Middle Arkansas segment 18a: Zn(ch)  
Fountain Creek segment 1: F. Coli  
Lower Arkansas segment 1a: SO<sub>4</sub>  
Lower Arkansas segment 3: Fe(ch)  
Lower Arkansas segment 9c: Fe(ch)

The Commission rejected an argument by Colorado Springs that the fecal coliform temporary modification for Fountain Creek segment 1 should be specified as based on uncertainty. An additional list of segments with temporary modifications for selenium can be found at section B, above.

H. Organic Standards

The organic standards were updated to include changes adopted by the Commission in the 2000 revisions to the Basic Standards (see 31.11 in Regulation No. 31). "Water + Fish" organic standards are presumptively applied to all Aquatic Life Class 1 streams which also have a Water Supply classification, and are applied to Aquatic Life Class 2 streams which also have a Water Supply classification, on a case-by-case basis. The "Fish Ingestion" organic standards are presumptively applied to all Aquatic Life Class 1 streams which do not have a Water Supply classification, and are applied to aquatic life class 2 streams which do not have a Water Supply classification, on a case-by-case basis.

The following segments have been updated with the organic standards:

Fountain Creek segment 7a: Water + Fish Organics  
Fountain Creek segment 7b: Fish Ingestion Organics  
Lower Arkansas segment 1b: Water + Fish Organics  
Cimarron River segment 2: Fish Ingestion Organics  
I. Water Supply Classification

These segments had the Water Supply classification added to them. The associated water supply standards will now apply to segments:

Upper Arkansas segment 20  
Fountain Creek segment 7a

J. Modification of Water Supply Standards

Water supply standards were modified to conform to the changes made by the Commission in the 2000 revisions to the Basic Standards (see Regulation No. 31 at 31.11(6)). The Commission modified the water supply standards for iron, manganese, and sulfate that are based on secondary drinking water standards (based on esthetics as opposed to human-health risks). The numeric values in the tables were changed to Fe(ch) = WS (dis), Mn(ch) = WS (dis), and SO<sub>4</sub> = WS. These abbreviations mean that for all surface waters with an actual water supply use, the less restrictive of the following two options shall apply as numerical standards, as discussed in the Basic Standards and Methodologies at 31.11(6): either (i) existing quality as of January 1 2000; or (ii) Iron = 300 µg/L (dissolved); Manganese = 50 µg/L (dissolved); Sulfate = 250 mg/L (dissolved). For all surface waters with a "Water Supply" classification that are not in actual use as a water supply, no water supply standards are applied for iron, manganese or sulfate, unless the Commission determined as the result of a site-specific rulemaking hearing that such standards are appropriate.

K. Agriculture Standards

Numeric Standards to protect Agricultural Uses were adopted for the following segments:

Upper Arkansas segments 14b  
Middle Arkansas segments 4d, and 15  
Fountain Creek segment 4  
Lower Arkansas segments 2, 3a and 6  
Cimarron segment 1

Numeric standards to protect livestock watering were adopted for the following segment:

Upper Arkansas segment 22b

L. Other Site-Specific Revisions

The Commission corrected several typographical and spelling errors, and clarified segment descriptions.

In addition, the following site-specific issues were addressed:

Upper Arkansas segment 2b, 2c and 6: The quality of the water in these segments will be affected by the ongoing Superfund remediation efforts in the California Gulch drainage basin. Current conditions of these segments were evaluated but the Commission chose to make no changes to the aquatic life classifications and numeric metals standards at this time, except for extending the expiration date of the temporary modifications. The State, EPA and private parties are currently engaged in the Superfund effort to address site-wide water quality issues, including setting cleanup goals. After such goals are established, it may be appropriate to hold a site-specific hearing to address standards and classifications for these segments.

Upper Arkansas segment 22a: For Upper Arkansas segment 22a (Arequa Gulch) in addition to adopting an E. coli standard, the Commission revised acute and chronic manganese standards and the chronic zinc standard.

The revised manganese standards ( $Mn(ac) = 5,903 \text{ ug/l}$  and  $Mn(ch) = 3,674 \text{ ug/l}$ ) are based on a recalculation procedure performed by Cripple Creek & Victor Gold Mining Company, taking into account modifications recommended by EPA Region 8 staff. The recalculation methodology provides new values for manganese toxicity, which are intended to protect the aquatic macroinvertebrate community in Arequa Gulch. The Commission declined to adopt the Division's recommendation that a chronic manganese standard be set at the 85th percentile of the most recent three years of data, which the Division considered to be representative of current quality. The Commission notes that most commonly a five-year period of record has been used when assessing the current ambient quality of a water body. In addition, the Commission believes that there is uncertainty as to the factors influencing ambient metals concentrations in Arequa Gulch over the last few years. In view of these considerations, and because EPA has stated that the recalculation procedure used in this instance is acceptable, the Commission has chosen to adopt both acute and chronic standards for manganese based on that recalculation, rather than on an ambient quality level. The equations resulting from the recalculations are:

$$Mn(ac) = e^{(0.3331[\ln(\text{hardness})] + 6.6874)}$$

$$Mn(ch) = e^{(0.3331[\ln(\text{hardness})] + 6.2134)}$$

For zinc, the Commission has adopted a new chronic standard of 600 ug/l, based on the 85th percentile of the last five years of available data, to replace the previous ambient-quality based standard. The Commission chose to base the zinc standard on the last five years of data, rather than on the three-year period recommended by the Division, due to uncertainty as to the factors influencing ambient metals concentrations in Arequa Gulch over the last few years, and because a five-year period of record has most commonly been used when assessing the current ambient quality of a water body. Because there was no new zinc toxicity data available, no proposal was submitted in this hearing by Cripple Creek & Victor Gold Mining Company regarding use of a recalculation procedure to derive a zinc standard. Therefore, the Commission has made no changes to the previous recalculation based acute zinc standard adopted in 1998.

Fountain Creek segments 2a and 2b: On both segments, the Division proposed to adopt underlying table value standards with temporary modifications based on existing ambient quality. In response, Colorado Springs proposed to adopt standards based on existing ambient quality. In its rebuttal, the Division of Wildlife proposed moving the boundary between segments 2a and 2b further south to Highway 47 because selenium concentrations increase below this point. The Commission concurs in this resegmentation as more representative of the water quality in this portion of Fountain Creek.

The Commission set an ambient standard for selenium of 8 µg/l for segment 2a. The EPA has previously approved an ambient standard for the former segment 2a. In regards to segment 2b, the Commission established a temporary modification based on uncertainty of 23 µg/l, with an underlying table value standard. Other standards for these segments remain unchanged.

Fountain Creek segment 3: The selenium standard was corrected.

Fountain Creek segment 7: This segment consisted of six lakes. The Division proposed that all lakes in the segment receive a classification of water supply and that the recreational use classification be upgraded from class 2 to 1a.

Colorado Springs opposed the recreation class 1a classification for Pikeview Reservoir and submitted a use attainability analysis to support retaining the class 2 classification. Similarly, El Paso County opposed the recreation class 1a classification for the Willow Springs Ponds. The Division and EPA agreed that there is no existing primary contact recreation for these lakes, but believed that there is a potential for primary contact. They recommended a recreation class 1b classification, which was adopted by the Commission. Pikeview Reservoir and the Willow Springs Ponds are now resegmented as segment 7a.

Colorado Springs provided testimony that Prospect and Quail Lakes are not currently used, or anticipated to be used in the future, as a source of domestic water supply. Similar evidence was submitted by the Division for Monument Lake. Therefore, the “fish ingestion” organics standards, rather than “water + fish” standards, appropriately apply to these lakes, which are now resegmented as segment 7b.

Lower Arkansas segment 1a: The site specific dissolved oxygen standard was removed. This standard became unnecessary because of the recently adopted mixing zone policy.

Lower Arkansas segment 3a: The Commission determined that the tributaries identified in the Cedar Ridge proposal are significantly different from the physical characteristics of the mainstem of the Apishapa River. As a result, the Commission created a new segment to more accurately reflect the significant changes in use, physical characteristics and water quality characteristics between the dry tributaries and the mainstem of the Apishapa River in the vicinity of Aguilar, Colorado. The new segment is entitled Segment 3a of the Lower Arkansas Basin. The Commission assigned the classifications of aquatic life class 2, water supply, recreation and agriculture and applied appropriate standards to this new segment.

#### PARTIES/MAILING LIST STATUS FOR JULY, 2002 RULEMAKING HEARING

1. El Paso County
2. City of Colorado Springs
3. Colorado Division of Wildlife
4. Cedar Ridge, L.L.C.
5. Climax Molybdenum Company
6. The Cripple Creek & Victor Gold Mining Company
7. City of La Junta
8. ASARCO Incorporated

9. The City of Pueblo
10. Resurrection Mining Company
11. Pikes Peak Area Council of Governments
12. The City of Aurora, Colorado acting by and through its Utility Enterprise
13. Sierra Club and Mineral Policy Center
14. U.S. EPA Region VIII

### **32.35 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; FEBRUARY, 2003 RULEMAKING**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

#### **BASIS AND PURPOSE**

Water Supply Standards: The Commission modified water supply standards to conform with the classification changes made in the July 2002 Rulemaking Hearing for Upper Arkansas segment 20 and Fountain Creek segment 7a. The Commission also modified other water supply criteria, in Upper Arkansas segment 2a, that were inadvertently missed in the July 2002 Hearing.

General cleanup: The Commission adopted  $Cl_2$  (ch)=0.011 to Lower Arkansas segment 3a and Lower Arkansas segment 4. These criteria were missing.

#### Site Specific Issues:

Lower Arkansas segment 1a : Lower Arkansas Segment 1a currently has temporary modifications for selenium and sulfate that are based on existing water quality. In the 2002 RMH, only selenium was adopted based on uncertainty despite the fact that the source of both of these parameters were shown to be of the same source and to be occurring for natural reasons as proposed by the City of Pueblo in the 1998 rulemaking hearing. The Commission adopted the sulfate temporary modification based on uncertainty to be consistent with the selenium temporary modification.

Lower Arkansas segment 2b: The Commission subdivided Segment 2 of the Lower Arkansas River into 2 segments placing King Arroyo into Segment 2b.

The City of La Junta expressed concerns about the application of numeric agricultural standards during the triennial review in July, 2002; but could not object, having certain knowledge that livestock drink from the Arroyo. However, the City did not realize that a separate set of standards could be established for livestock watering when crop irrigation did not take place. The urgency for a site-specific review related to the timing of the City's NPDES permit expiration and renewal process in 2003. The City's permit (effective January, 1999) had limits protective of the Lower Arkansas River based on the stream standards for Segment 1b. The City's permit was also based on King Arroyo standards if those standards were more stringent. The City believed that application of crop-irrigation standards on King Arroyo had high potential for requiring significant additional wastewater treatment for a non-existent use. Nothing in this proposal was intended to change the application of Lower Arkansas River, Segment 1b in the City's discharge permit nor to provide relief to the City for meeting any other standards based on established uses. The application of livestock-watering-only standards on King Arroyo provided sufficient protection for its established uses without unnecessarily causing more stringent limitations in the City's permit.

Since there are water bodies within segment 2 used for crop irrigation, King Arroyo is not one of them. The Commission has left those waterbodies in segment 2a and created a new segment 2b for King Arroyo to classify this segment as Agricultural Use - Livestock Water only. District 17 Water Commissioner, Don Taylor, provided a statement to this effect.

Lower Arkansas Segments 3b and 3c: The Commission determined that certain tributaries in Segment 3a—Frio Canyon Creek, Borrego Canyon Creek, Munoz Canyon Creek, Williams Canyon Creek, and Castro Canyon Creek, including all tributaries, from their sources to their confluences with the Apishapa River - were not in the appropriate segment. Specifically, the Commission determined that the use, physical characteristics and water quality characteristics of these tributaries are significantly different from those of the mainstem of the Apishapa River. As a result, the Commission moved these tributaries to Segment 3b to more accurately reflect the significant changes in use, physical characteristics and water quality characteristics between the dry tributaries and the mainstem of the Apishapa River in the vicinity of Aguilar and Gulnare, Colorado. Additionally, the Commission determined that Jarosa Canyon Creek and Rito Seco (a tributary to Jarosa Canyon Creek) did not have the same use, physical characteristics and water quality characteristics as the mainstem of the Apishapa in Segment 3a or the dry tributaries in Segment 3b. Therefore, the Commission created a new segment, Segment 3c, to contain Jarosa Canyon Creek, including all tributaries, from the source to the confluence with the Apishapa River. The Commission assigned to Segment 3c the classifications of aquatic life cold class 2, water supply, recreation 1a and agriculture and applied appropriate standards.

#### PARTIES TO THE RULEMAKING HEARING

1. Evergreen Operating Corporation
2. City of La Junta
3. Cedar Ridge, L.L.C
4. Colorado Division of Wildlife
5. El Paso County

#### **32.36 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; NOVEMBER, 2004 RULEMAKING**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

#### **BASIS AND PURPOSE**

In this rulemaking hearing, the Commission adopted temporary modifications to the copper acute and chronic standards based upon uncertainty for the portion of Monument Creek from the Tri-Lakes WWFT to the confluence with Fountain Creek (segment 6 of the Fountain Creek sub-basin). The numeric value of the temporary modification  $Cu(ac) = 36.4 \text{ mg/L}$  and  $Cu(ch) = 24.8 \text{ mg/L}$  is based upon a conservative estimate of a water effect ratio ("WER") of 2.

The temporary modification is applied only to the portion of the segment below the WWTF, since all analytical work has focused on the effects of mixing effluent with the receiving water, a condition that exists only below the WWTF. The expiration date is set to coincide with the next basin wide review and rulemaking hearing.

This temporary modification is based upon uncertainty regarding the appropriateness of the underlying standard, specifically the level of water quality necessary to protect aquatic life. Increased copper discharges from the WWTF have necessitated investigation into both the sources of copper in the Tri-Lakes system and the appropriateness of the standard. Tri-Lakes will continue its investigation including source control, water effect ratios and biotic ligand modeling to determine an appropriate WER. Consistent with the sampling plan for quarterly and monthly data collection, the seasonal aspects of potential copper toxicity and the downstream extent of the WER will also be explored. The study will be completed in time for the basin-wide Issues Formulation Hearing in November 2006. If the study is completed before that time, a hearing may be requested before the basin-wide hearing.

#### PARTIES/MAILING LIST STATUS FOR NOVEMBER, 2004 RULEMAKING HEARING



1. Tri-Lakes Joint Use Wastewater Treatment Facility
2. Colorado Division of Wildlife

**32.37 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; DECEMBER 12, 2005 RULEMAKING, EFFECTIVE MARCH 2, 2006**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE**

In the process of digitally mapping the segments in the Arkansas Basin, the Division discovered errors and inconsistencies between segment descriptions. To resolve these issues the Commission adopted changes in the following segment descriptions:

Upper Arkansas segments 12a, 12b and 14a  
Middle Arkansas segments 13 and 18b  
Fountain Creek segment 5  
Lower Arkansas segment 9b

**32.38 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: January 2007 Rulemaking Hearing; Final Action February 12, 2007; Revisions effective July 1, 2007**

The provisions of section 25-8-202(1)(b), 25-8-204; 25-8-402, C.R.S., provide the specific statutory authority for adoption. The Commission also adopted, in compliance with section 24-4-103(4) C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE:**

The Commission revised the basin-wide temperature standards as part of the 2007 rulemaking hearing. These changes clarify the numeric temperature standards that will be in effect until the basin-wide rulemaking hearing in June of 2012. At that time, the Commission intends to consider segment specific temperature standards for all segments with aquatic life uses.

The Commission applied 17° C as an interim chronic standard for small, high elevation streams that are likely to be habitat for brook trout and cutthroat trout. First, second and third order streams are defined at section 31.5 in the Basic Standards.

For the remainder of the cold water segments, the Commission left the current 20° C in place as an interim standard with the clarification that it is a chronic standard. The existing 30° C criterion for warm water segments was left in place as an interim standard with the clarification that it is also to be applied as a chronic standard.

**PARTIES TO THE RULEMAKING HEARING**

1. The Temperature Group (City of Aurora, City of Boulder, Colorado Springs Utilities, Littleton/Englewood Wastewater Treatment, The Metro Wastewater Reclamation District, Colorado Mining Association, Colorado Rock Products Association, Tri-State Generation & Transmission Assn., Xcel Energy, Denver Water, Northern Colorado Water Conservancy District, Southeastern Colorado Water Conservancy District)
2. City of Grand Junction
3. City of Loveland
4. City of Pueblo
5. Metro Wastewater Reclamation District

6. City of Aurora
7. City of Boulder
8. Colorado River Water Conservation District
9. Colorado Wastewater Utility Council
10. Bear Creek Watershed Association
11. Chatfield Watershed Authority
12. Mountain Coal Company, L.L.C.
13. Northern Colorado Water Conservancy District
14. Colorado Rock Products Association
15. Littleton/Englewood Wastewater Treatment Plant
16. Northwest Colorado Council of Governments
17. Southeastern Colorado Water Conservancy District
18. Colorado Mining Association
19. Colorado Division of Wildlife
20. South Platte Coalition for Urban River Evaluation
21. City and County of Denver
22. City of Colorado Springs and Colorado Springs Utilities
23. City of Westminster
24. Board of Water Works of Pueblo
25. Coors Brewing Company
26. City and County of Broomfield
27. Centennial Water and Sanitation District
28. Plum Creek Wastewater Authority
29. Climax Molybdenum Company
30. Cripple Creek & Victor Gold Mining Company
31. Tri-State Generation and Transmission Association
32. Xcel Energy
33. Sky Ranch Metropolitan District No. 2
34. Parker Water and Sanitation District
35. CAM-Colorado and CAM Mining LLC
36. Aggregate Industries – WCR, Inc.
37. Grand County Water and Sanitation District #1, Winter Park Water and Sanitation District, Winter Park West Water and Sanitation District and Fraser Sanitation District
38. Trout Unlimited and Colorado Trout Unlimited
39. Colorado Contractors Association
40. United States Environmental Protection Agency, Region 8
41. Hot Springs Lodge and Pool
42. Denver Regional Council of Governments

**32.39 STATEMENT OF BASIN SPECIFIC STATUTORY AUTHORITY AND PURPOSE MARCH 2007  
RULEMAKING REGARDING AMMONIA STANDARDS; EFFECTIVE SEPTEMBER 1, 2007**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE:**

At the June 2005 Basic Standards rulemaking, the Commission adopted the 1999 Update of Ambient Water Quality Criteria for Ammonia (US EPA, Office of Water, EPA-822-R-99-014, December 1999) as the numeric ammonia criteria for Colorado. These new criteria are in the form of total ammonia rather than un-ionized ammonia. The Commission modified the ammonia equations in 35.6(3) and footnotes to conform to Regulation # 31.

Consistent with the approach outlined in the Basic Standards statement of basis and purpose, the Commission provided flexibility for dischargers faced with the possibility of new, more stringent effluent limits.

Temporary modifications were generally set to expire on 12/31/11. This date is set far enough in the future to allow facilities to consider their specific circumstances and to develop a plan regarding how to proceed, yet soon enough to assure that facilities are making progress in developing facility plans. For those that feel the underlying standards are inappropriate, time is allowed to study the receiving water and develop a proposal for an alternate standard. For those that need time to plan, finance or construct new facilities, time is allowed to develop that facility improvement plan.

The intent of the Commission is that in general, the permits for dischargers to warm water segments, that need time to achieve compliance, will contain schedules of compliance in the next renewal. The Commission understands that such a compliance schedule may include time to complete necessary sub-tasks or milestones. For example, this might include time to do facility planning, make financing arrangements, pre-design, design, construction, startup and commissioning.

There are several opportunities to revisit the duration of the temporary modifications before they expire on 12/31/2011. For those segments in the Upper and Lower Colorado Basins (Regulations # 33 and 37), persons can come forward at the Issues Formulation hearing in November 2007 with their intent to seek a site-specific adjustment in the June 2008 hearing. For those segments in the South Platte Basin (Regulation # 38), persons can come forward at the Issues Formulation hearing in November 2008 with their intent to seek a site-specific adjustment in the June 2009 hearing. In addition, all of these temporary modifications will be subject to the Annual Temporary Review process which will have hearings in December 2009 and 2010.

The Commission intends that the temporary modifications adopted in this rulemaking are “type i” temporary modifications, with specific exceptions where a demonstration was made that there is uncertainty regarding the appropriateness of the underlying standard.

The Commission has adopted “type iii” temporary modifications for Middle Arkansas, segment 4c with an expiration date of 12/31/11.

The issues raised in this rulemaking hearing have highlighted the need to clarify the relationship between the temporary modification tool and the compliance schedule tool in Colorado’s water quality management program. The Commission requests that the Division consider this issue further, with input from interested stakeholders, and bring forth any suggested revisions/clarifications for the 2010 Basic Standards rulemaking.

In the meantime, because of the Commission’s previously expressed concerns regarding the unique and widespread challenges associated with compliance with the new ammonia standards, the Commission’s intent with respect to temporary modifications and compliance schedules regarding these new ammonia standards is as follows:

- Where a demonstration has been made that a period of time longer than the end of 2011 will be required for compliance with the new ammonia standards, the Commission has approved an appropriate site-specific temporary modification expiration date.

- For segments where the 12/31/11 expiration date applies, and for which discharge permit renewals may be issued prior to that date, it is the Commission's intent, consistent with section 31.14(15)(a), that the Division have the authority to issue compliance schedules that may not result in full attainment of the ammonia standard prior to expiration of the renewal permit. Such compliance schedules should be issued only where the Division determines that a specific demonstration has been made that additional time is needed to attain the standard. In such cases, the Commission anticipates that permits would include milestones that assure reasonable progress toward attainment of the standard.

#### **PARTIES TO THE RULEMAKING**

1. Boxelder Sanitation District
2. Estes Park Sanitation District
3. City of Pueblo
4. The City of Boulder
5. The Metro Wastewater Reclamation District
6. The Colorado Wastewater Utility Council
7. The Paint Brush Hills Metropolitan District
8. The Grand County Water & Sanitation District #1, the Winter Park West Water & Sanitation District, the Fraser Sanitation District and the Winter Park Water & Sanitation District
9. Mountain Water & Sanitation District
10. The Town of Gypsum
11. The City of Grand Junction
12. City and County of Broomfield
13. Centennial Water & Sanitation District
14. Town of Erie
15. The City of Fort Collins
16. Plum Creek Wastewater Authority
17. The City of Sterling
18. Eastern Adams County Metropolitan District
19. The City of Littleton
20. Two River Metro District
21. H Lazy F Mobile Home Park
22. Rock Gardens Mobile Home
23. Blue Creek Ranch
24. The City of Greeley
25. US EPA

#### **32.40 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; JUNE 2007 RULEMAKING; ADOPTED AUGUST 13, 2007; EFFECTIVE DECEMBER 31, 2007**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

#### **BASIS AND PURPOSE**

##### **A. Waterbody Segmentation**

Fountain Creek Segment 1b was created for Severy Creek and all tributaries from the source to a point just upstream of where US Forest Service Road 330 crosses the stream.

Fountain Creek Segment 3b was created for Bear Creek and all tributaries from the source to a point upstream of GPS coordinates N3847682, W 10454917 (this location is at elevation 8,200 feet above sea level at a 250° angle and 3,000 feet from the trailhead of the Mount Buckhorn Trail off High Drive).

Some renumbering and/or creation of new segments in the basin was made due to information which showed that: a) the original reasons for segmentation no longer applied; b) new water quality data showed that streams should be resegmented based on changes in their water quality; and/or c) certain segments could be grouped together in one segment because they had similar quality and uses. The following changes were made:

- Middle Arkansas basin segment 4e to include Golf Course Wash.
- Lower Arkansas basin segment 8 to include the Canadian River.

## **B. Revised Aquatic Life Use Classifications**

The March 11, 2003 Rulemaking noted concerns relative to re-segmentation of several waters from Lower Arkansas segment 3a to segment 3b. These include Frio Canyon Creek, Borrego Canyon Creek, Munoz Canyon Creek, Williams Canyon Creek, and Castro Canyon Creek. The effect of this action was to move these drainages from a segment that was assigned a full suite of Aquatic Life Use-based numeric standards into segment 3b, which, although still assigned an Aquatic Life Use classification, is assigned Agricultural Use and Water Supply Use-based numeric criteria for inorganic and metal parameters. Noting that these tributaries to the Apishapa River exhibited ephemeral flow regimes at that time, EPA questioned whether the cumulative discharges of production water from Coal Bed Methane production wells might alter instream flows such that an aquatic community might be supported. The Division, at the permittee's request, has inactivated the CDPS permit that had been issued for production water discharge to segment 3b. In the absence of discharge, the Commission has determined that there is not adequate potential for aquatic life use to justify the adoption of Aquatic Life Use-based numeric standards for Lower Arkansas segment 3b.

A "Water + Fish" qualifier was added for Lower Arkansas segment 1c. The qualifier was added based upon the presence of the tail-water fishery below John Martin Reservoir at the upper terminus of the segment.

## **C. Recreation Classifications and Standards**

As part of the Basic Standards hearing of 2005, recreation classifications were revised into four new classifications. The Commission reviewed the previous segment classifications (1a, 1b and 2) and determined the appropriate new classification based on classification criteria presented as part of the Basic Standards Hearing, use attainability analyses or other basis. In addition, during the 2005 Basic Standards Hearing, the transition from the use of the fecal coliform standard to *E. coli* standard was completed. Fecal coliform criteria were deleted from the numeric standards.

Based on the information that showed existing primary contact recreation use is in place in at least a portion of the segment, the Commission converted those segments previously classified as Recreation Class 1a to Recreation Class E with a 126/100 ml *E. coli* standard. Those segments currently classified as Recreation Class 1b were converted to Recreation Class P with a 205/100 ml *E. coli* standard. Based on review of existing Use Attainability Analyses showing that primary contact recreation is not attainable, the following segments were converted to Recreation Class N classification with 630/100 ml *E. coli* standard:

Upper Arkansas segments 6, 22a and 22b  
Lower Arkansas segments 2a and 3b  
Cimarron segment 1

## **D. Addition of Water Supply Use Classification and Standards**

Based on review of information regarding the location of public water supplies, WS classification and standards were not added to any segments in this rulemaking hearing.

**E. Agriculture Standards**

Numeric standards to protect the Agricultural Uses in Upper Arkansas, segment 6 were considered by parties at this rulemaking hearing. The Commission chose not to adopt these standards at this time because they are not attainable and there are no current agriculture uses present on this segment. The Commission anticipates that this issue will be revisited in 2012 if the current uses change.

**F. Changes to Antidegradation Designation**

**Outstanding Waters:** The Outstanding Water (OW) designation was added to the newly defined Severy Creek (Fountain Creek segment 1b) and the new Bear Creek (Fountain Creek segment 3b) segments based upon information developed by Trout Unlimited documenting the presence of genetically isolated populations of cutthroat trout in both streams.

**Decoupling Cold 2 and UP:** As part of the Basic Standards hearing of 2005, the Commission eliminated the direct linkage between cold-water aquatic life class 2 and the use-protected designation. Therefore, all cold-water aquatic life class 2 segments that are use-protected were reviewed to determine if that designation is still warranted. The following segments are now reviewable:

Upper Arkansas River segments 8a, 17b, 21a and 21b

**Decoupling Aquatic Life Warm 2 and UP.** Also as part of the Basic Standards hearing of 2005, the Commission decided that the presence of a warm water class 2 classification would still be a presumptive basis for applying a use-protected designation; however, that presumption can be overcome if there is data showing that the water is of high quality. Therefore, the Commission reviewed all warm water class 2 segments to determine if the use protected designation is still warranted. The following segments are now reviewable:

Upper Arkansas River segment 26  
Fountain Creek segments 2a, 2b, 4, and 6

**G. Ambient Quality-Based Standards**

There are several segments in the Basins that are assigned ambient standards. Ambient standards are adopted where natural or irreversible man-induced conditions result in exceedances of table value standards. The Commission reviewed the information that is the basis for these standards as well as any new information that would indicate whether they are still appropriate, need to be modified, or should be dropped.

The Commission adopted ambient-based standards for selenium for the following segments:

Middle Arkansas segment 3,  
Middle Arkansas, segment 4a

The Commission deleted ambient-based standards for the following segments:

**Upper Arkansas segment 8b, Iowa Gulch:** This standard, Zn(ch)=430, was previously disapproved by EPA and the Commission did not feel that the ambient standard was appropriate. An investigation of the causes and sources should be conducted through the TMDL Program.

**Fountain Creek segment 2a:** The Commission deleted the ambient-based total recoverable iron standard for this segment because the current ambient concentrations of iron are meeting table value standards even though they are close to exceeding the table value standard. This segment had an ambient standard for iron previously, and the Commission acknowledges that an ambient standard may be appropriate in the future, based on updated monitoring information.

## H. Aquatic Life Metals Standards

New Table Value Standards: As part of the Basic Standards hearing of 2005, new zinc and cadmium table values were adopted. The acute and chronic zinc and cadmium equations in 32.6(3) were modified to conform to Regulation No. 31.

## I. Arsenic Standards

For arsenic, each use (except recreation) has different arsenic ("As") value, including Fish Ingestion (FI) and Water Plus Fish (W+F). In different combinations of uses, different values become the most limiting. In order to eliminate the confusion, the Commission added the operative value to the individual segments. The following matrix displays the most limiting arsenic criteria.

### Most Limiting Arsenic Criteria

Depending on the Possible Combinations of Uses and Qualifiers

If the Use Classifications were:	These Arsenic Standards were Applied (dissolved unless otherwise noted)
Class 1 aquatic life, water supply	As(ac) = 340, As(ch) = 0.02 (trec)
Class 2 aquatic life (water + fish standards), water supply	As(ac) = 340, As(ch) = 0.02 (trec)
Class 2 aquatic life (no fish ingestion standards), water supply	As(ac) = 340, As(ch) = 0.02 – 10 (trec)
Class 1 aquatic life	As(ac) = 340, As(ch) = 7.6 (trec)
Class 2 aquatic life (fish ingestion standards)	As(ac) = 340, As(ch) = 7.6 (trec)
Class 2 aquatic life (no fish ingestion standards), agriculture	As(ac) = 340, As(ch) = 100 (trec)
Agriculture only	As(ch) = 100 (trec)
Water supply only	As(ch) = 0.02 – 10 (trec)

## J. Uranium Standards

The previous basin-wide Uranium standard of 30 pCi/l was changed to 30 ug/l in order to conform with June 2005 changes to Regulation No. 31. Available water quality data indicates that several segments in the Middle and Lower Arkansas basin exceed the newly assigned standard. Although no temporary modifications for Uranium were assigned in these basins, due to the absence of dischargers who might be expected to discharge significant concentrations of Uranium, the Commission expects the Division to include any such waters in its proposed 2008 List of Impaired Waters and Monitoring and Evaluation Lists, as appropriate.

## K. Temporary Modifications

Language was added to subsection 32.6(2) [or 36.6(2)] to explain the terms "type i" and "type iii" temporary modifications.

All temporary modifications were re-examined to determine whether to delete the temporary modification or to extend them, either as existing, or with modifications of the numeric standards. Because of the June 2005 changes to Regulation No. 31, temporary modifications were not automatically extended if non-attainment persisted.

The following segments had temporary modifications that are being removed because current ambient conditions are meeting the applicable underlying standards:

Upper Arkansas Segment 1b: Pb(ch)=6.5 and Zn(ch)=137, Expiration date of 12/31/07.  
Upper Arkansas Segment 3: Pb(ch)=1.8 and Zn(ch)=101, Expiration date of 12/31/07.

Upper Arkansas Segment 5: Zn(ch)=78, Expiration date of 12/31/07  
Upper Arkansas Segment 7: Zn(ch)=115, Expiration date of 12/31/07.  
Upper Arkansas Segment 22a: pH=5.6-9.0, Expiration date of 12/31/07.  
Fountain Creek Segment 1a: F.Coli=229/100 mL, Expiration date of 12/31/07.  
Fountain Creek Segment 2b: Se(ch)=23, Expiration date of 12/31/07.  
Fountain Creek Segment 6: Se(ch)=10, Expiration date of 12/31/07.  
Middle Arkansas Segment 2: E. coli=349/100 mL, Expiration date of 12/31/07.  
Middle Arkansas Segment 3: Se(ch)=11.7, Expiration date of 12/31/07.  
Middle Arkansas Segment 4a: Se(ch)=710, Expiration date of 12/31/07.  
Middle Arkansas Segment 14: Se(ch)=6, Expiration date of 12/31/07.  
Middle Arkansas Segment 18a: Zn(ch)=542, Expiration date of 12/31/07.  
Middle Arkansas Segment 13: F. coliform=336, Expiration date of 12/31/07.  
Lower Arkansas Segment 2a: Fe(ch)=2179, Expiration date of 12/31/07  
Lower Arkansas Segment 3a: Fe(ch)=2500 and Se(ch)=52, Expiration date of 12/31/07  
Lower Arkansas Segment 9c: Fe(ch)=4875, Expiration date of 12/31/07.

The following segments have new or extended temporary modifications. As specified in 61.8(2)(c)(iii) (the Permit Rules, Regulation No. 61), where a temporary modification has been adopted, limits in permits are to be set based on the temporary modification and the provision strictly limiting the loading from the facility does not apply. These temporary modifications will be subject to review and rulemaking for the two years before their scheduled expiration in order to track progress towards the full attainment of water body standards and uses.

Upper Arkansas segment 2b: Seasonal type (i) temporary modifications were adopted: Cd(ch)=1.34 and Zn(ch)=649, expiration date = 12/31/2012. These type (i) temporary modifications are intended to allow time to see if the remediation at the California Gulch Superfund Site improves water quality. The need for these temporary modifications will be reviewed in 2010 and 2011.

Upper Arkansas segment 2c: Seasonal type (i) temporary modifications were adopted: Cd(ch)=0.79 and Zn(ch)=225, expiration date = 12/31/2012. These type (i) temporary modifications are intended to allow time to see if the remediation at the California Gulch Superfund Site improves water quality. The need for these temporary modifications will be reviewed in 2010 and 2011.

Upper Arkansas segment 3: Cd(ch)=0.48, expiration date = 12/31/2012. This type (iii) temporary modification is intended to allow remediation. The need for these temporary modifications will be reviewed in 2010 and 2011.

Upper Arkansas segment 8b: Cd(ch)=1.2, Pb(ch)=6, and Zn(ch)=295, expiration date = 12/31/2012. This temporary modification is intended to allow Res-ASARCO JV, Black Cloud Mine, adequate time to assess any potential changes to its discharge permit. The need for these temporary modifications will be reviewed in 2010 and 2011.

Upper Arkansas segment 12a: Zn(ch)=120, expiration date = 12/31/2012. This temporary modification is intended to allow Young Life Frontier Ranch, DOW-Chalk Cliffs Fish Hatchery, Christian Mission and Mt. Princeton Hot Springs adequate time to assess any potential changes to discharge permits. The need for these temporary modifications will be reviewed in 2010 and 2011.

Fountain Creek segment 1a: Se(ch)=8.7, expiration date = 12/31/2012. This temporary modification is intended to allow City of Colorado Springs, Castle Concrete Co., Colorado Springs Utility and Manitou Springs adequate time to assess any potential changes to discharge permits. The need for this temporary modification will be reviewed in 2010 and 2011.



Fountain Creek segment 2a: Cu(ac/ch)=current condition, expiration date = 12/31/2009. This temporary modification is intended to allow the Security Sanitation District adequate time to assess any potential changes to its discharge permit. The need for this temporary modification will be reviewed in 2007 and 2008.

Fountain Creek segment 3a: Pb(ch)=2.1, expiration date = 12/31/2012. This temporary modification is intended to allow Cherokee WSD adequate time to assess any potential changes to its discharge permit. The need for this temporary modification will be reviewed in 2010 and 2011.

Fountain Creek segment 6: Cu(ac/ch)=current condition, expiration date = 12/31/2009. This temporary modification is intended to allow CSU, Coperstone, City of Colorado Springs, Sun Construction and Tri-Lakes WWTF adequate time to assess any potential changes to discharge permits. The need for this temporary modification will be reviewed in 2007 and 2008.

Middle Arkansas segment 4b: Se(ch)=5.6, expiration date of 12/31/2012.  
Middle Arkansas segment 5: Se(ch) =18.7, expiration date of 12/31/2012.  
Middle Arkansas segment 6: Se(ch)=39.0, expiration date of 12/31/2012.  
Middle Arkansas segment 9: Se(ch)=8.6 expiration date of 12/31/2012.  
Middle Arkansas segment 10: Se(ch)=15.0, expiration date of 12/31/2012.  
Middle Arkansas segment 12: Se(ch)=29.5, expiration date of 12/31/2012.  
Middle Arkansas segment 18a: Se(ch)=179.0, expiration date of 12/31/2012.  
Lower Arkansas segment 1a: Se(ch) =existing quality (type i), SO<sub>4</sub> =existing quality (type i) expiration date of 12/31/2012.  
Lower Arkansas segment 1b: Se(ch) =17, expiration date of 12/31/2012.  
Lower Arkansas segment 1c: Se(ch) =22.5, expiration date of 12/31/2012.  
Lower Arkansas segment 2a: Fe(Trec)=2179, expiration date of 12/31/2012.  
Lower Arkansas segment 4: Se(ch) =27, expiration date of 12/31/2012.  
Lower Arkansas segment 5a: Se(ch) =11.2, expiration date of 12/31/2012.  
Lower Arkansas segment 6: Se(ch) =21.3, expiration date of 12/31/2012.  
Lower Arkansas segment 7: Se(ch) =6.4, expiration date of 12/31/2012.  
Lower Arkansas segment 9a: Se(ch) =17.8, expiration date of 12/31/2012.  
Lower Arkansas segment 9b: Se(ch) =52.4, expiration date of 12/31/2012.  
Lower Arkansas segment 9c: Se(ch) =15, expiration date of 12/31/2012.  
Lower Arkansas segment 11: Se(ch) =17, expiration date of 12/31/2012.

#### **L. Site-Specific Revisions**

**Upper Arkansas Segment 20** - In the 2002 Basin hearing, the Division proposed to add the water supply classification and associated water quality standards to segment 20. CC&V presented testimony at that hearing which showed that naturally elevated levels of manganese and sulfate were of concern and suggested a resegmentation. In response, the Division suggested that a footnote be adopted stating that the manganese standard should apply at the point of intake. This was done for manganese but sulfate was inadvertently omitted. The Commission revised the existing footnote to include sulfate.

**Wildhorse Creek, Middle Arkansas River segment 4a** – The Commission adopted a site-specific ambient-based selenium standard for this segment based upon information documenting both the natural sources of selenium in the basin and the lack of anthropogenic activity that might potentially exacerbate instream selenium loads.

#### **M. Other changes**

The Commission corrected several typographical and spelling errors, and clarified segment descriptions.

The reference to “Water+Fish *Organics*” was corrected to “Water+Fish *Standards*” to incorporate the appropriate standards from both the organics table and the metal parameter table in Regulation No. 31.

The reference to “Fish *Organics*” was corrected to “Fish *Ingestion Standards*” to incorporate the appropriate standards from both the organics table and the metal parameter table in Regulation No. 31.

The segment description for Upper Arkansas, segment 5 was changed from “except for specific listings in Segments 6 through 12” to “except for specific listings in Segments 6 through 12b”

The segment description for Upper Arkansas, segment 12b was changed from “from the sources” to “from the source”.

The segment description was changed for Upper Arkansas, segment 16a to exclude the reference to Section 9 to T17S, R73W.

The segment description was changed for Upper Arkansas, segment 17b to exclude the reference to Section 1 to T17S, R72W.

The Footnote to Table one in connection to Upper Arkansas, segment 20 was corrected to include sulfate in addition to dissolved manganese.

The segment description was changed for Lower Arkansas, segment 3a to exclude Lower Arkansas segment 3c.

The segment description was changed for Lower Arkansas, segment 5a to clarify the segment description.

**N. Arkansas River above Birdseye Gulch, Upper Arkansas River segment 1b (Proposal by Climax Molybdenum (“Climax”))**

The previously applicable temporary modifications of Pb(ch) = 6.5 µg/L and Zn(ch) = 137 µg/L are deleted and an ambient based standard of Zn(ac) = 150 µg/L is adopted. A TMDL was cooperatively developed for Segment 1b by the Division and Climax in 2003 and subsequently approved by EPA. Climax took voluntary action in 2005 to remove and reclaim tailings identified in the TMDL that contributed to lead and zinc loadings in Segment 1b. The Commission found that this remedial action, together with the previous reclamation of the Climax property, resulted in an irreversible man-induced ambient water quality level for acute zinc that is higher than TVS but is adequate to protect the classified uses. Therefore, pursuant to Regulation 31.7(1)(b)(ii), the Commission adopted a site-specific acute standard for zinc based on the 95th percentile of the available data for the last three-year period of record.

**O. California Gulch Superfund Site, Upper Arkansas River segments 2b, 2c, 5 and 6 (Proposal by Hazardous Materials Waste Management Division)**

Historic mining activities in and around the California Gulch basin have significantly impacted water quality in segments 2b, 2c, and 6 of the Upper Arkansas River. Environmental remediation of mine wastes within the California Gulch Superfund Site has resulted in significant improvement of the water quality within these segments. Additional water quality improvements are expected as Site remediation is completed. Accordingly, the Commission is adopting revised numeric standards for cadmium and zinc for segments 2b and 2c. The revised numeric standards will serve as future remediation goals for the Site. Furthermore, the Commission has reclassified the tributaries of California Gulch from segment 5 to segment 6 to more accurately reflect the use and characteristics of those tributaries.

Upper Arkansas segments 2b and 2c of the Arkansas River Basin Revised Numeric Standards for Cadmium and Zinc - The revised cadmium and zinc numeric standards for segments 2b and 2c are based on the application of the EPA approved recalculation methodology. GEI Consultants Inc./Chadwick Ecological Division completed the recalculation on behalf of Resurrection Mining Company, one of the PRPs implementing portions of the Superfund remediation. The recalculation methodology provides new numeric standards for cadmium and zinc that are protective of the aquatic communities found in segments 2b and 2c of the Arkansas River Basin. The cadmium and zinc numeric standards derived from the recalculation methodology are intended to guide additional remediation work within the Site. Because remediation work at the site is ongoing, the Commission is aware actual water quality within segments 2b and 2c will occasionally exceed the revised cadmium and zinc numeric standards over the next three to five years, especially during spring run-off conditions. For this reason, the Commission also adopted a seasonal temporary modification for the months of April and May for both segments 2b and 2c. The Commission rejected a proposal by Trout Unlimited that the temporary modification period be extended to June, since the data shows that the standards are attained during the month of June.

Seasonal Type (i) Temporary Modifications - For Segment 2b, the Commission adopted 649 µg/l as the temporary zinc numeric standard and adopted 1.34 µg/l as the temporary cadmium numeric standard. For segment 2c, the Commission adopted 225 µg/l as the temporary zinc numeric standard and adopted 0.79 µg/l as the temporary cadmium numeric standard. These were calculated as seasonal temporary modifications by using 85<sup>th</sup> percentile of all available water quality data and average hardness data collected during the months of April and May from 2001-2006. In adopting the seasonal temporary modifications, the Commission acknowledged the uncertainty regarding long-term water quality conditions following completion of remediation activities at the Site. This uncertainty arises because water quality improvements resulting from source remediation projects will not be known for a period of time following the completion of the activities because the source control will not always immediately impact water quality within segments 2b and 2c.

Upper Arkansas segments 2b and 2c of the Arkansas River Basin Revised Antidegradation Baseline - Based on continued remediation activities at the Site, the Commission determined that the default baseline for antidegradation established in the September 30, 2000 Basic Standards no longer applies to segments 2b and 2c. Accordingly, the Commission adopted a revised anti-degradation baseline for segments 2b and 2c, including a note in the designation column in the Stream Classifications and Water Quality Standards tables to indicate that the September 30, 2000 default baseline date does not apply to these specific segments. In accordance with the Basic Standards (5 CCR 31.8(3)(c)(ii)(B)), the Commission found that the appropriate baseline date and baseline water quality should be determined at the time that any new activity triggers an anti-degradation review. Thus, the Commission adopted a revised anti-degradation baseline for segments 2b and 2c whereby the anti-degradation review and collection of water quality data shall commence upon the same date any new activity occurs in either segment 2b or 2c.

Upper Arkansas segments 5 and 6 of the Arkansas River Basin - The Commission determined that California Gulch tributaries, previously classified within segment 5 as Aquatic Life Cold 1, Recreation 1a, Water Supply, and Agriculture, were inappropriately classified. This determination is based on the use, physical characteristics, and water quality characteristics of the California Gulch tributaries, which include Malta, Airport, Pawnee, Georgia, Oregon, Nugget, White, Stray Horse and Little Stray Horse Gulch. Specifically, the Commission's review of evidence presented during the 2007 rulemaking hearing, and re-evaluation of the 1990 Use Attainability Analysis ("UAA") of California Gulch performed by the Colorado Division of Wildlife ("CDOW"), indicated that the California Gulch tributaries lacked qualities to appropriately identify them as Aquatic Life Cold 1, Recreation 1a, and Water Supply. In an earlier rulemaking, the Commission relied on CDOW's 1990 UAA to establish that segment 6 should not contain numeric water quality standards. While current evidence indicates that California Gulch water quality has improved since the 1990 UAA, the conditions outlined in the 1990 UAA continue to limit potential aquatic communities in California Gulch and its tributaries. Therefore, the Commission determined it is inappropriate to maintain numeric water quality standards for those tributaries, and concluded that those California Gulch tributaries located in segment 5 should be reclassified as part of segment 6 as Recreation 2, Agriculture.

**P. Mainstem of Cripple Creek (Proposal by Cripple Creek and Victor Gold Mining Corporation)**

CC&V originally proposed that a qualifier be added to Segment 21 noting that fish were present only in the lower 1.5 miles of Cripple Creek, based on study results from long-term monitoring of the aquatic community in Cripple Creek showing that fish existed only in the lower 1.5 miles of Cripple Creek because of physical barriers, flow constraints, and habitat conditions. The Division's alternate proposal was to resegment Cripple Creek into Segments 21a and 21b. Regulation 31.6(4)(c) provides that segments will generally be delineated according to points where the use, physical characteristics or water quality characteristics change significantly enough to require a change in use classifications or water quality standards. The Commission accordingly resegmented Segment 21. The water quality standards of Segment 21a are based on protection of aquatic life without fish and the water quality standards of Segment 21b are based on full protection of aquatic life, including trout.

In this rulemaking the Commission considered two separate proposals to add a water supply classification to segments immediately upstream of segments with existing water supplies. (Upper Arkansas segment 21 and Middle Arkansas segment 4e). The Commission has determined that it is not appropriate to add a water supply classification to either of these segments at this time. The evidence submitted does not demonstrate an immediate threat to either water supply that is not adequately addressed by existing water supply classifications for the segments from which the water supplies are withdrawn.

However, with the evolution of source water planning and protection efforts under the State's drinking water program, the Commission believes that the relationship between surface water use classifications and source water protection efforts should be explored further. In general, the Commission believes that the water quality classification and standards system should be consistent with and supportive of source water protection efforts. The Commission requests that the Division work with interested stakeholders to develop a proposed approach to this issue for consideration in future rulemaking actions.

Depending upon the results of such discussions, it may be appropriate to revisit either or both of the water supply classification proposals advanced in this rulemaking during a future review of this basin.

The Division proposed that the use-protected designation be removed from Segment 21, since the presumption that such a designation is appropriate for aquatic life class 2 cold water streams has been eliminated. CC&V argued that the use-protected designation should be retained, based on an argument that Segment 21 is an effluent dominated stream. The Commission has determined that the data and analysis submitted by CC&V is not adequate to demonstrate that Segments 21a and 21b meet the effluent dominated definition, because using average conditions in a comparison does not appropriately characterize what occurs in a year that is wetter or drier than average. It is inappropriate to extrapolate from a comparison of the average condition to that which occurs eight out of ten years.

**Q. Golf Course Wash (Proposal by Pueblo West Metropolitan District)**

Pueblo West Metropolitan District proposed resegmentation of Golf Course Wash, a tributary to Pueblo Reservoir, from Middle Arkansas Segment 4d to a new Segment 4e. They proposed this new segment be classified as aquatic life warm class 2, recreation class E and agriculture with a use-protected designation. Numeric standards would be applied only for recreation and agriculture uses with the addition of ammonia. A temporary modification of the ammonia standards of  $\text{NH}_3$  (ac/ch)=TVS old was also proposed. The Commission declined to adopt this temporary modification because the evidence submitted did not demonstrate a need for the temporary modification. Rather, the evidence demonstrated that Pueblo West may be able to comply with the new ammonia standard. Should further investigation demonstrate that additional time will be required to comply with the ammonia standard, the Commission assumes that a discharge permit compliance schedule may be available. If it should be determined that a compliance schedule is not available or not adequate for Pueblo West to comply with the ammonia standard, a temporary modification can be reconsidered at a later date.

Pueblo Board of Water Works provided an alternative proposal to add a water supply classification or at least a full suite of numeric standards to protect aquatic life, because the downstream segment (Pueblo Reservoir) serves as the City's water supply. The Commission has determined that the adoption of a water supply classification or additional standards to protect this use is not appropriate at this time, as explained above in section P of this statement of basis and purpose,

**R. Monument Creek (Copper) (Proposal by Tri-Lakes Wastewater Treatment Facility)**

Tri-Lakes Wastewater Treatment Facility proposed a site-specific copper water effects ratio for segment 6 of Monument Creek using a combination of the streamlined water effects ratio (WER) and the Biotic Ligand Model (BLM). In response to EPA's February 2007 Copper Criteria, Tri-Lakes revised their proposal to a temporary modification based on uncertainty. The Commission adopted Tri-Lakes revised proposal.

This temporary modification recognizes the uncertainty created by the evolving guidance regarding use of the WER, BLM, or other appropriate copper standard to protect the aquatic life use, as well as uncertainty about whether protective levels can feasibly be attained in the effluent of the Tri-Lakes WWTF. An additional source of uncertainty is whether or not a translator study will provide adequate relief for the WWTF.

The temporary modification has been set to expire on December 31, 2009. During the term of the temporary modification Tri-Lakes will investigate the efficacy of a translator from dissolved criterion to a potentially dissolved (or total recoverable) permit limit. In addition, the Commission anticipates that there will be an expanded dialogue between EPA, the Division and interested parties regarding the appropriate methods for setting site-specific copper stream standards.

With a 2009 expiration date, Tri-Lakes' progress will be reported to the Commission at the December 2007 and December 2008 annual Temporary Modification Review hearing, and the need for the temporary modification will be reviewed at that time. If a translator is inadequate, the Commission recognizes that more time may be needed to develop a site-specific standards proposal.

The temporary modification is set at "current condition." It is the intention of the Commission that when implementing this temporary modification in a CDPS permit, and interpreting the term current condition, the Division will assess the current effluent quality, recognizing that it changes over time due to variability in treatment plant removal efficiency and influent loading from industrial, commercial, and residential sources. One necessary element of an approach to maintain the current condition would be a requirement that the total loading from commercial and industrial contributors be maintained at that level as of the date of adoption of the temporary modification and that neither the concentration nor the frequency of high concentration shall increase over historic levels and frequency.

**S. Proposal by Colorado Trout Unlimited - Outstanding Waters Designation for Severy and Bear Creeks**

Based on evidence that shows that water quality meets the requirements of 31.8(2)a, the Outstanding Water (OW) designation was added to the new Fountain Creek Segment 1b: Severy Creek, and all tributaries, from the source to a point immediately upstream to where US Forest Service Road 330 crosses the stream and the new Fountain Creek Segment 3b: Bear Creek, and all tributaries, from the source to a point upstream of GPS coordinates N3847682, W10454917 (this location is at elevation 8,200 feet above sea level at a 250 ° angle and 3,000 feet from the trailhead of the Mount Buckhorn Trail off High Drive). Two new segments were created for these two waters. The Commission understands that there are existing land uses in place in these watersheds. The evidence demonstrates that these existing land uses are compatible with the OW designation since the current high level of water quality has been attained with these uses in place. It is the Commission's intent that this OW designation should not be used to establish additional permit requirements for existing uses within this area.

**T. Fountain Creek (Copper) (Proposal by Security Sanitation District)**

Security Sanitation District proposed a site-specific copper water effects ratio for segments 2a of Fountain Creek using a combination of the streamlined water effects ratio (WER) and the Biotic Ligand Model (BLM). In response to EPA's February 2007 Copper Criteria, Security revised their proposal to a temporary modification based on uncertainty. The Commission adopted Security's revised proposal.

Similar to the situation on Monument Creek segment 6 (discussed above) this temporary modification recognizes the uncertainty created by the evolving guidance regarding use of the WER, BLM, or other appropriate copper standard to protect the aquatic life use, as well as uncertainty about whether protective levels can feasibly be attained in the effluent of the Security WWTF. An additional source of uncertainty is whether or not a translator study will provide adequate relief for the WWTF.

The temporary modification has been set to expire on December 31, 2009. During the term of the temporary modification Security will investigate the efficacy of a translator from dissolved criterion to a potentially dissolved (or total recoverable) permit limit. In addition, the Commission anticipates that there will be an expanded dialogue between EPA, the Division and interested parties regarding the appropriate methods for setting site-specific copper stream standards.

With a 2009 expiration date, Security's progress will be reported to the Commission at the December 2007 and December 2008 annual Temporary Modification Review hearings, and the need for the temporary modification will be reviewed at that time. If a translator is inadequate, the Commission recognizes that more time may be needed to develop a site-specific standards proposal.

The temporary modification is set at "current condition." It is the intention of the Commission that this term be interpreted as discussed in section R above.

**U. Selenium and Sulfate near Pueblo (Proposal by the City of Pueblo)**

The Commission adopted site-specific ambient- and attainability-based underlying standards for selenium on several segments in the Middle and Lower Arkansas, and Fountain Creek sub-basins. These included Fountain Creek segment 2b, Middle Arkansas segments 3 and 4a, and Lower Arkansas segment 1a. Ambient-based standards were adopted for Middle Arkansas segments 3 and 4a based upon showings by the City of Pueblo and the Division, respectively, that selenium loading to both segments results from natural sources and is not exacerbated by land use or other reversible, anthropogenic factor.

Evidence developed by the City of Pueblo indicates that some degree of selenium and sulfate load reduction is attainable for Fountain Creek segment 2b and Lower Arkansas segment 1a. Reductions of one and six percent respectively are feasible given the current extent of irrigated agriculture within these two sub-basins. The Commission has therefore adopted attainability-based underlying selenium and sulfate standards for these segments, while retaining temporary modifications set at existing levels.

The temporary modifications for selenium and sulfate in Lower Arkansas segment 1a are identified as type i temporary modifications. The expectation is that the Division and stakeholders will identify appropriate Best Management Practices as necessary to achieve the necessary load reductions within a twenty-year period.

**V. Lower Arkansas Segment 1a Selenium (Proposal by the City of LaJunta)**

The City of La Junta proposed a type iii temporary modification for selenium for Lower Arkansas segment 1b of 27.1 ug/L chronic and 36 ug/L acute, with an expiration date of December 31, 2020. Based on discussion with the Division, La Junta revised its proposal to be "Se = current condition, expiration date 12/31/2009". The Commission has adopted La Junta's revised proposal.

This temporary modification recognizes the uncertainty regarding the relative magnitude of natural sources, irreversible man-induced sources and reversible sources of selenium. There is also uncertainty regarding what levels are appropriate to protect the aquatic life use. In addition, there is uncertainty about whether protective levels can feasibly be attained in the effluent of La Junta's WWTF.

The temporary modification has been set to expire on December 31, 2009. During the term of the temporary modification La Junta will investigate the efficacy of modifying the way RO brine is blended with their traditional wastewater.

With a 2009 expiration date, La Junta's progress will be reported to the Commission at the December 2007 and December 2008 annual Temporary Modification Review hearings, and the need for the temporary modification will be reviewed at that time. During this same time, the Division will continue to support efforts to quantify selenium loading, particularly selenium loads from un-irrigated upland areas, and to begin to implement selenium reductions, which will take longer than two years.

The temporary modification is set at "current condition." It is the intention of the Commission that when implementing this temporary modification in a CDPS permit, and interpreting the term current condition, the Division will assess the current effluent quality, recognizing that it changes over time due to variability in treatment plant removal efficiency and influent loading from industrial, commercial, and residential sources. One necessary element of an approach to maintain the current condition would be a requirement that the total loading from commercial and industrial contributors be maintained at that level as of the date of adoption of the temporary modification and that neither the concentration nor the frequency of high concentration shall increase over historic levels and frequency.

#### **W. Proposal by the State of Kansas**

The State of Kansas presented information that salinity and selenium concentrations increase between John Martin Reservoir and the state line (Lower Arkansas segment 1c), and that the concentrations of these constituents has increased over the last decade. Kansas participated in this rulemaking in order to expedite the identification of appropriate water quality endpoints for Lower Arkansas segment 1c, thereby facilitating development of TMDLs addressing these parameters. The Commission decided that, while adequate information is available to characterize irreversible selenium loading on several segments within the Arkansas basin, such is not yet the case in the lowermost portion of the basin. The Commission does, however, acknowledge the efforts undertaken by Kansas to address these pollutants in TMDLs promulgated earlier (sulfate), and planned for later this year (selenium) for the Arkansas River as it enters Kansas. The Commission expects the Division to work closely with the State of Kansas and stakeholders in addressing these issues upstream of the state line. The Division will work on UAAs to support attainable underlying standards, TMDLs where appropriate underlying standards have been adopted and implementation of remedial actions (BMPs) throughout the basin to reduce the loading of selenium.

Kansas asked the Commission to establish a Salinity Task Force that would lay the ground work for evaluating research results, selecting appropriate BMP's and formulating a long-term strategy of salt load reduction to the river. At this time, the Commission cannot commit to such an expenditure of resources. However, the state is supporting a watershed restoration planning effort sponsored by Southeast Colorado Resource Conservation and Development with Clean Water Act Section 319 funding.

Later this fall Colorado will be in a better position to determine whether resources are available that could be allocated towards this issue. The Division will be completing a statewide prioritization of watershed restoration of impaired waters (as required by EPA) and will report the information to the Commission. This information may be used by the Commission to recommend revisions to the proposed priority watersheds.

#### **PARTIES TO THE RULEMAKING**

1. Hazardous Materials and Waste Management Division

2. Hazardous Materials and Waste Management Division
3. State of Kansas
4. City of Pueblo
5. Tri-Lakes Wastewater Treatment Facility
6. Cripple Creek and Victor Gold Mining Company
7. Climax Molybdenum Company
8. Security Sanitation District
9. Pueblo West Metro District
10. The Paint Brush Hill Metropolitan District
11. Colorado Trout Unlimited
12. Homestake Mining Company of California
13. City of Cripple Creek Water/Wastewater Department
14. Colorado Wild
15. The National Park Service at Great Sand Dunes National Park and Preserve
16. Park Center Water District
17. Xcel Energy
18. Alamosa Riverkeeper
19. The City of La Junta
20. Corrections Corporation of America
21. Rocky Mountain Steel Mills.
22. Colorado Division of Wildlife
23. The City of Colorado Springs
24. The Board of Water Works of Pueblo, Colorado
25. U.S. Environmental Protection Agency
26. Pikes Peak Area Council of Governments

**32.41 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; JULY 15, 2008 RULEMAKING; ADOPTED JULY 15, 2008; EFFECTIVE AUGUST 30, 2008**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE**

The Commission adopted changes to the segment description of Lower Arkansas segment 5a that re-instated the wording deleted in the June 2007 rulemaking hearing. The intent of the 2007 changes was merely to simplify the segment description. However, subsequent to the hearing it was found that unintended significant changes had resulted from the revised segment description. This change in 2008 corrects that error.

**32.42 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; JULY 2008 RULEMAKING; ADOPTED AUGUST 2008; EFFECTIVE JANUARY 1, 2009**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE**

A Colorado Springs Utilities proposal to adopt a selenium temporary modification for Fountain Creek segment 6 was initially noticed as part of this rulemaking, but was withdrawn prior to the hearing.



Corrections to standards for Upper Arkansas Segments 2b and 2c: The Commission corrected errors in segments 2b and 2c of the Upper Arkansas River. In both segments, the chronic numeric standard for cadmium was revised to correct an error that resulted from Commission action during the June 2007 rulemaking hearing for the Arkansas River.

Antidegradation Designation on Upper Arkansas River Segment 26 and Fountain Creek Segments 2a, 2b, 4, and 6: After final action by the Commission in the July 2007 rulemaking (adopted August 2007) the Use-Protected designations of Fountain Creek segments 2a, 2b, 4 and 6 and Upper Arkansas segment 26 were removed. These changes were made without a full discussion and consideration of the changes during the rulemaking process. The Commission held this rulemaking hearing to reconsider the antidegradation designation of these segments.

After considering the evidence and testimony the Commission took the following action:

Upper Arkansas segment 26: The segment remains undesignated because available representative data shows that all 12 of the 12 indicator parameters meet the Table Value test and this segment is not included on the current 303(d) list (Regulation # 93). The Commission also determined that this segment does not qualify for the other two bases in section 31.8(2)(b) for use-protected designation.

Fountain Creek segment 2a: The segment remains undesignated because available representative data shows that 10 of the 12 indicator parameters meet the Table Value test and the segment is included on the current 303(d) list (Regulation No 93) for only one parameter (E coli). As addressed further below, the Commission also determined that this segment does not qualify for the other two bases in section 31.8(2)(b) for use-protected designation. The segment is not effluent-dominated. In addition, the evidence does not demonstrate substantial natural or irreversible human-induced pollution for parameters other than those included on the list of indicator parameters. Therefore, the Commission determined that these waters should have the extra protection provided by an antidegradation review.

Fountain Creek segment 2b: The segment remains undesignated because available representative data shows that 10 of the 12 parameters meet the Table Value test and the segment is included on the current 303(d) list (Regulation No 93) for only one parameter (selenium). As addressed further below, the Commission also determined that this segment does not qualify for the other two bases in section 31.8(2)(b) for use-protected designation. The segment is not effluent-dominated. In addition, the evidence does not demonstrate substantial natural or irreversible human-induced pollution for parameters other than those included on the list of indicator parameters. Therefore, the Commission determined that these waters should have the extra protection provided by an antidegradation review.

Fountain Creek segment 4: The Use Protected designation was reinstated. Available representative data shows that only 9 of the 12 indicator parameters meet the Table Value test.

Fountain Creek segment 6: The segment remains undesignated because available representative data shows that 10 of the 12 parameters meet the Table Value test and the segment is included on the current 303(d) list (Regulation No 93) for only one parameter (selenium). As addressed further below, the Commission also determined that this segment does not qualify for the other two bases in section 31.8(2)(b) for use-protected designation. The segment is not effluent-dominated. In addition, the evidence does not demonstrate substantial natural or irreversible human-induced pollution for parameters other than those included on the list of indicator parameters. Therefore, the Commission determined that these waters should have the extra protection provided by an antidegradation review.

Several parties asserted that segments 2a, 2b and 6 should be designated use-protected because they are effluent-dominated. The Commission disagrees. The evidence presented in the hearing shows that these segments do not meet the numerical test for effluent-dominance set forth in Regulation #31, the Basic Standards and Methodologies for Surface Water. Except at one station in segment 2a (one of five locations investigated in a 40-mile long segment), for these segments it is not true that “greater than 50 percent of the flow consists of treated wastewater for at least 183 days annually, for eight out of the last ten years”. The alternative approach to determining effluent dominance advocated by the parties to this hearing is inconsistent with the regulatory definition. The narrative portion of the definition provides a general statement of the concept, but the numerical formulation in the parenthetical of the definition was developed to establish a clear test to use in applying this concept.

Several parties also argued that segments 2a, 2b and 6 have elevated concentrations of E. coli, selenium, iron and sulfate, as well as impacts from sedimentation, and that therefore they should be designated use-protected based on section 31.8(2)(b)(ii), which provides that the Commission may apply a use-protected designation where it “determines that due to the presence of substantial natural or irreversible human-induced pollution” the quality of the waters in question should not be considered better than necessary to support aquatic life class 1 and/or recreation class P uses.

Unlike the “12 indicator parameter” test and the “effluent dominated” test, this “substantial pollution” provision does not set forth a specific quantified test for determining whether a use-protected designation is appropriate. Rather, this test has been formulated in a manner to allow the Commission to assess the overall circumstances related to the water quality of a segment as a whole in making the policy determination whether the extra layer of protection provided by antidegradation review is appropriate.

The Commission believes that in applying this test it is appropriate to consider multiple lines of information regarding the chemical, physical and biological condition of the segments in determining whether existing pollution should be considered substantial, and whether it should be considered natural or irreversible. Although there was evidence presented that some portion of the existing pollution is likely natural or irreversible, at this time it would be premature to conclude that substantial improvement is not possible.

In addition, even if it were accepted that existing pollution is not reversible, the evidence presented regarding aquatic life diversity shows that the aquatic life present is not unlike that expected for sandy bottom plains streams. The elevated levels present for a few parameters do not appear to have had a major adverse impact on the aquatic life present.

Considering all of the above site-specific circumstances, the Commission has decided as a matter of policy that it would be inappropriate to apply a use-protected designation to these segments at this time.

The Commission notes that concern was also expressed regarding the potential economic consequences to dischargers to these segments if they are “reviewable”, rather than use-protected. However, requiring that an antidegradation review occur prior to allowing future new or expanded discharges that would use up some or all of the current assimilative capacity of these segments does not mean that costly advanced treatment will be required for these discharges. Indeed, the purpose of an antidegradation review is to determine whether there are available alternatives that are economically, environmentally and technologically reasonable, in accordance with the provision of subsection 31.8(3)(d). If it is determined that such alternatives are not available, degradation to the level of water quality standards is allowed.

Several parties in this rulemaking presented legal arguments regarding the burden of proof for the antidegradation designations for Fountain Creek segments 2a, 2b, and 6. The Commission based its decision regarding the appropriate antidegradation designations for these segments on all of the evidence in the record and the policy considerations within its discretion. The Commission’s decision regarding antidegradation designations was not based upon who has the burden of proof.

#### **PARTIES TO THE RULEMAKING**

1. City of Colorado Springs and Colorado Springs Utilities
2. Hazardous Materials and Waste Management Division
3. City of Pueblo
4. Upper Monument Creek Regional Wastewater Treatment Facility
5. Tri-Lakes Wastewater Treatment Facility, Security Sanitation District and Fountain Sanitation District
6. The Board of Water Works of Pueblo, Colorado
7. Pikes Peak Area Council of Governments
8. U.S. Environmental Protection Agency, Region 8

**32.43 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE: DECEMBER 2008 RULEMAKING REGARDING TEMPORARY MODIFICATIONS; FINAL ACTION FEBRUARY 9, 2009; EFFECTIVE MARCH 30, 2009**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE**

Pursuant to the requirements in the Basic Standards (at section 31.7(3)), the Commission reviewed the status of temporary modifications to determine whether the temporary modification should be modified, eliminated or extended.

Since there are no known permitted dischargers that have problems meeting lead limits, the Commission deleted the temporary modification, thereby allowing the underlying standards to go into effect for the following segment:

Fountain Creek segment 3a: temporary modification for lead.

Tri-Lakes Wastewater Treatment Facility and Security Sanitation District are making progress on developing copper translators and evaluating use of the biotic ligand model for site-specific standards, but need more time, especially to assure incorporation into individual discharge permits. The Commission extended the temporary modifications for the following segments, with new expiration dates of 12/31/2010:

Fountain Creek segment 2a: type iii temporary modifications for copper (Cu(ac/ch) = current condition)

Fountain Creek segment 6: type iii temporary modifications for copper (Cu(ac/ch) = current condition).

The City of La Junta reported on its progress in determining whether protective levels can feasibly be attained in the effluent of La Junta's wastewater treatment plant. There is continued uncertainty regarding feasible treatment options in addition to expecting the new EPA criteria in the late spring of 2010. The Commission extended the following temporary modification to 12/31/2012, to coincide with the next Arkansas Basin review.

Lower Arkansas segment 1b: type iii temporary modification for selenium (Se(ac/ch) = current condition).

**PARTIES TO THE RULEMAKING**

1. Upper Clear Creek Watershed Association
2. City of Aurora

3. Suncor Energy (USA)
4. Tri-Lakes Wastewater Treatment Facility; Upper Monument Creek Regional Wastewater Treatment Facility; Security Sanitation District; and Fountain Sanitation District
5. Hazardous Materials and Waste Management Division and the U.S. Environmental Protection Agency's Superfund Remediation Programs
6. Colorado Division of Wildlife
7. City of Boulder
8. U.S. Department of Energy, Office of Legacy Management
9. City of Black Hawk and Black Hawk/Central City Sanitation District
10. City of La Junta
11. City of Fort Collins
12. Colorado Trout Unlimited
13. U.S. EPA
14. City of Colorado Springs and Colorado Springs Utilities

**32.44 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE DECEMBER 2009 RULEMAKING REGARDING TEMPORARY MODIFICATIONS; FINAL ACTION FEBRUARY 8, 2010; EFFECTIVE DATE JUNE 30, 2010**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE**

Pursuant to the requirements in the Basic Standards (at 31.7(3)), the Commission reviewed the status of temporary modifications to determine whether the temporary modification should be modified, eliminated or extended.

Ammonia: Temporary modifications of ammonia standards on nine segments were reviewed.

Deleted: Ammonia temporary modifications were deleted on the following segments because in most cases permits had recently been reissued for dischargers on the segments. Compliance schedules in the permits are adequate to address any necessary treatment plant upgrade issues. In other cases, no permits now discharge to this segment.

Middle Arkansas Segments 2 and 14

No action: The Commission took no action on the ammonia temporary modifications on the following segments. These will expire 12/31/2011 and will be reviewed again in the December 2010 Temporary Modification hearing.

Middle Arkansas Segments 3, 4c, and 9  
Fountain Creek Segment 6  
Lower Arkansas Segments 1a, 1b, and 7

Other Parameters: The type iii temporary modifications of the copper standards for Fountain Creek segments 2a and 6 were also reviewed and extended. The Tri-Lakes Wastewater Treatment Facility; Upper Monument Creek Regional Wastewater Treatment Facility; Security Sanitation District; and Fountain Sanitation District are still in the process of evaluating the Biotic Ligand Model (for possible development of site-specific copper standards. Additional time is needed to wait for EPA's guidance on use of the BLM to develop site-specific criteria. An expiration date of 12/31/2012 was selected to assure that these temporary modifications can be resolved as early as December 2010.

**PARTIES TO THE RULEMAKING**

1. City of Grand Junction
2. City of Colorado Springs and Colorado Springs Utilities
3. Tri-Lakes, Upper Monument, Security and Fountain Wastewater Treatment Facilities
4. Paint Brush Hills Metropolitan District
5. Pueblo West Metropolitan District
6. City of La Junta
7. Seneca Coal Company
8. Tri-State Generation and Transmission Association
9. Plum Creek Wastewater Authority
10. Centennial Water and Sanitation District
11. City and County of Broomfield
12. City of Fort Collins
13. Metro Wastewater Reclamation District
14. City of Black Hawk and the Black Hawk/Central City Sanitation District
15. Colorado Division of Wildlife
16. U.S. Environmental Protection Agency

**32.45 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE JULY 2010  
RULEMAKING REGARDING TEMPORARY MODIFICATIONS; EFFECTIVE DATE  
NOVEMBER 30, 2010**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE**

The Commission has decided to delay the basin-wide review of water quality classifications and standards for this basin until June 2013, to accommodate an issue-specific rulemaking for nutrient criteria in June 2011. Consistent with that decision, the expiration dates of the temporary modifications on the following segments that are currently scheduled to expire on 12/31/2012 are extended to 12/31/2013. These will be reviewed again in a Temporary Modification hearing prior to the June 2013 basin-wide hearing.

Upper Arkansas	2b, 2c, 3, 8a, 8b, 12a
Middle Arkansas	4b, 5, 6, 9(selenium only), 10, 12, 14, 18a
Fountain Creek	1a
Lower Arkansas	1a(selenium and sulfate only), 1b(selenium only), 1c, 4, 5a, 6, 7(selenium only), 9a, 9b, 9c, 11.

The Commission would like to emphasize that its intent and expectation is that the issues that necessitated adoption of these temporary modification should be resolved as soon as possible and in a manner that takes full advantage of the opportunities provided by the December 2011 review of temporary modifications. The Commission recognizes that it is important to resolve uncertainty regarding the underlying standards so that temporary modifications can be eliminated and any needed pollution controls can be put in place in a timely manner.

**PARTIES TO THE RULEMAKING HEARING**

1. Town of Avon
2. City of Black Hawk and Black Hawk/Central City Sanitation District
3. Northern Colorado Water Conservancy District and the Municipal Subdistrict, Northern Colorado Water Conservancy District

4. City of La Junta
5. XTO Energy, Inc.
6. City of Pueblo
7. City of Colorado Springs and Colorado Springs Utilities
8. U.S. Environmental Protection Agency

**32.46 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE DECEMBER 2010 RULEMAKING REGARDING TEMPORARY MODIFICATIONS; FINAL ACTION JANUARY 10, 2011; EFFECTIVE DATE JUNE 30, 2011**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE**

Pursuant to the requirements in the Basic Standards (at 31.7(3)), the Commission reviewed the status of temporary modifications to determine whether the temporary modification should be modified, eliminated or extended.

- A. Ammonia: Temporary modifications of ammonia standards on nine segments were reviewed.

Deleted: Ammonia temporary modifications were deleted on the following segments because permits had recently been reissued for dischargers on the segments. In these cases, compliance schedules in the permits are adequate to address any necessary treatment plant upgrade issues

Middle Arkansas segment 9  
Lower Arkansas segment 1a

No action: The Commission took no action on the ammonia temporary modifications on the following segments.

Middle Arkansas segment 3  
Fountain Creek segments 2a, 4, and 6  
Lower Arkansas segments 1b, and 7

Except for Fountain Creek segments 2a and 4 (which expire 12/31/2012) these temporary modifications will be allowed to expire on 12/31/2011.

- B. Other Parameters: The type iii temporary modifications of the copper standards for Fountain Creek segments 2a and 6 were also reviewed and no action was taken. EPA's guidance on the Biotic Ligand Model (for possible development of site-specific copper standards) has not yet been released. These will be reviewed again in the December 2011 Temporary Modification hearing.
- C. Middle Arkansas segment 4c: Paint Brush Hills Metropolitan District provided to the Commission the preliminary results of the Use Attainability Analysis on portions of Middle Arkansas segment 4c, which supports possible resegmentation to separate some or all of Black Squirrel Creek and its tributaries from segment 4c. Evaluation of an appropriate ammonia standard is also in development for the segment. To allow Paint Brush Hills Metropolitan District time to complete the UAA and propose resegmentation and site-specific standards for the new segment, the Commission has decided the expiration date of the ammonia acute and chronic standards temporary modification on Middle Arkansas segment 4c that is currently scheduled to expire on 12/31/2011 is extended to 12/31/2013.

The Commission emphasized that its intent and expectation is that the issues that necessitated adoption of this temporary modification should be resolved as soon as possible and in a manner that takes full advantage of the opportunities provided by the annual December reviews of temporary modifications. The Commission recognizes that it is important to resolve uncertainty regarding the underlying standards so that temporary modifications can be eliminated and any needed pollution controls can be put in place in a timely manner.

#### **PARTIES TO THE RULEMAKING HEARING**

1. Paint Brush Hills Metropolitan District
2. Tri-State Generation and Transmission Association
3. Seneca Coal Company
4. Mountain Water and Sanitation District
5. City of Grand Junction
6. Colorado Division of Wildlife
7. City of Boulder
8. U. S. Environmental Protection Agency
9. City of Colorado Springs and Colorado Springs Utilities

#### **32.47 FINDINGS IN SUPPORT OF ADOPTION OF EMERGENCY REVISIONS TO REGULATION NO. 32, CLASSIFICATIONS AND NUMERIC STANDARDS FOR ARKANSAS RIVER BASIN (5 CCR 1002-32), JUNE 13, 2011 HEARING, EFFECTIVE DATE JUNE 30, 2011**

Pursuant to sections 25-8-208 and 24-4-103(6), C.R.S., the Commission adopted revisions to Regulation No. 32, Classifications and Numeric Standards for Arkansas River Basin, on June 13, 2011.

The Town of Kit Carson proposed resegmentation of a portion of Wildhorse Creek in Lower Arkansas segment 2a and emergency adoption of revised standards for selenium and cadmium in order to be able to construct and operate new water and wastewater facilities, which are being financed through State Revolving Loan funds. The purpose of constructing the new facilities is to resolve chronic noncompliance issues.

Wildhorse Creek is an ephemeral stream with no diversions in the lower portion to which Kit Carson discharges. No crops, hay meadows, or other forage is irrigated within this portion of lower Wildhorse Creek. Therefore, the current chronic selenium standard of 20ug/L (based on protecting forage crops) is more protective than necessary to support attainment of the designated uses for this stream reach. Likewise, no beans, beets, turnips or lettuce (the crops sensitive to cadmium) are irrigated with water from this reach, so the cadmium standard is also more protective than necessary. Therefore, the Commission has determined that resegmentation and emergency adoption of these selenium and cadmium standards is appropriate under these specific circumstances.

The Commission is aware that if it does not take emergency action to adopt these immediate revisions to Regulation No. 32 Kit Carson's funding commitments and approvals that were previously secured for planning, construction, and permitting of the new water and wastewater facilities may be rescinded, resulting in an unnecessary adverse impact on the public. The Commission finds that these amount to exigent circumstances which warrant emergency adoption of these revisions to the relevant water quality standards pursuant to section 25-8-208. The Commission further finds that these emergency revisions are imperatively necessary to preserve public health and welfare and that compliance with the procedural requirements of section 24-4-103, C.R.S., resulting in further delay, would be contrary to the public interest.

The regulation is to be effective June 30, 2011, and continue in effect until the effective date of permanent regulations, or for one year, whichever comes first.

**32.48 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE JUNE 13, 2011 RULEMAKING REGARDING TEMPORARY MODIFICATIONS; EFFECTIVE DATE JANUARY 1, 2012**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE**

The Commission's decision to delay consideration of nutrient criteria until March 2012 resulted in cancelation of the December 2011 review of temporary modifications. Accordingly, the Commission considered the expiration dates of temporary modifications expiring on or before December 31, 2012 in a written comment rulemaking. The Commission extended the expiration dates of the following temporary modifications to December 31, 2013. These will be reviewed again in a Temporary Modification hearing in December 2012.

Fountain Creek segment 2a (NH<sub>3</sub>, Cu)  
Fountain Creek segment 4 (NH<sub>3</sub>)  
Fountain Creek segment 6 (Cu)

The following temporary modifications were deleted from the table because they will have expired as of the effective date of this revision:

Middle Arkansas segment 3 (NH<sub>3</sub>)  
Fountain Creek segment 6 (NH<sub>3</sub>)  
Lower Arkansas segment 1b (NH<sub>3</sub>)  
Lower Arkansas segment 7 (NH<sub>3</sub>)

The Commission corrected a typo in the expiration date of the selenium temporary modification in following segment:

Lower Arkansas segment 11.

**32.49 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE NOVEMBER 14, 2011 RULEMAKING; EFFECTIVE DATE JANUARY 1, 2012**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE**

The Town of Kit Carson proposed adoption of standards for selenium and cadmium and resegmentation of Lower Arkansas segment 2a in order to be able to construct and operate new water and wastewater facilities, which are being financed through State Revolving Loan funds. The purpose of constructing the new facilities is to resolve chronic noncompliance issues.



Wildhorse Creek is an ephemeral stream with no diversions in the lower portion to which Kit Carson discharges. No crops, hay meadows, or other forage is irrigated within this portion of lower Wildhorse Creek. Therefore, the current chronic selenium standard of 20ug/L (based on protecting forage crops) is more protective than necessary to support attainment of the designated uses for this stream reach. Likewise, no beans, beets, turnips or lettuce (the crops sensitive to cadmium) are irrigated with water from this reach, so the cadmium standard is also more protective than necessary. Therefore, the Commission has determined that resegmentation and adoption of these selenium and cadmium standards is appropriate under these specific circumstances.

The Commission expects that, consistent with the Division's practice for reviewing site-specific standards during basinwide reviews, the Division will re-evaluate the conditions of Wildhorse Creek once the Kit Carson wastewater facility is operational. If the discharge does change the nature of the aquatic habitat and change the expectation for the aquatic life expected to occur in Wildhorse Creek, it may be necessary to revisit the classifications and standards for this segment.

**32.50 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE DECEMBER 10, 2012 RULEMAKING; FINAL ACTION JANUARY 14, 2013 EFFECTIVE DATE JUNE 30, 2013**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE**

Pursuant to the requirements in the Basic Standards (at 31.7(3)), the Commission reviewed the status of temporary modifications scheduled to expire before December 31, 2014, to determine whether the temporary modification should be modified, eliminated or extended.

Temporary modifications of 36 standards on 30 segments were reviewed. The Basic Standards Statement of Basis for the 2010 hearing records the Commission's intent regarding temporary modifications. (see 31.48 at I.A)

Since temporary modifications have no impact on other aspects of Colorado's water quality management program such as the 303(d) list, the Non-point Source Program or the Total Maximum Daily Load (TMDL) Program, it is fitting that temporary modifications only be used where there are permitted discharges that would face unreasonable consequences in the absence of a temporary modification (e.g., a permit compliance schedule to meet a standard that is significantly uncertain).

Deleted: Temporary modifications were deleted on the following segments because there are no currently identified discharge permits on the segments.

Upper Arkansas segment 2c  
Middle Arkansas segments 4b, 5, 10, 12, 14, and 18a  
Lower Arkansas segments 4, 9a, 9b, 9c, and 11

No action: The Commission took no action on the temporary modifications on the following segments which are receiving waters for permitted discharges. These temporary modifications will expire 12/31/2013. The basin-wide review hearing is scheduled for June 2013 and it is anticipated that the remaining issues will be resolved in that hearing process.

Upper Arkansas segments 2b, 3, 8a, 8b, and 12a  
Middle Arkansas segments 4c, 6, and 9  
Fountain Creek segments 1a, 2a, 4, and 6

Lower Arkansas segments 1b, 1c, 5a, 6, and 7

Lower Arkansas River segment 1a: The Commission retained the temporary modifications for selenium and sulfate equal to existing conditions for Lower Arkansas segment 1a and extended the expiration date to June 30, 2016.

As discussed in previous hearings (see 1998 and 2007 Statement of Basis) the selenium and sulfate issues in segment 1a are complicated. Uncertainty regarding the appropriate underlying selenium standard continues with the delay in release of the federal 304(a) draft criteria. In addition, the Commission reaffirms the determination that Pueblo's discharge of intercepted ground water which contains selenium and sulfate results in a reduced load of selenium to the system.

The Commission extended these temporary modifications to allow time for the City of Pueblo to pursue a discharger-specific variance or other permanent solution. The Commission recognizes that further developments before 2016 could complicate development of discharger-specific variances for selenium and sulfate. For example, depending on the criteria EPA develops, discharger-specific variances may not be necessary. In particular, the relationship between selenium and sulfate in EPA's selenium criteria document could substantially affect standards development. If the application of EPA criteria and recalculation procedures result in site-specific standards that are attainable without causing more environmental harm than good, then discharger-specific variances would not be necessary.

The temporary modifications will be reviewed in the 2014 and 2015 annual reviews and can be resolved or extended in those proceedings.

**PARTIES TO THE RULEMAKING HEARING**

1. City of Pueblo
2. Seneca Coal Company
3. Tri-State Generation and Transmission Association
4. Eagle River Water and Sanitation District
5. Board of County Commissioners for the County of Gunnison, Colorado
6. Colorado Parks and Wildlife
7. High Country Citizens' Alliance
8. Bill Thiebaut, DA for 10<sup>th</sup> Judicial District and the Office of the DA for the 10<sup>th</sup> Judicial District
9. City of Colorado Springs
10. Town of Crested Butte
11. Upper Gunnison River Water Conservancy District
12. U.S. Energy Corp.
13. Gunnison County Stockgrowers Association, Inc.
14. Environmental Protection Agency
15. Cherokee Metropolitan District
16. Fountain Sanitation District
17. Lower Fountain Metropolitan Sewage Disposal District
18. Monument Sanitation District
19. Palmer Lake Sanitation District
20. Town of Monument
21. Academy Water and Sanitation District
22. Tri-Lakes Wastewater Treatment Facility
23. Town of Palmer Lake
24. Woodmoor Water and Sanitation District No. 1
25. Upper Monument Creek Regional Wastewater Treatment Facility

**32.51 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE APRIL 8, 2013  
RULEMAKING; FINAL ACTION MAY 13, 2013 EFFECTIVE DATE SEPTEMBER 30, 2013**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE**

In August of 2005, the Commission adopted revisions to the Basic Standards and Methodologies for Surface Waters (Regulation #31) to add a Water + Fish (W+F) table value standard for chronic arsenic of 0.02 micrograms per liter ( $\mu\text{g/L}$ ). W+F standards are numeric human health-based water quality standards that are calculated protective values that take into account the combined exposure from the pollutant in drinking water and the pollutant accumulated in fish flesh. This criterion automatically went into effect for Aquatic Life Class 1 waters which also have a Domestic Water Supply use, when the changes to the Basic Standards became effective. It was also adopted on a segment by segment basis for Aquatic Life class 2 waters with Domestic Water Supply where the Commission determined there are fish of a catchable size of species that are normally consumed. Because of the complicated nature of the arsenic standards, specific values were added to the basin tables in the basin hearings between 2006 and 2009.

In this hearing, the Commission adopted temporary modifications for W+F chronic arsenic where a permitted discharger with a water quality-based effluent limit compliance problem exists. The adopted temporary modification is listed in the regulation tables as "As(ch)=hybrid". An explanation of the temporary modification and its expected implementation into control requirements, such as Colorado Discharge Permit System (CDPS) effluent limitations, is described in 32.6(2)(d). The temporary modification was established by the Commission to allow for a temporarily less stringent application of the chronic arsenic standard in control requirements for both existing discharges and new or increased discharges.

For discharges existing on or before 6/1/2013, the temporary modification adopted for W+F chronic arsenic is "current condition", expiring on 12/31/2021. The Commission intends that, when implementing the temporary modification of "current condition" in a CDPS permit, the Division will assess the current effluent quality, recognizing that it changes over time due to variability in treatment facility removal efficiency and influent loading from natural or anthropogenic sources, and due to changes in the influent flow and concentration over time. Maintaining the current condition will include maintaining permitted total arsenic loading to a treatment facility from arsenic contributors at the levels existing on the effective date of the temporary modification, while expressly allowing for variability in such loading due to changes in effluent quality as described above and due to changes in the influent flow and concentration over time within the permitted design flow of that facility. The Commission understands that the Division's past practice implementing this requirement in permits has been through reporting regarding the arsenic loading to the facility, and not through numeric effluent limitations. The Commission intends that the Division will continue this practice. For facilities that lack enough representative data to quantify arsenic loading, the permittee may satisfy reporting requirements through narrative descriptions of potential sources of arsenic. No permit action shall be approved that allows an increase in permitted total arsenic loading to a treatment facility. The expiration date of the temporary modification was set at 12/31/21 to allow for CDPS permits that are issued prior to the effective date of anticipated changes to the chronic arsenic standard in the 2016 Basic Standards Rulemaking to not have the temporary modification expire within the term of a permit. The Commission adopted this temporary modification to allow time for the Division, dischargers and stakeholders to continue a workgroup process to resolve the uncertainty regarding the appropriateness of the W+F chronic arsenic standard of 0.02  $\mu\text{g/L}$  with respect to a technologically feasible level of treatment.

For new or increased discharges that commence on or after 6/1/2013, the temporary modification adopted is  $As(ch) = 0.02\text{--}3.0\ \mu\text{g/L}$  (Trec), expiring on 12/31/2021. The Commission decided that since the technologically achievable arsenic level is less stringent than the calculated W+F criterion, the temporary modification for new or increased discharges will be a range of  $0.02\text{--}3.0\ \mu\text{g/L}$ . The first number in the range is the health-based value, based on the Commission's established methodology for human health-based standards that protect against the combined exposure of drinking water and eating fish. The second number in the range is the Commission's initial determination of a technologically achievable value for arsenic, set at  $3.0\ \mu\text{g/L}$ . Control requirements, such as discharge permits 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 during the effective period for this temporary modification. The expiration date of the temporary modification was set at 12/31/21 to allow for CDPS permits that are issued prior to the effective date of anticipated changes to the chronic arsenic standard in the 2016 Basic Standards Rulemaking to not have the temporary modification expire within the term of a permit. The Commission adopted this temporary modification to allow time for the Division, dischargers and stakeholders to continue a workgroup process to resolve the uncertainty regarding the appropriateness of the W+F chronic arsenic standard of  $0.02\ \mu\text{g/L}$  with respect to a technologically feasible level of treatment.

The technologically feasible level of  $3.0\ \mu\text{g/L}$  for arsenic is based upon testimony heard by the Commission at the December 13, 2011 Emergency Revisions to Regulation #38. At the December 13, 2011 hearing, the Commission determined, as a practical manner, that  $3.0\ \mu\text{g/L}$  is the lowest level that is technologically achievable for common types of water treatment facilities. At the April 8, 2013 Rulemaking, the Commission heard testimony that concurred with the finding from December 13, 2011 that an initial reasonable lower limit of treatment technology for arsenic is  $3.0\ \mu\text{g/L}$ , pending further investigation by the Division, dischargers and stakeholders. The Division intends to address the uncertainty of the W+F chronic arsenic standard with respect to a technologically feasible level of treatment through a continued workgroup process, and propose a revised W+F chronic arsenic standards as part of the 2016 Basic Standards Rulemaking Hearing.

Temporary modifications were adopted on the following segments. The segments identified have the previously adopted W+F chronic arsenic standard of  $0.02\ \mu\text{g/L}$  and an identified CDPS permit or permits that discharge immediately to or directly above the identified segment.

- Upper Arkansas River 1b
- Upper Arkansas River 3
- Upper Arkansas River 5
- Upper Arkansas River 12a
- Upper Arkansas River 12b
- Upper Arkansas River 13
- Upper Arkansas River 15
- Upper Arkansas River 16c
- Upper Arkansas River 17a
- Upper Arkansas River 19
- Upper Arkansas River 20
- Upper Arkansas River 24
- Middle Arkansas River 2
- Middle Arkansas River 3
- Middle Arkansas River 5
- Middle Arkansas River 7
- Middle Arkansas River 9
- Middle Arkansas River 11
- Middle Arkansas River 13
- Middle Arkansas River 17
- Middle Arkansas River 18b
- Fountain Creek 1a
- Fountain Creek 3a

Fountain Creek 3b  
Lower Arkansas River 1b  
Lower Arkansas River 1c  
Lower Arkansas River 3a  
Lower Arkansas River 5a

**PARTIES TO THE RULEMAKING HEARING**

1. Colorado Mining Association
2. Union Gold, Inc.
3. Colorado Department of Transportation
4. City of Colorado Springs and Colorado Springs Utilities
5. Town of Crested Butte
6. Mountain Coal Company
7. Centennial Water and Sanitation District
8. MillerCoors, LLC
9. Plum Creek Wastewater Authority
10. Tri-State Generation & Transmission Association
11. Climax Molybdenum Company
12. Littleton/Englewood Wastewater Treatment Plant
13. Eagle River Water and Sanitation District
14. City of Boulder
15. City and County of Denver
16. Parker Water and Sanitation District
17. U.S. Energy Corp.
18. U.S. Environmental Protection Agency
19. City of Greeley

**32.52 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; JUNE 10, 2013 RULEMAKING; FINAL ACTION AUGUST, 2013; EFFECTIVE DATE DECEMBER 31, 2013**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE:**

**A. Waterbody Segmentation**

The Commission split lakes and reservoirs from segments that also contained streams, so that new temperature and nutrients standards could be adopted. Lakes and reservoirs were deleted from the following segments that previously encompassed both streams, and lakes and reservoirs:

Upper Arkansas segments: 1a, 5, 10, 11, 12b, 13, 14b, 15, 16a, 17a-b, 18-20, 24 and 27  
Middle Arkansas segments: 1, 3, 4c, 5, 7, 8, 11, 13 and 16  
Fountain Creek segments: 1a, 3a and 4  
Lower Arkansas segments: 2a, 3a, 5a, 5b, 6 and 8  
Cimarron segment: 1

The following segments were created for lakes and reservoirs:

Upper Arkansas segments: 28-40  
Middle Arkansas segments: 19-28  
Fountain Creek segments: 8-11

Lower Arkansas segments: 14-19  
Cimarron segment: 3

The following segments were deleted when the constituent waterbodies were merged with other segments:

Middle Arkansas segments: 8 and 16  
Lower Arkansas segment: 9c

Some renumbering and/or creation of new segments was made based on information that showed: a) the original reason for segmentation no longer applied; b) differences in water quality; and/or c) certain segments could be merged into one segment because they had similar quality and uses. In particular, segmentation was changed to facilitate the adoption of new temperature and nutrients standards into individual segments. The following changes were made:

Upper Arkansas River 1a: The lakes and reservoirs in this segment were moved to a new Segment 28 to facilitate the adoption of appropriate temperature standards.

Upper Arkansas River 3: The mainstem of Arkansas River from the Chaffee/Fremont County line to a point immediately above Highway 115 bridge due east of Florence was moved to a new Segment 4a. The mainstem of Arkansas River from a point immediately above Highway 115 bridge due east of Florence to the inlet of Pueblo Reservoir was moved to a new Segment 4b. These segments were split to facilitate the adoption of appropriate temperature standards.

Upper Arkansas River 4a: This segment, formerly part of Segment 3, was created to encompass the mainstem of Arkansas River from the Chaffee/Fremont County line to a point immediately above Highway 115 bridge due east of Florence. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 4b: This segment, formerly part of Segment 3, was created to encompass the mainstem of Arkansas River from a point immediately above Highway 115 bridge due east of Florence to the inlet of Pueblo Reservoir. This segment was created to facilitate the adoption of appropriate temperature standards.

Upper Arkansas River 5: The coldwater lakes and reservoirs less than 100 acres in this segment were moved to a new Segment 29 and combined with lakes and reservoirs from Segment 10 and 11 to facilitate the adoption of appropriate temperature and nutrients standards. Turquoise Reservoir and Clear Creek Reservoir were moved to a new Segment 30 with other coldwater lakes larger than 100 acres surface area to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 10: The coldwater lakes and reservoirs less than 100 acres in this segment were moved to a new Segment 29 and combined with lakes and reservoirs from Segments 5 and 11 to facilitate the adoption of appropriate temperature and nutrients standards. Twin Lakes and Mt. Elbert Forebay were moved to a new Segment 30 with other coldwater lakes larger than 100 acres surface area to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 11: The lakes and reservoirs in this segment were moved to a new Segment 29 and combined with lakes and reservoirs from segments 5 and 10 to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 12b: The upper portion of the South Fork of the Arkansas, including tributaries and wetlands, from its source to the National Forest boundary were moved to Segment 13. The lakes and reservoirs in this segment were moved to a new Segment 32. These waters were split into different segments to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 13: The upper portion of the South Fork of the Arkansas, including tributaries and wetlands, from its source to the National Forest boundary were moved to this segment. The portions of the North Fork and South Fork of Hardscrabble Creek, including their tributaries and wetlands, within National Forest lands were moved to new Segment 14c. The lakes and reservoirs in this segment were moved to a new Segment 31. These waters were either added or split into different segments to facilitate the adoption of appropriate temperature standards.

Upper Arkansas River 14b: All tributaries to the Arkansas River, including wetlands, which are not on National Forest lands from the Chaffee/Fremont County to the inlet of Pueblo Reservoir, were moved to new Segment 14d in order to facilitate the adoption of a Water Supply use in Segment 14b. Multiple alluvial wells that were being used as a drinking water source were discovered on numerous tributaries adjacent to the City of Salida, but north of the Chaffee/Fremont County line. Rather than propose to broadly adopt a Water Supply use for the entirety of Segment 14b, the segment was split at the Chaffee/Fremont County line to facilitate the adoption of a Water Supply use for tributaries and wetlands to the Arkansas River from Brown's Creek to the Chaffee/Fremont County line. The tributaries and wetlands to the Arkansas River, which are not on National Forest lands, from the Chaffee/Fremont County line to the inlet of Pueblo Reservoir were moved to new Segment 14d with the exception of other segment splits listed below.

The upper portions of the North Fork and South Fork of Hardscrabble Creek, including their tributaries and wetlands, which are not on National Forest lands, were moved to new Segment 14c to facilitate the adoption of appropriate temperature standards.

The tributaries and wetlands to Grape Creek from the sources to the outlet of DeWeese Reservoir were moved to Segment 15 to facilitate the adoption of a Water Supply use and appropriate temperature standards.

Lakes and reservoirs tributary to the mainstem of Grape Creek from the source to the outlet of DeWeese Reservoir were moved to a new Segment 34. All other lakes and reservoirs were moved to a new Segment 33. These waters were split into different segments to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 14c: This segment was created to encompass the North Fork and South Fork of Hardscrabble Creek, including all tributaries and wetlands, from their sources to their confluence. This segment was created to facilitate the adoption of appropriate temperature standards.

Upper Arkansas River 14d: This segment was created to encompass the tributaries and wetlands to the Arkansas River, which are not on National Forest lands, from the Chaffee/Fremont County line to the inlet of Pueblo Reservoir. This segment was created to preserve a no Water Supply use classification and appropriate temperature standards.

Upper Arkansas River 15: The tributaries and wetlands to Grape Creek from the sources to the outlet of DeWeese Reservoir were moved from Segment 14b to Segment 15 to facilitate the adoption of a Water Supply use and appropriate temperature standards. Multiple alluvial wells that were being used as a drinking water source were discovered on numerous tributaries south and west of the Town of Westcliffe, which were previously described within Segment 14b. Rather than try to describe the numerous locations of these tributaries within a new segment, these larger swaths of tributaries were moved to Segment 15, which already had an existing Water Supply use.

The lakes and reservoirs in this segment were moved to a new Segment 34, with the exception of DeWeese Reservoir, which was moved to Segment 35 as a stand-alone coldwater lake larger than 100 acres surface area.

Upper Arkansas River 16a: The lakes and reservoirs in this segment were moved to a new Segment 36 and combined with lakes and reservoirs from Segments 17a and 18 to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 17a: The lakes and reservoirs in this segment were moved to a new Segment 36 and combined with lakes and reservoirs from Segments 16a and 18 to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 17b: The lakes and reservoirs in this segment were moved to a new Segment 33 and combined with lakes and reservoirs from Segment 14b to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 18: The lakes and reservoirs in this segment were moved to a new Segment 36 and combined with lakes and reservoirs from Segments 16a and 17a to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 19: Fourmile Creek, including all tributaries and wetlands, from a point immediately below High Creek to Cripple Creek were moved to new Segment 20a to facilitate the adoption of appropriate temperature standards. The lakes and reservoirs in this segment, including the large coldwater lake Wrights Reservoir, were moved to a new Segment 37 and combined with lakes and reservoirs from Segment 20 to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 20a: This segment was created from previous Segment 20 to encompass Fourmile Creek, including all tributaries and wetlands, from immediately below High Creek to a point immediately above the confluence with Long Gulch. This segment was created to facilitate the adoption of appropriate temperature standards and removal of the Water Supply use classification and standards. The lakes and reservoirs in this segment were moved to a new Segment 37 and combined with lakes and reservoirs from Segment 19 to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 20b: This segment was created from previous Segment 20 to encompass Fourmile Creek, including all tributaries and wetlands, from the confluence of Long Gulch to the confluence with the Arkansas River to facilitate the adoption of appropriate temperature standards.

Upper Arkansas River 23: All tributaries and wetlands to Wilson Creek (Teller County) were moved from the previous Segment 20 to this segment to facilitate the adoption of an Aquatic Life use downgrade and removal of the Water Supply use classification and standards.

Upper Arkansas River 24: The lakes and reservoirs in this segment were moved to a new Segment 38 to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 27: The lakes and reservoirs in this segment were moved to a new Segment 39, with the exception of Brush Hollow Reservoir, which was moved to Segment 40 as a stand-alone warmwater lake.

Upper Arkansas River 28: This segment was created to encompass the lakes and reservoirs within the Mount Massive and Collegiate Peaks Wilderness Area, formerly in Segment 1a. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 29: This segment was created to encompass the non-large coldwater lakes and reservoirs above Brown's Creek, formerly in Segments 5, 10, and 11. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.



Upper Arkansas River 30: This segment was created to encompass large cold lakes and reservoirs above Brown's Creek. This segment includes Turquoise Reservoir and Clear Creek Reservoir, which were formerly in Segment 5, and Twins Lakes and Mt. Elbert Forebay, which were formerly in Segment 10. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 31: This segment was created to encompass the lakes and reservoirs tributary to the Arkansas River, which are on National Forest lands, from the confluence with Brown's Creek to the inlet of Pueblo Reservoir, formerly in Segment 13. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 32: This segment was created to encompass the lakes and reservoirs tributary to the upper portions of South Fork of the Arkansas from its source to the National Forest boundary, formerly in Segment 12b. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 33: This segment was created to encompass the lakes and reservoirs tributary to the Arkansas River, which are not on National Forest lands, from the confluence with Brown's Creek to the inlet of Pueblo Reservoir, formerly in Segment 14b; and lakes and reservoirs tributary to the mainstem of Cottonwood Creek (Fremont County) from a point immediately below the confluence with North Waugh Creek to the intersection with F6 Road, formerly in Segment 17b. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 34: This segment was created to encompass the lakes and reservoirs tributary to the mainstems of Texas, Badger, Hayden, Hamilton, Stout, and Big Cottonwood Creeks from their sources to their confluences with the Arkansas River, formerly in Segment 15; and lakes and reservoirs tributary to the mainstem of Grape Creek from its source to the outlet of DeWeese Reservoir, formerly in Segment 14b. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 35: This segment was created to encompass DeWeese Reservoir, a coldwater reservoir tributary to the mainstem of Grape Creek that is greater than 100 acres surface area. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 36: This segment was created to encompass the lakes and reservoirs tributary to the mainstem of Currant Creek (Park County) from the source to the confluence with Tallahassee Creek, formerly in Segment 18; lakes and reservoirs tributary to the mainstem of Middle Tallahassee Creek from the source to the intersection with Road 23, formerly in Segment 16a; and lakes and reservoirs tributary to the mainstem of Cottonwood Creek (Fremont County) from the source to a point immediately below the confluence with North Waugh Creek, formerly in Segment 17a. These waters were grouped together in one segment because they had similar quality and uses and to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 37: This segment was created to encompass the lakes and reservoirs tributary to the mainstem of Fourmile Creek from the source to the confluence with the Arkansas River, formerly in Segments 19 and 20. This includes a coldwater lake that is greater than 100 acres in surface area – Wrights Reservoir. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 38: This segment was created to encompass the lakes and reservoirs tributary to the mainstem of East and West Beaver Creeks from the source to the confluence with the Arkansas River, formerly in Segment 24. This includes coldwater lakes that are greater than 100 acres in surface area – Skagway Reservoir and Bison Reservoir. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 39: This segment was created to encompass the lakes and reservoirs tributary to the mainstem of Eightmile Creek from the source to the mouth of Phantom Canyon, formerly in Segment 27. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Upper Arkansas River 40: Brush Hollow Reservoir was moved from Segment 27 to this new segment to facilitate the adoption of appropriate temperature and nutrients standards.

Middle Arkansas River 1: Pueblo Reservoir was moved to a new Segment 20 to facilitate the adoption of appropriate temperature and nutrients standards. The new Segment 1 was created to encompass tributaries to the Arkansas River within the Sangre de Cristo, Greenhorn, and Spanish Peaks Wilderness Areas. These tributaries were formerly in Middle Arkansas Segments 11, 13 and 17 and Lower Arkansas Segments 2a, 3a and 3b. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Middle Arkansas River 3: Valco Ponds and Runyon/Fountain Lake were moved to a new Segment 28 to facilitate the adoption of appropriate temperature and nutrients standards.

Middle Arkansas River 4c: The lakes and reservoirs in this segment were moved to a new Segment 21 to facilitate the adoption of appropriate temperature and nutrients standards.

The following waters were moved to a new Segment 4f: Mainstem of Black Squirrel Creek, including all tributaries and wetlands, from just below Highway 94 to Squirrel Creek Road.

Middle Arkansas River 4d: The following waters were moved to a new Segment 7a: All tributaries to Muddy Creek other than North Muddy Creek, including wetlands, from the source to the San Isabel National Forest boundary.

The following waters were moved to a new Segment 7b: Muddy Creek, including all tributaries and wetlands, from the San Isabel National Forest boundary to 232/Bondurant Road.

The lakes and reservoirs in this segment were moved to a new Segment 23, except for Teller Reservoir, which was moved to Segment 27 as a stand-alone coldwater lake larger than 100 acres surface area.

These waters were split into different segments to facilitate the adoption of appropriate temperature and nutrients standards.

The following waters were moved to a new Segment 4g: Mainstem of Pesthouse Gulch, from the source to the confluence with Wildhorse Creek.

Middle Arkansas River 4f: This segment was created to encompass the mainstem of Black Squirrel Creek, including all tributaries and wetlands, from just below Highway 94 to Squirrel Creek Road, formerly in Segment 4c. This segment was created to facilitate the adoption of appropriate use classifications and associated standards.

Middle Arkansas River 4g: This segment was created to encompass the mainstem of Pesthouse Gulch, from the source to the confluence with Wildhorse Creek, formerly in Segment 4d. This segment was created to facilitate the adoption of acute and chronic ambient-based selenium standards.

Middle Arkansas River 5a-5b: The mainstem of the St. Charles River, including all tributaries and wetlands, from the San Isabel National Forest boundary to a point immediately above the CF&I diversion canal near Burnt Mill, was moved to a new Segment 5b. The lakes and reservoirs in Segment 5 were moved to a new Segment 22. These waters were split into different segments to facilitate the adoption of appropriate temperature and nutrients standards.

Middle Arkansas River 6a-6b: Segment 6 was split at the confluence of the St. Charles River and Edson Arroyo. The mainstem of the St. Charles River from the confluence with Edson Arroyo to the confluence with the Arkansas River was moved to a new Segment 6b. These waters were split into new segments to facilitate the adoption of acute and chronic ambient-based selenium standards.

Middle Arkansas River 7a-7b: The following waters were moved to a new Segment 7b: The mainstem of Greenhorn Creek, including all tributaries and wetlands, from the San Isabel National Forest boundary to a point immediately below the Greenhorn Highline (Hayden Supply Ditch) diversion dam. The mainstem of Graneros Creek below the San Isabel National Forest boundary.

The following waters were moved from Segment 4d to a new Segment 7a: All tributaries to Muddy Creek other than North Muddy Creek, including wetlands, from the source to the San Isabel National Forest boundary.

The following waters were moved from Segment 4d to a new Segment 7b: Muddy Creek, including all tributaries and wetlands, from the San Isabel National Forest boundary to 232/Bondurant Road.

The lakes and reservoirs in Segment 7 were moved to a new Segment 23.

These waters were split into different segments or combined to facilitate the adoption of appropriate temperature and nutrients standards.

Middle Arkansas River 8: This segment was deleted and Beckwith Reservoir was moved to a new Segment 23 to facilitate the adoption of appropriate temperature and nutrients standards.

Middle Arkansas River 11a-11b, 12: The following waters were moved from Segment 11 to a new Segment 1: All tributaries, including wetlands, to the Arkansas River within the Sangre de Cristo and Greenhorn Wilderness Areas.

The following waters were moved from Segment 11 to a new Segment 11b: Mainstem of the Huerfano River including all tributaries, and wetlands, lakes and reservoirs from 570 Road near Malachite, to the confluence with Muddy Creek near Gardner. Mainstem of Turkey Creek (in Huerfano County) from 620 Road to the confluence with the Huerfano River.

The following waters were moved from Lower Arkansas Segment 2a to Segment 11a: Pass Creek, including all tributaries and wetlands, from the source to 565 Road. Muddy Creek, including all tributaries and wetlands, from the source to a point immediately below the confluence with Bruff Creek, not within the Sangre de Cristo and Greenhorn Wilderness Areas.

The following waters were moved from Lower Arkansas Segment 2a to Segment 11b: All tributaries, including wetlands to the Huerfano River, from the confluence with Muddy Creek near Gardner to Highway 69 at Badito, that are not within the Sangre de Cristo and Greenhorn Wilderness Areas or the San Isabel National Forest.

The following waters were moved from Segment 12 to Segment 11b: Mainstem of the Huerfano River, from the confluence with Muddy Creek near Gardner to Highway 69 at Badito.

The lakes and reservoirs in Segment 11 were moved to a new Segment 24.

These waters were split into different segments or combined to facilitate the adoption of appropriate temperature and nutrients standards.

Middle Arkansas River 13a-13b: All tributaries, including wetlands, to the Cucharas River within the Spanish Peaks Wilderness Area were moved from Segment 13 to a new Segment 1.

The following waters from Segment 13 were moved to a new Segment 13b: Mainstem of the Cucharas River from a point immediately above the confluence with Middle Creek to the point of diversion for the Walsenburg public water supply (~1.75 miles downstream from 350 Road). All tributaries to the Cucharas River, including wetlands, not within the San Isabel National Forest boundaries. Mainstem of Middle Creek, including all tributaries and wetlands, from a point immediately below the confluence of North and South Middle Creeks to the confluence with the Cucharas River.

The lakes and reservoirs in Segment 13 were moved to a new Segment 25. The remaining portions of Segment 13 became Segment 13a.

These waters were split into different segments to facilitate the adoption of appropriate temperature and nutrients standards.

Middle Arkansas River 16: This segment was deleted. Huajatolla and Diagre Reservoirs were moved to a new Segment 25. Horseshoe Lake, Martin Lake (Ohem Lake) and Walsenburg Lower Town Lake were moved to a new Segment 26. These waters were split into different segments to facilitate the adoption of appropriate temperature and nutrients standards.

Middle Arkansas River 17: The following waters were moved from Lower Arkansas Segment 2a: The mainstem of South Apache Creek, including all tributaries and wetlands, from the boundary of BLM lands, in Section 25, T25S, R68W to the confluence with North Apache Creek. The mainstem of North Apache Creek, including all tributaries and wetlands, from the southern boundary of Section 24, T25S, R68W to the confluence with South Apache Creek. All tributaries, including wetlands, to the Huerfano River above the confluence with the Cucharas River that are within the San Isabel National Forest boundaries that are not within the Sangre de Cristo and Greenhorn Wilderness Areas, except for specific listings in segment 11a. These waters were combined to facilitate the adoption of appropriate temperature standards.

Middle Arkansas River 19: This segment was created to encompass the lakes and reservoirs tributary to the Arkansas River within the Sangre de Cristo, Greenhorn, and Spanish Peaks Wilderness Areas, formerly in Middle Arkansas Segments 11, 13 and 17 and Lower Arkansas Segments 2a, 3a and 3b. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Middle Arkansas River 20: This segment was created to encompass Pueblo Reservoir formerly in Segment 1. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Middle Arkansas River 21: This segment was created to encompass the lakes and reservoirs tributary to Chico Creek from the source to the confluence with the Arkansas River formerly in Segment 4c. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Middle Arkansas River 22: This segment was created to encompass the lakes and reservoirs tributary to the Saint Charles River from the source to a point immediately above the CF&I diversion canal near Burnt Mill formerly in Segment 5. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Middle Arkansas River 23: This segment was created to encompass Beckwith Reservoir formerly in Segment 8; the lakes and reservoirs tributary to Greenhorn Creek from the source to a point immediately below the Greenhorn Highline (Hayden Supply Ditch) diversion dam formerly in Segment 7; the lakes and reservoirs tributary to Graneros Creek from the source to the San Isabel National Forest boundary formerly in Segment 4d; and the lakes and reservoirs tributary to Muddy Creek from the source to 232/Bondurant Road formerly in Segment 4d. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Middle Arkansas River 24: This segment was created to encompass the lakes and reservoirs tributary to the Huerfano River from the source to Highway 69 at Badito, not within the Sangre de Cristo and Greenhorn Wilderness Areas formerly in Middle Arkansas Segment 11 and Lower Arkansas Segment 2a. All lakes and reservoirs tributary to the Huerfano River above the confluence with the Cucharas River that are within the San Isabel National Forest boundaries, not within the Sangre de Cristo and Greenhorn Wilderness Areas formerly in Lower Arkansas Segment 2a. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Middle Arkansas River 25: This segment was created to encompass Huajatolla and Diagre Reservoirs formerly in Segment 16, as well as the lakes and reservoirs tributary to the Cucharas River from the source to the point of diversion for the Walsenburg public water supply not within the Spanish Peaks Wilderness Area formerly in Segment 13. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Middle Arkansas River 26: This segment was created to encompass Horseshoe Lake, Martin (Ohem) Lake, and Walsenburg Lower Town Lake formerly in Segment 16. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Middle Arkansas River 27: This segment was created to encompass Teller Reservoir, which was formerly in Segment 4d. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Middle Arkansas River 28: This segment was created to encompass Valco Ponds and Runyon/Fountain Lake formerly in Segment 3. This segment was created to facilitate the adoption of appropriate temperature and nutrients and nutrients standards.

Fountain Creek 1a: The coldwater lakes and reservoirs less than 100 acres in surface area in this segment were moved to a new Segment 8. Coldwater lakes and reservoirs greater than 100 acres in surface area were moved to a new Segment 9. These large coldwater lakes included North and South Catamount Reservoirs and Crystal Creek Reservoir. These waters were split into different segments to facilitate the adoption of appropriate temperature and nutrients standards.

Fountain Creek 3a: The lakes and reservoirs in this segment, except AFA Non-Potable Reservoir #1, were moved to a new Segment 10. AFA Non-Potable Reservoir #1 was moved to a new Segment 11. These waters were split into different segments to facilitate the adoption of appropriate temperature and nutrients standards.

Fountain Creek 3b-4: The lower boundary of Segment 3b was extended to encompass portions of Bear Creek that previously existed in Segment 4. This boundary was changed because several multi-metric index (MMI) scores indicated a diverse and sensitive benthic macroinvertebrate community that is presently under-protected by an Aquatic Life Warm 2 designation. This segment was modified to facilitate the adoption of appropriate Aquatic Life use classifications and temperature standards.

Fountain Creek 4: The lakes and reservoirs in this segment were moved to a new Segment 11 to facilitate the adoption of appropriate temperature and nutrients standards.

Fountain Creek 8: This segment was created to encompass the non-large coldwater lakes and reservoirs tributary to Fountain Creek from the source to a point immediately above the confluence with Monument Creek, formerly in Segment 1a. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Fountain Creek 9: This segment was created to encompass the large coldwater lakes and reservoirs tributary to Fountain Creek from the source to a point immediately above the confluence with Monument Creek that are larger than 100 acres in surface area, formerly in Segment 1a.

Fountain Creek 10: This segment was created to encompass the lakes and reservoirs tributary to Fountain Creek which are within the boundaries of National Forest or Air Force Academy lands from a point immediately above the confluence with Monument Creek to the confluence with the Arkansas River, formerly in Segment 3a. This includes a coldwater lake that is greater than 100 acres in surface area – Rampart Reservoir. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Fountain Creek 11: This segment was created to encompass the lakes and reservoirs tributary to Fountain Creek which are not within the boundaries of National Forest or Air Force Academy lands, except AFA Non-Potable Reservoir #1, from a point immediately above the confluence with Monument Creek to the confluence with the Arkansas River, formerly in Segment 4. This segment was created to facilitate the adoption of appropriate Aquatic Life use classifications and temperature and nutrients standards.

Lower Arkansas River 2a: Numerous tributaries, including wetlands, in this segment were moved to Middle Arkansas Segments 1, 11a, 11b and 17 and Lower Arkansas Segments 9a and 9b. The lakes and reservoirs in this segment were moved to Middle Arkansas Segments 19 and 24 and Lower Arkansas segment 19. These waters were split into different segments to facilitate the adoption of appropriate temperature and nutrients standards.

Lower Arkansas River 3a: The tributaries in this segment within the Spanish Peaks Wilderness Area were moved to Middle Arkansas Segment 1. The lakes and reservoirs in this segment within the Spanish Peaks Wilderness Area were moved to a new Middle Arkansas Segment 19. The lakes and reservoirs in this segment not within the Spanish Peaks Wilderness Area were moved to a new Segment 14. These waters were split into different segments to facilitate the adoption of appropriate temperature and nutrients standards.

Lower Arkansas River 3b: The tributaries in this segment within the Spanish Peaks Wilderness Area were moved to a new Middle Arkansas Segment 1. These waters were split into different segments to facilitate the adoption of appropriate temperature standards.

Lower Arkansas River 4a-4b: The mainstem of the Apishapa River from I-25 to the confluence with the Arkansas River and the mainstem of Timpas Creek from the source to the Arkansas River were moved to Segment 4a to facilitate the adoption of a Water Supply use classification and the appropriate Aquatic Life use classification of Aquatic Life Warm 1.

The mainstem of Lorencito Canyon from the source to the confluence with the Purgatoire River was moved to Segment 4b.

Lower Arkansas River 5a-5b: The following waters were moved to a new rivers and streams Segment 5b: The mainstem of the North Fork of the Purgatoire River, including all tributaries and wetlands, from a point immediately below the confluence with Guajatoyah Creek to the confluence with the Purgatoire River. The mainstem of the Middle Fork of the Purgatoire River from the Bar Ni Ranch Road at Stonewall Gap to the confluence with the North Fork of the Purgatoire River. The mainstem of the South Fork of the Purgatoire River from Tercio to the confluence with the Purgatoire River. The mainstem of the Purgatoire River to Interstate 25. The mainstem of Long Canyon Creek from the source to Trinidad Reservoir. The mainstem of Raton Creek from the source to the confluence with the Purgatoire River.

The lakes and reservoirs in Segment 5a, including North Lake and Monument Lake, were moved to a new Segment 15. The lakes and reservoirs formerly in Segment 5b, including Trinidad Reservoir (Lake), Long Canyon Reservoir and Lake Dorothey, were also moved to a new Segment 15.

These waters were split into different segments or combined to facilitate the adoption of appropriate temperature and nutrients standards.

Lower Arkansas River 5c: A new segment was created for the Purgatoire River from the outlet of Trinidad Lake to I-25 and the mainstem of Raton Creek from the source to the confluence of Purgatoire River

Lower Arkansas River 6a-6b: Wet Canyon and all tributaries, including wetlands, from the source to the confluence with the Purgatoire River was moved to Segment 6b to facilitate the adoption of a Water Supply use for new Segment 6b.

The lakes and reservoirs in this segment were moved to a new Segment 16. Lakes and reservoirs tributary to Wet Canyon were moved to a new Segment 17.

These waters were split into different segments or combined to facilitate the adoption of appropriate temperature and nutrients standards.

Lower Arkansas River 8: The lakes and reservoirs in this segment were moved to a new Segment 18 to facilitate the adoption of appropriate temperature and nutrients standards.

Lower Arkansas River 9a-9c: The following waters were moved from Segment 2a to Segment 9a: The mainstems of Chacuacho Creek, San Francisco Creek and Van Bremer Arroyo from their sources to their confluences with the Purgatoire River.

The following waters were moved from Segment 2a to Segment 9b: The mainstem of Mud Creek from V Road to the confluence with the Arkansas River. The mainstems of Frijole Creek and Luning Arroyo from their sources to their confluences with the Purgatoire River. The mainstem of Blackwell Arroyo from its source to the confluence with Luning Arroyo. The mainstem of San Isidro Creek from its source to the confluence with San Francisco Creek.

The following waters were moved from Segment 9b to Segment 9a: The mainstems of Wildhorse Creek and Wolf Creek from their sources to their confluences with the Arkansas River.

The following waters were moved from Segment 9c to Segment 9a: The mainstems Clay and Two Butte Creeks from their sources to their confluences with the Arkansas. The mainstem of Trinchera Creek from the source to the confluence with the Purgatoire River.

The following waters were moved from Segment 9c to Segment 9b: The mainstem of Rule Creek from the Bent/Las Animas county line to John Martin Reservoir. The mainstem of Muddy Creek from the south boundary of the Setchfield State Wildlife Area to the confluence with Rule Creek. The mainstem of Caddoa Creek from CC Road to the confluence with the Arkansas River. The mainstem of Cat Creek to the confluence with Clay Creek. The mainstem of Mustang Creek from the source to the confluence with Apishapa River. The mainstem of Chicosa Creek from the source to the Arkansas River. The mainstem of Smith Canyon from the Otero/Las Animas county line to the confluence with the Purgatoire River

Segment 9c was deleted.

These waters were split into different segments or combined to facilitate the adoption of appropriate temperature and nutrients standards.

Lower Arkansas River 14: This segment was created to encompass the lakes and reservoirs tributary to tributary to the Apishapa River from the source to I-25 not within the Spanish Peaks Wilderness Area formerly in Segment 3a. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Lower Arkansas River 15: This segment was created to encompass the lakes and reservoirs formerly in Segment 5a that are tributary to the mainstem of the North Fork of the Purgatoire River from the source to a point immediately below the confluence with Guajatoyah Creek, including Monument Lake and North Lake. All lakes and reservoirs tributary to the Middle Fork of the Purgatoire River from the source to the USGS gage at Stonewall mainstem of the South Fork of the Purgatoire River, from the source to Tercio. Trinidad Reservoir, Long Canyon Reservoir and Lake Dorothy formerly in Segment 5b. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards. Trinidad Reservoir was changed to Trinidad Lake.

Lower Arkansas River 16: This segment was created to encompass the lakes and reservoirs tributary to the Purgatoire River from the source to I-25 that are not contained in Segment 15 and 17. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Lower Arkansas River 17: This segment was created to encompass the lakes and reservoirs tributary to Wet Canyon from the source to the confluence with the Purgatoire River formerly in Segment 6. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Lower Arkansas River 18: This segment was created to encompass the lakes and reservoirs tributary to Ricardo Creek, which are within Colorado (Costilla and Las Animas Counties) and lakes and reservoirs tributary to the Canadian River formerly in Segment 8. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Lower Arkansas River 19: This segment was created to encompass all remaining lakes and reservoirs tributary to Arkansas River, except for specific listings in segments 10-18 and Middle Arkansas Basin segments 19-28 formerly in Segment 2a. This segment was created to facilitate the adoption of appropriate temperature and nutrients standards.

Cimarron River 1: The lakes and reservoirs in this segment were moved to a new Segment 3 to facilitate the adoption of appropriate temperature and nutrients standards.

Cimarron River 3: This segment was created to encompass the lakes and reservoirs tributary to the Cimarron River formerly in Segment 1.

The following segment descriptions were edited to improve clarity, correct typographical errors, and correct spelling errors:

Upper Arkansas segments: 1a, 10, 11, 12b, 13, 14b, 15, 16a, 17a-c, 18, 19, 24 and 27

Middle Arkansas segments: 4c, 4d, 5a, 7a, 11a and 18b

Fountain Creek segments: 1a, 3a-b, 4 and 7b

Lower Arkansas segments: 3a, 3b, 3c, 5a, 8, 9a, 9b and 13

Cimarron segment: 1

#### **B. Revised Aquatic-Life Use Classifications**

The Commission reviewed information regarding the existing aquatic communities. Class 2 segments with exceptionally high MMI scores or a wide variety of fish species, were upgraded from Class 2 to Class 1.

The following segments were upgraded from Warm 2 to Warm 1.

Middle Arkansas segment: 4b

Cimarron segment: 2

Portions of the following segments were moved which resulted in an upgrade.

Lower Arkansas segments: 2a and 9a



The following portions of segments were upgraded from Cold 2 to Cold 1:

The upper portions of North and South Forks of Hardscrabble Creek above the National Forest boundary, formerly in Segment 14b, were moved to Segment 14c.

The tributaries of Grape Creek from its source to the outlet of DeWeese Reservoir, formerly in Segment 14b, were moved to Segment 15.

Portions of segments were upgraded from Warm 2 to Cold 1 based on biological data showing that the segment has a wide variety of cold-water species and moved to other segments:

Bear Creek between N38.47682/W104.54917 and Gold Camp Road, formerly in Fountain Creek Segment 4, was moved to Fountain Creek Segment 3b.

Portions of Lower Arkansas Segment 2a were moved to Middle Arkansas Segments 1, 11a, 11b and 17, and to Lower Arkansas Segments 9a and 9b to facilitate adoption of temperature standards.

The portion of Lower Arkansas 3b in the Spanish Peaks Wilderness Area was moved to Middle Arkansas Segment 1.

The Fish Ingestion qualifier was deleted for the following segment that was upgraded from Class 2 to Class 1, since fish ingestion is presumed for all Class 1 waters:

Cimarron segment: 2

A Use Attainability Analysis was prepared for each of the following segments, or portions of segments, to downgrade them from Cold 1 to Warm 1 or 2.

Upper Arkansas segments: 4b and 40

Fountain Creek segment: 11

A Use Attainability Analysis was prepared to downgrade a portion of the following segments, from Cold 1 to Cold 2.

Tributaries and wetlands of mainstem Wilson Creek (Teller County) formerly in Upper Arkansas Segment 20 were moved to Segment 23.

A Use Attainability Analysis was prepared to downgrade the following segment from Cold 2 to Warm 1: Fountain Creek Segment 5.

#### **C. Recreation Classifications and Standards**

Newly created segments were given the same Recreation use classification as the segment from which they were split, unless there was insufficient evidence to support keeping that classification, or evidence to show that the existing use classification was inappropriate.

Portions of the following segments with year-round, or seasonal Recreation N standards were upgraded to Recreation E and moved into other segments.

Lower Arkansas segments: 2a and 3b

Cimarron segment: 1

The following segment with year-round or seasonal Recreation P standards was upgraded to Recreation E: Fountain Creek Segment 7a.

A Use Attainability Analysis was prepared to downgrade the following segment from Recreation E to Recreation P: Middle Arkansas Segment 4f.

**D. Water Supply Use Classification and Standards**

The Commission added a Water Supply use classification and standards where the evidence demonstrates a reasonable potential for a hydrological connection between surface water and alluvial wells used for drinking water. The Water Supply use classification and standards were added to the following segments:

Upper Arkansas segments: 2c and 14b  
Fountain Creek segment: 4  
Lower Arkansas segments: 2a, 4a, 9a and 9b

A review of the segments with an existing Water Supply use classification showed that some segments were missing one or more standards to protect that use. The full suite of Water Supply standards were added to the following segments:

Upper Arkansas segment: 19  
Fountain Creek segment: 7a

**E. Agriculture Standards**

**Chromium III:** A review of the standards associated with the Agriculture use classification showed that many segments were missing a chronic chromium III standard to protect the use. The chronic chromium III standard to protect the Aquatic Life use classification may be not be protective of the Agriculture use in some high hardness situations. A chromium III standard of  $CrIII(ch)=100(Trec)$ , was added to the following segments classified for Agriculture use, but not for Water Supply, which has a more restrictive chromium III standard:

Upper Arkansas segments: 14a, 17b, 20a, 23 and 26  
Middle Arkansas segments: 4a, 4b, 4c, 10, 12 and 14  
Fountain Creek segments: 5 and 7b  
Lower Arkansas segments: 7, 12 and 13  
Cimarron segment: 2

**Molybdenum:** In 2010, the Commission adopted a new standard for molybdenum to protect cattle from the effects of molybdenosis. The table value adopted at that time was 300 ug/l, but included an assumption of 48 mg/day of copper supplementation to ameliorate the effects of molybdenosis. State and local experts on cattle nutrition indicated that copper supplementation in region is common, but is not universal. Therefore, copper supplementation assumption was removed from the equation, which yields a standard of 160 ug/l. The Commission expects that this value may be revised when data on the copper and molybdenum content of local forage becomes available. The Commission also notes that in view of EPA's disapproval of the 300 ug/l table value in the Basic Standards and Methodologies for Surface Water, the Commission intends to review this value during the next Basic Standards triennial review.

The Agriculture table value assumes that the safe copper:molybdenum ratio is 4:1. Food and water intake is based on a 273 kg (600 lb) feeder steer consuming 6.8 kg/day of dry matter and 20% of its body weight in water per day. Total copper and molybdenum intakes are calculated from the following equations:

$$Cu \text{ intake mg/day} = [(Cu) \text{ forage, mg/kg}] \times (\text{forage intake, kg/day}) + [(Cu) \text{ water, mg/l}] \times (\text{water intake, L/day}) + (Cu \text{ supplementation, mg/day})$$

$$Mo \text{ intake mg/day} = [(Mo) \text{ forage, mg/kg}] \times (\text{forage intake, kg/day}) + [(Mo) \text{ water, mg/l}] \times (\text{water intake, L/day}) + (Mo \text{ supplementation, mg/day})$$

The assumed values for these equations are as follows:

[Cu] forage = 7 mg/kg, [Mo] forage = 0.5 mg/kg, forage intake = 6.8 kg/day, [Cu] water = 0.008 mg/L, [Mo] water = 0.375 mg/L, water intake = 54.6 L/day, Cu supplementation = 0 mg/day, Mo supplementation = 0 mg/day.

A molybdenum standard of 160 ug/l was adopted for the following segments in Regulation 32 that have an Agriculture use classification, and where livestock or irrigated forage are present or expected to be present.

Upper Arkansas segments: All segments, except 1b  
Middle Arkansas segments: All segments, except 8 (deleted) and 16 (deleted)  
Fountain Creek segments: All segments  
Lower Arkansas segments: All segments, except 9c (deleted)  
Cimarron segments: All segments

The following segments do not have an Agriculture use classification, and livestock or irrigated forage are not expected to be present. A molybdenum standard of 210 ug/L was applied to these segments to protect the Water Supply use classification:

Upper Arkansas segments: 1b

#### F. Changes to Antidegradation Designation

Decoupling Cold 2 and Use-Protected designations: As part of the Basic Standards hearing of 2005, the Commission eliminated the direct linkage between Cold Water Aquatic Life Class 2 and the Use-Protected designation. The Commission reviewed all Cold 2 segments that were Use-Protected to determine if that designation was still warranted. No segments were changed to Reviewable.

Decoupling Aquatic Life Warm 2 and Use-Protected designations: As part of the Basic Standards hearing of 2005, the Commission decided that the presence of a Warm Water Class 2 classification would still be a presumptive basis for applying a Use-Protected designation; however, that presumption can be overcome if there is data showing that the water is of high quality. The Commission reviewed all Warm 2 segments to determine if the Use-Protected designation is still warranted.

The Commission declined to adopt the Division's proposal that the Use-Protected designation be removed from Fountain Creek segment 4. The Commission decided not to proceed with this change based on the data currently available in view of the numerous tributaries included in this segment. The Commission strongly encourages further consideration of the appropriate segmentation for the waters now included in this segment.

#### G. Ambient Standards

Ambient standards are adopted where natural or irreversible man-induced conditions result in exceedances of table value standards. The Commission reviewed the information that is the basis for these standards, as well as any new information that would indicate whether they are still appropriate, need to be modified, or should be dropped. In some cases, new ambient standards were adopted.

The Commission found that elevated concentrations cannot be improved upon in several segments, and that adoption or revision of ambient quality-based standards is appropriate. Typically, water quality conditions vary spatially, and may also vary seasonally. The Commission's intent generally in adopting ambient quality-based standards where the existing quality is worse than table values is to provide that existing quality should not deteriorate. The Commission believes that the issue of how those ambient standards are implemented in specific situations needs further consideration and perhaps clarification in the Basic Standards.

The following segments have ambient-based standards:

Upper Arkansas segments: 4a, 10, 11, 14c, 20a, 20b, 22a and 35

Middle Arkansas segments: 3, 4a, 4e, 4g, 6b and 18b

Fountain Creek segments: 2a and 2b

Lower Arkansas segments: 1a, 1b, 1c, 2b and 2c

The Commission adopted the Division's proposal for ambient selenium standards for Fountain Creek segments 2a and 2b, since the proposed standards are appropriately based on the currently available information and the established approach to calculating ambient water quality. The Commission strongly encourages further consideration of the appropriate segmentation of these portions of Fountain Creek.

#### **H. Aquatic Life Ammonia and Metals Standards**

**New Table Value Standards:** The zinc, zinc sculpin, and aluminum table values were revised in the 2010 Basic Standards hearing. The acute and chronic zinc, zinc sculpin, and aluminum equations in 32.6(3) were modified to conform to Regulation No. 31. The footnotes to the table values in 32.6(3) were renumbered to match the appropriate references. Footnote (4 old) was deleted, and footnotes 5 through 7 were renumbered 4 through 6.

**Chromium III Standards (Aquatic Life + Water Supply use):** A review of chromium III standards showed that the standard associated with the Water Supply use classification is not protective of aquatic life where the average hardness is low (less than 61 mg/l). A chromium III standard, CrIII(ch)=TVS, was added to the following segments with Aquatic Life and Water Supply use classifications that did not previously include this standard:

Upper Arkansas segments: 1a-b, 2a, 3, 5, 7, 8a, 10, 12a-b, 13, 15, 16a-c, 17a, 17c, 18, 19, 20b, 23-25 and 27

Middle Arkansas segments: 2, 3, 5a, 6, 7a, 9, 11a, 13a, 17, 18a and 18b

Fountain Creek segments: 1a-b, 2a-b, 3a-b, 6 and 7a

Lower Arkansas segments: 1a, 1b, 1c, 2a, 3a, 3b, 3c, 5a, 8, 10 and 11

**Chromium III Standards (Aquatic Life + No Water Supply use):** A review of chromium III standards showed that some segments with no Water Supply use had a standard that was protective of the Agriculture use classification but was not protective of aquatic life where the average hardness is low (less than 61 mg/L). A chromium III standard, CrIII(ac/ch)=TVS, was added to the following segments with an Aquatic Life use classification, but no Water Supply use, that did not previously include this standard:

Upper Arkansas segments: 2b, 8b, 9, 11, 20a, 21a-b, 22a, and 23

Middle Arkansas segments: 4e and 15

Lower Arkansas segments: 2b, 2c and 6a

Cimarron segment: 1

#### **I. Uranium Standards**

At the 2010 Basic Standards rulemaking hearing, the Commission changed the Water Supply table value for uranium from 30 ug/L to a hyphenated standard of 16.8-30 ug/L. The Commission revised the language in 32.5(3)(c) to reflect the change to the basin-wide standard. A new section 32.5(3)(c)(i) was added to explain the hyphenated standard. Subsection 32.5(3)(d) was deleted because it was redundant with 32.5(3)(c).

**J. Temporary Modifications**

All existing Temporary Modifications were examined to determine if they should be allowed to expire or to extend them. Temporary Modifications were not automatically extended if non-attainment persisted due to revisions made to the Temporary Modification provisions in 2005 and 2010.

The following segments had Temporary Modifications that were not renewed:

Upper Arkansas segments: 2b, 3, 8a and 12a  
Middle Arkansas segments: 4c, 6a, 6b and 9  
Fountain Creek segments: 1a, 2a, 4 and 6  
Lower Arkansas segments: 1c, 5a, 5b, 6a, 6b and 7

In some cases, the Commission adopted Temporary Modifications with a narrative value of “current conditions”. It is the Commission’s intent to preserve the status quo during the term of the Temporary Modification. Existing discharges shall continue to be authorized to discharge parameters with a “current conditions” Temporary Modification at their current permitted concentration and flow levels, including a “report only” value. The Commission does not intend that Temporary Modifications set at “current conditions” will apply to new or expanded facilities. Implementation of the underlying standard into existing permits is to take place as soon as feasible after the standard becomes effective in accordance with the Basic Standards and Methodologies for Surface Water.

New or extended Temporary Modifications were adopted for the following segments.

Upper Arkansas Segment 8b: The Commission adopted an extension of Type A Temporary Modifications for chronic cadmium and zinc with an expiration date of December 31, 2017. The extension of the Temporary Modifications to the underlying cadmium and zinc standards recognizes that Resurrection Mining Company (Resurrection) provided water quality data predicting a compliance issue associated with its permitted discharge on Upper Arkansas Segment 8b, and there remains uncertainty as to the appropriate standards for that segment. The Commission further updated the values for the chronic cadmium and zinc Temporary Modifications to 1.6 µg/L and 505 µg/L, respectively, based on recent water quality data. The adopted Temporary Modifications will allow time for Resurrection to develop a more definitive monitoring plan to better demonstrate the appropriate water quality standards for Upper Arkansas Segment 8b.

The Commission also adopted a Type A seasonal Temporary Modification of the temperature standard on Upper Arkansas Segment 8b for the Cold Stream tier II winter months of November-March, with an MWAT of 14 °C and no acute DM standard. The Temporary Modification will expire on December 31, 2017. There is uncertainty as to the appropriate underlying temperature standard for Upper Arkansas Segment 8b. During the term of the Temporary Modification, Resurrection will perform additional biological sampling, flow and temperature analysis with the objective of resolving the uncertainty associated with the appropriate temperature standards. Resurrection will also further address issues associated with attainability of the temperature standards. The progress on resolving the uncertainty with the chronic cadmium, chronic zinc and winter season temperature standards will be reviewed in the annual Temporary Modification hearing in December 2016.

Middle Arkansas Segment 4b: The Commission adopted a Type A Temporary Modification for all parameters equal to “current conditions”, set to expire December 31, 2018. This would allow the Division and EVRAZ time to consider the alternatives to resolve the uncertainty regarding the appropriate use classifications and standards for Salt Creek.

During the period that the Temporary Modifications are in place, the Division and EVRAZ will complete a Use Attainability Analysis (UAA) to examine the use classifications and standards of Salt Creek, for locations above, including, and below the St. Charles Reservoirs.

On completion of the UAA, the Division and EVRAZ will recommend to the Commission adoption of any changes necessary to assure that the use classifications and standards, if any, are appropriate. Such changes may include use removal, resegmentation of parts of Salt Creek and site-specific uses and standards, if appropriate.

It is anticipated that the studies will be completed by 8/31/2017 so that a reclassification proposal can be introduced to the Commission and the public at the November 2017 Issues Formulation Hearing.

It is understood that by agreeing to work with the Division on a UAA, EVRAZ is not conceding that Salt Creek is state waters, and may assert its position that Salt Creek is not state waters in a future forum.

Lower Arkansas Segment 1b: The Commission adopted an extension of the “current conditions” selenium Temporary Modification for Lower Arkansas Segment 1b until June 30, 2016. The type of Temporary Modification was changed from Type iii to Type B, which reflects the Commission’s 2007 revisions to the Temporary Modification provision at 31.7(3) and acknowledges the uncertainty regarding the extent to which the existing quality is the result of natural or irreversible human-induced conditions.

The Commission’s decision to adopt an extension of the Temporary Modification was based on supporting information describing effluent and ambient quality submitted by the City of La Junta, which demonstrated that La Junta’s existing permitted discharge has a predicted water quality based effluent limit compliance problem.

The City of La Junta also submitted an outline of its plan to move toward elimination of the Temporary Modification. The plan includes data collection and analytical efforts that will allow La Junta to pursue a Discharger Specific Variance (effective 10/01/2013). La Junta will report its progress to the Commission at the 2013 and 2014 annual Temporary Modification hearings.

#### K. Temperature

New table values were adopted for temperature in the 2007 Basic Standards hearing, and revised in the 2010 Basic Standards hearing. Temperature standards were applied to individual segments based upon the fish species expected to be present as provided by the Division of Parks and Wildlife, temperature data, and other available evidence.

The following segments have a Cold Stream Tier I temperature standard (CS-I):

Upper Arkansas segments: 1a-b, 2a-c, 5, 7, 9-11, 12a, 13, 14c, 15, 16a, 17a, 19, 21b and 25  
Middle Arkansas segments: 1, 5a, 7a, 11a, 13a and 17  
Fountain Creek segments: 1b, 3a and 3b  
Lower Arkansas segments: 5a and 8

The following segments have a Cold Stream Tier II temperature standard (CS-II):

Upper Arkansas segments: 3, 4a, 8a-b, 12b, 14b, 14d, 16b-c, 17b-c, 18, 20a, 20b, 21a, 22a-b, 23, 24 and 27  
Middle Arkansas segments: 2, 5b, 7b, 11b and 13b  
Fountain Creek segments: 1a  
Lower Arkansas segments: 3a, 3c, 5b, 6a and 6b

The following segments have a Warm Stream Tier II temperature standard (WS-II):

Upper Arkansas segments: 4b, 14a and 26  
Middle Arkansas segments: 3, 4a, 4b, 4c, 4d, 4e, 4g, 6a, 6b, 9, 10, 12, 14, 15, 18a and 18b  
Fountain Creek segments: 2a-b, 4, 5 and 6

Lower Arkansas segments: 1a, 1b, 1c, 3b, 4a, 4b, 7, 9a and 9b  
Cimarron segments: 1 and 2

Based upon information submitted by the City of Pueblo, the Commission adopted a site-specific temperature standard for Lower Arkansas segment 1a for the month of December, based on temperatures mid-way between the summer and winter table values. The Commission is adopting this standard for this specific segment based on the evidence submitted in this hearing, and this action is not intended as a precedent for winter month standards for other water bodies. The Commission believes that there needs to be consideration in the next Basic Standards review of potential refinements to the current temperature criteria.

The following segments have a Warm Stream Tier III temperature standard (WS-III):

Middle Arkansas segments: 4f  
Lower Arkansas segments: 2a, 2b and 2c

The following segments have a Cold Lakes temperature standard (CL):

Upper Arkansas segments: 28, 29, 31, 32, 33, 34, 36, 37, 38 and 39  
Middle Arkansas segments: 19, 22, 23, 24, 25 and 26  
Fountain Creek segments: 8 and 10  
Lower Arkansas segments: 14, 15, 16, 17 and 18

The following segments have a Large Cold Lakes (greater than 100 acres surface area) temperature standard (CLL):

Upper Arkansas segments: 30, 33, 35, 37 and 38  
Middle Arkansas segments: 20, 26 and 27  
Fountain Creek segments: 9 and 10

The following segments have a Warm Lakes temperature standard (WL):

Upper Arkansas segments: 40  
Middle Arkansas segments: 21 and 28  
Fountain Creek segments: 7a-b and 11  
Lower Arkansas segments: 10, 11, 12, 13 and 19  
Cimarron segments: 3

A temperature standard was not adopted for the following segment, which does not have an Aquatic Life use classification:

Upper Arkansas segments: 6

The following segments have ambient-based temperature standards:

Upper Arkansas segments: 4a, 14c, 20a-b and 35  
Middle Arkansas segments: 20 and 26

The Commission recognizes that in some cases there is uncertainty about the temperature standards adopted in this hearing. The uncertainty stems from a lack of data about temperature, the aquatic community, or where there is a conflict between these two lines of evidence. It is the Commission's intent that the Division and interested parties work to resolve the uncertainty for the following segments:

Upper Arkansas segments: 8b and 14c  
Middle Arkansas segments: 6b  
Lower Arkansas segments: 3a, 3b, 4b, 5b, 6a, 6b, 15, 16 and 17

L. Nutrients

In March 2012, the Commission adopted interim nutrient values in the Basic Standards (Regulation 31) and created a new statewide control regulation (Regulation 85) to address nutrients in Colorado. Regulation 31.17 includes interim nutrient values for total phosphorus, total nitrogen, and chlorophyll *a* for both lakes and reservoirs, and rivers and streams. Due to the phased implementation approach adopted with these criteria (31.17(e)), the Commission adopted only total phosphorus and chlorophyll *a* standards at this time. Nitrogen standards were not considered as part of this rulemaking hearing, but will be considered in the next triennial review, currently scheduled for June, 2018.

Total phosphorus and chlorophyll *a* standards were adopted for waters upstream of all permitted domestic wastewater treatment facilities discharging prior to May 31, 2012 or with preliminary effluent limits requested prior to May 31, 2012, and any non-domestic facilities subject to Regulation 85 effluent limits and discharging prior to May 31, 2012. A new section (4) was added at 32.5 describing implementation of the interim nutrient values into the tables at 32.6, and includes a table which lists these facilities and the segment to which they discharge.

- For segments located entirely above these facilities, nutrient standards apply to the entire segment.
- For segments with portions downstream of these facilities, *nutrient standards only apply above these facilities*. A footnote "C" was added to the total phosphorus and chlorophyll *a* standards in these segments. The footnote references the table of qualified facilities at 36.5(4).
- For segments located entirely below these facilities, nutrient standards do not apply.

For rivers and streams segments, total phosphorus standards were adopted for segments with an Aquatic Life use. Chlorophyll *a* standards were adopted for segments with either an E or P Recreation use classification.

For lakes and reservoirs segments, a footnote "B" was added to total phosphorus and chlorophyll standards adopted for lakes in the tables at 32.6, as these standards only apply to lakes larger than 25 acres.

31.17(e)(ii) also allows the Commission to adopt numeric nutrient standards for Direct Use Water Supply (DUWS) lakes and reservoirs. No proposals were made by the Division to adopt standards based on this provision in this rulemaking.

31.17(e)(iii) also allows the Commission to adopt numeric nutrient standards for circumstances where the provisions of Regulation 85 are not adequate to protect waters from existing or potential nutrient pollution. No proposals were made to adopt standards based on this provision in this rulemaking.

Chlorophyll *a* standards were adopted for the following segments:

Upper Arkansas segments: 1a-b, 2a, 5, 7, 8a-b, 9-11, 12a-b, 13, 14a-d, 15, 16a-c, 17a-c, 18, 19, 20a and 23-40  
Middle Arkansas segments: 1, 4a-g, 5a-b, 6a, 7a-b, 9, 10, 11a-b, 12, 13a-b, 14, 17, 18a-b, 19 and 21-27  
Fountain Creek segments: 1a-b, 3a-b, 4, 6, 7b and 8-11  
Lower Arkansas segments: 2b, 3a, 3c, 4a-b, 5a-b, 6a-b, 8, 9a-b, 10 and 14-19  
Cimarron segments: 2 and 3



Total Phosphorus standards were adopted for the following segments:

Upper Arkansas segments: 1a-b, 2a, 5, 7, 8a-b, 9-11, 12a-b, 13, 14a-d, 15, 16a-c, 17a-c, 18, 19, 20a, 21a, 22a-b and 23-40

Middle Arkansas segments: 1, 4a-e, 5a-b, 6a, 7a-b, 9, 10, 11a-b, 12, 13a-b, 14, 17, 18a-b and 19-27

Fountain Creek segments: 1a-b, 3a-b, 4-6, 7b and 8-11

Lower Arkansas segments: 2a-c, 3a-c, 4a-b, 5a-b, 6a-b, 8, 9a-b and 14-19

Cimarron segments: 1-3

Although the Commission adopted the Division proposal to add total phosphorus standards to Upper Arkansas segments 22a and 22b, questions were raised about the appropriateness of the application of such standards to all headwaters segments with an Aquatic Life use classification. The Commission believes that further consideration is warranted as to whether such standards are appropriate for segments with an Aquatic Life use classification but limited numerical standards, e.g. not including an ammonia standard to protect aquatic life.

**M. Direct Use Water Supply Sub-classification**

Also in the March 2012 rulemaking hearing, the Commission adopted a sub-classification of the Domestic Water Supply Use called "Direct Use Water Supply Lakes and Reservoirs Sub-classification (Regulation #31, at 31.13(1)(d)(i)). This sub-classification is for water supply lakes and reservoirs where there is a plant intake location in the lake or reservoir or a man-made conveyance from the lake or reservoir that is used regularly to provide raw water directly to a water treatment plant that treats and disinfects raw water. In this action today, the Commission has begun to apply this sub-classification and anticipates that it will take several basin reviews to evaluate all the reservoirs in the basin. The Commission adopted the DUWS sub-classification on the following reservoirs and added "DUWS" to the classification column in the standards tables. The public water systems are listed along with the reservoirs and segments.

Upper Arkansas segment 38 Bison Reservoir: City of Victor

Middle Arkansas segment 20 Pueblo Reservoir: Pueblo Board of Water Works, St Charles Mesa, Pueblo West, Fountain Valley

Middle Arkansas segment 23 Beckwith Reservoir: City of Colorado City

Middle Arkansas segment 26 Horseshoe, Martin and Lower Walsenburg Reservoirs: City of Walsenburg

Fountain Creek segment 9 North Catamount Reservoir, South Catamount Reservoir, and Crystal Creek Reservoir: City of Colorado Springs

Fountain Creek segment 10 Rampart Reservoir: City of Colorado Springs

Lower Arkansas segment 15 Monument and North Lakes: City of Trinidad

Also see Pueblo Reservoir discussion in Section "O" below.

**N. Other Site-Specific Revisions**

Upper Arkansas River 1b: This segment had an ambient acute zinc standard. Recent data showed that East Fork of the Arkansas River was attaining the table value standards for zinc, so the ambient-based acute standard was replaced with TVS.

Upper Arkansas River 2b: This segment was missing a nitrate standard. This segment does not have a Water Supply use, so a TVS nitrate standard of 100 mg/L was added to this segment to protect the Agriculture use classification.

Upper Arkansas River 8a: A footnote "A" was added to the chronic arsenic standard to explain the hyphenated standard.

Upper Arkansas River 8b: This segment was missing a boron and nitrate standard. A TVS boron standard of 0.75 mg/L was added to this segment to protect the Agriculture use classification. This segment does not have a Water Supply use, so a TVS nitrate standard of 100 mg/L was added to this segment to protect the Agriculture use classification.

Upper Arkansas River 9: This segment was missing a nitrate standard. This segment does not have a Water Supply use, so a TVS nitrate standard of 100 mg/L was added to this segment to protect the Agriculture use classification.

Upper Arkansas River 10: This segment had an ambient chronic copper standard. Recent data showed that the copper concentrations were higher than the ambient-based chronic copper and acute TVS copper standards, so the chronic copper standard was changed from 8.0 ug/L to 10.6 ug/L and an ambient-based acute copper standard was added by changing TVS to 14.6 ug/L.

Upper Arkansas River 11: This segment was missing a nitrate standard. This segment does not have a Water Supply use, so a TVS nitrate standard of 100 mg/L was added. This segment was missing chronic copper standard. A chronic TVS copper standard was added.

The standard for pH is based on ambient conditions which are due to uncontrollable non-point sources. There continues to be no active mining in this segment and recent evidence continues to indicate low pH values. Therefore, the ambient pH standard of 5.0 was left unchanged.

This segment had ambient aluminum and iron standards. No recent data was available to determine if a change was needed to the ambient aluminum standard. Therefore, the ambient aluminum standard of 750 ug/L was left unchanged. Recent data showed that the iron concentrations were lower than the table value standard (TVS), so the total recoverable iron standard was changed from 2000 ug/L to TVS.

Upper Arkansas River 14a: This segment does not have a Water Supply use, but had a nitrite standard associated with that use. The nitrite standard was changed from 0.05 mg/L to 0.5 mg/L to protect the Aquatic Life Warm 2 use classification. This segment was also missing a nitrate standard, so a TVS nitrate standard of 100 mg/L was added to this segment to protect the Agriculture use classification.

Upper Arkansas River 16b: A footnote "A" was added to the chronic arsenic standard to explain the hyphenated standard.

Upper Arkansas River 17b: This segment was missing a nitrate standard. This segment does not have a Water Supply use, so a TVS nitrate standard of 100 mg/L was added.

Upper Arkansas River 17c: This segment was missing acute and chronic nickel standards. Acute and chronic TVS nickel standards were added to this segment.

Upper Arkansas River 21a: This segment was missing a nitrate standard. This segment does not have a Water Supply use, so a TVS nitrate standard of 100 mg/L was added. The acute and chronic TVS cadmium standards were combined to read as: Cd(ac/ch)=TVS.

Upper Arkansas River 21b: This segment was missing a nitrate standard. This segment does not have a Water Supply use, so a TVS nitrate standard of 100 mg/L was added to this segment to protect the Agriculture use classification.

Upper Arkansas River 22a: This segment was missing a nitrate standard. This segment does not have a Water Supply use, so a TVS nitrate standard of 100 mg/L was added to this segment to protect the Agriculture use classification.

This segment had ambient pH, aluminum, manganese and zinc standards. No recent data was available to determine if a change was needed to any of the ambient-based standards, so all ambient standards were left unchanged.

Upper Arkansas River 26: This segment does not have a Water Supply use, but had a nitrite standard associated with that use. The nitrite standard was changed from 0.05 mg/L to 0.5 mg/L to this segment to protect the Aquatic Life Warm 2 use classification. This segment was also missing a nitrate standard, so a TVS nitrate standard of 100 mg/L was added to this segment to protect the Agriculture use classification.

Upper Arkansas River 33: A footnote "A" was added to the chronic arsenic standard to explain the hyphenated standard.

Middle Arkansas River 2: The Recreation use classification had been omitted for this segment. A Recreation E use classification was added to this segment.

Middle Arkansas River 3: Recent data showed that the selenium concentrations were lower than the ambient-based standard, so the selenium standards were recalculated and changed from (ac)=50.9 ug/L to (ac)=26.3 ug/L and (ch)=17.4 ug/L to (ch)=17.1 ug/L. The acute chromium III standard was also corrected from CrIII(ac)=TVS(Trec) to CrIII(ac)=50(Trec), to protect the Water Supply use classification.

Middle Arkansas River 4a: This segment was missing a nitrate standard. This segment does not have a Water Supply use, so a TVS nitrate standard of 100 mg/L was added to this segment to protect the Agriculture use classification.

Middle Arkansas River 4b: This segment was missing a nitrate standard. This segment does not have a Water Supply use, so a TVS nitrate standard of 100 mg/L was added to this segment to protect the Agriculture use classification.

The Aquatic Life use classification for this segment was changed from Warm 2 to Warm 1. Therefore, an acute arsenic standard of 340 ug/L was added and the chronic arsenic standard was changed from 100(Trec) to 7.6(Trec).

Middle Arkansas River 4d: The exceptions in the segment description were amended to reflect the existence of Segments 4e, 4f, 4g and 18b.

Middle Arkansas River 6a and 6b: A footnote "A" was added to the chronic arsenic standard to explain the hyphenated standard.

Middle Arkansas River 10: This segment was missing a nitrate standard. This segment does not have a Water Supply use, so a TVS nitrate standard of 100 mg/L was added to this segment to protect the Agriculture use classification. The chronic and acute arsenic standards were reordered for consistency.

Middle Arkansas River 12: A footnote "A" was added to the chronic arsenic standard to explain the hyphenated standard.

Middle Arkansas River 14: This segment was missing a nitrate standard. This segment does not have a Water Supply use, so a TVS nitrate standard of 100 mg/L was added to this segment to protect the Agriculture use classification.

Middle Arkansas River 18b: The segment description was changed to more precisely describe the unnamed tributary to the Arkansas located in Section 33, Township 20 South, Range 65 West. The segment description now states: Unnamed tributary to Arkansas River, that flows from the south and whose confluence with the Arkansas River is located at 38.267623, -104.668298.

Fountain Creek 2a: The nitrite standard was changed from 1.0 mg/L to 0.5 mg/L to protect the Aquatic Life use classification. A footnote "A" was added to the chronic arsenic standard to explain the hyphenated standard.

This segment had ambient sulfate and selenium standards. Recent data showed that the sulfate and selenium concentrations were lower than the ambient-based standard, so the sulfate standard was changed from 330 mg/L to 290 mg/L and the chronic selenium standard was changed from 8.0 ug/L to 4.8 ug/L. In the latter instance, an existing ambient chronic selenium standard was in place, but the acute standard was not. Recent data showed that Fountain Creek, from a point immediately above the confluence with Monument Creek to a point immediately above State Highway 47, was attaining the table value standards for acute selenium, so the TVS standard was left unchanged.

Fountain Creek 2b: The nitrite standard was changed from 1.0 mg/L to 0.5 mg/L to protect the Aquatic Life use classification. A footnote "A" was added to the chronic arsenic standard to explain the hyphenated standard.

This segment had an ambient iron standard. Recent data showed that the iron concentrations were lower than the ambient-based standard, so the total recoverable iron standard was changed from 5280 ug/L to 3300 ug/L.

This segment had attainability-based underlying sulfate and selenium standards. Recent water quality data showed that sulfate and selenium concentrations were higher than the attainability-based standards, so the sulfate and selenium standards were left unchanged because this increase indicates that sulfate and selenium loads in this basin are not presently being reduced enough to merit reconsideration of the attainability-based underlying standards.

Fountain Creek 3a: This segment had duplicate standards for acute manganese. The numeric standard Mn(ac)=TVS was deleted while Mn(ac/ch)=TVS was retained.

Fountain Creek 3b: This segment had duplicate standards for acute manganese. The numeric standard Mn(ac)=TVS was deleted while Mn(ac/ch)=TVS was retained.

Fountain Creek 4: A footnote "A" was added to the chronic arsenic standard to explain the hyphenated standard.

Fountain Creek 5: This segment was missing a nitrate standard. This segment does not have a Water Supply use, so a TVS nitrate standard of 100 mg/L was added to this segment to protect the Agriculture use classification.

Fountain Creek 6: This segment had ambient sulfate and iron standards. Recent data showed that Monument Creek was attaining the table value standards for sulfate and total recoverable iron, so the ambient-based standards were replaced with TVS. A footnote "A" was added to the chronic arsenic standard to explain the hyphenated standard. This segment was also missing a sulfide standard, so a TVS sulfide standard of 0.002 mg/l was added.

Fountain Creek 7b: This segment does not have a Water Supply use, but had a nitrite standard associated with that use. The nitrite standard was changed from 1.0 mg/L to 0.5 mg/L. This segment was also missing a nitrate standard, so a TVS nitrate standard of 100 mg/L was added to this segment to protect the Agriculture use classification. The dissolved form "(dis)" was removed from the manganese TVS standard since this segment has no Water Supply use.

Fountain Creek 11: A footnote "A" was added to the chronic arsenic standard to explain the hyphenated standard.

Lower Arkansas River 1a: A footnote “A” was added to the chronic arsenic standard to explain the hyphenated standard. Recent data showed that the total recoverable iron concentrations were different than the ambient-based standard, so the chronic total recoverable iron standard was changed from 2765 ug/L to 2800 ug/L.

Lower Arkansas River 1c: Recent data showed that the manganese concentrations were lower than the ambient-based standard, so the chronic manganese standard was recalculated and changed from 642 ug/L to 190 ug/L.

Lower Arkansas River 2a: A footnote “A” was added to the chronic arsenic standard to explain the hyphenated standard.

Lower Arkansas River 3b: A footnote “A” was added to the chronic arsenic standard to explain the hyphenated standard.

Lower Arkansas River 3c: A footnote “A” was added to the chronic arsenic standard to explain the hyphenated standard.

Lower Arkansas River 4a: Recent data showed that the total recoverable iron concentrations were lower than the table value standards (TVS), so the ambient based total recoverable iron standards were changed to TVS.

Lower Arkansas River 4b: This segment was missing a nitrate standard. This segment does not have a Water Supply use, so a TVS nitrate standard of 100 mg/L was added to this segment to protect the Agriculture use classification. Recent data showed that the total recoverable iron concentrations were lower than the table value standards (TVS), so the ambient based total recoverable iron standards were changed to TVS.

Lower Arkansas River 6b: A footnote “A” was added to the chronic arsenic standard to explain the hyphenated standard.

Lower Arkansas River 7: This segment was missing a nitrate standard. This segment does not have a Water Supply use, so a TVS nitrate standard of 100 mg/L was added to this segment to protect the Agriculture use classification.

Lower Arkansas River 8: A close parenthesis was added to the chronic chromium III standard.

Lower Arkansas River 11: This segment had a chronic ambient-based manganese standard. Recent data showed that John Martin Reservoir was attaining the table value standard for manganese, so the chronic ambient-based standard was replaced with TVS.

Lower Arkansas River 12: This segment was missing a nitrate standard. This segment does not have a Water Supply use, so a TVS nitrate standard of 100 mg/L was added to this segment to protect the Agriculture use classification.

Lower Arkansas River 13: This segment was missing a nitrate standard. This segment does not have a Water Supply use, so a TVS nitrate standard of 100 mg/L was added to this segment to protect the Agriculture use classification.

Lower Arkansas River 15: Trinidad Reservoir was changed to Trinidad Lake.

Cimarron River 2: This segment was missing a nitrate standard. This segment does not have a Water Supply use, so a TVS nitrate standard of 100 mg/L was added to this segment to protect the Agriculture use classification.

O. Site Specific Issues by segment

**Fourmile Creek and Wilson Creek (Upper Arkansas Segments 19, 20a, 20b and 23)**

Upper Arkansas Segment 20, described as Fourmile Creek and its tributaries from the confluence with Cripple Creek to the Arkansas River, was broken into two segments (20a and 20b) to facilitate adoption of appropriate temperature standards and Water Supply use classification. In addition, the lower boundary of Segment 19, described as Fourmile Creek from the source to the confluence with Cripple Creek, was moved upstream, also to facilitate adoption of appropriate temperature standards and Water Supply use classification.

Segment 20a includes Fourmile Creek and its tributaries and wetlands from immediately below the confluence with High Creek to the confluence with Long Gulch. The Commission found that there is a significant change in the Fourmile Creek temperature regime downstream of Long Gulch, and that Fourmile Creek's elevation changes significantly in this reach. Regulation 31.6(4) states, "Segments shall generally be delineated according to the points at which the use, physical characteristics or water quality characteristics of a watercourse are determined to change significantly enough to require a change in use classifications and/or water quality standards." Therefore, Segment 20b was created to account for increasing instream water temperature and includes Fourmile Creek and its tributaries from Long Gulch to its confluence with the Arkansas River.

The Commission adopted site-specific temperature standards for summer and winter to reflect the existing thermal conditions in Segments 20a and 20b. Stream temperatures in Fourmile Creek were consistently higher than Cold Stream Tier II temperature standards over a 4-year monitoring period during the summer months, and occasionally during the winter months, particularly during the spring shoulder season at sites upstream and downstream of both the Cripple Creek confluence and the Carlton Tunnel.

The Carlton Tunnel was completed in 1941 to drain the Cripple Creek Mining District, and has been draining the regional ground water for over 70 years. Flows from the Carlton Tunnel enter Fourmile Creek approximately ½ mile downstream of the confluence with Cripple Creek, at a relatively constant year-round flow rate and water temperature. The constant, warm temperature of the ground water flowing out of the tunnel, together with the geology of the area, indicates that natural geothermal activity probably warms the water. No person or entity controls the flow of water out of the Carlton Tunnel, and there are no further means to control the temperature of the flow.

Upstream of the Carlton Tunnel, CC&V documented that there are no known anthropogenic sources of heat to Fourmile Creek. Therefore, the Commission found that ambient temperatures in segments 20a and 20b reflect natural or irreversible man-induced conditions. In addition, stream temperatures were warmer in Segment 20b than in Segment 20a, which is expected because lower Fourmile Creek is approximately 1,000 feet lower in elevation. A robust and abundant brown trout population persists throughout Fourmile Creek, indicating that thermal conditions are not negatively affecting populations of this cold water species, and therefore ambient-based temperature standards are adequate to protect the use.

The site-specific summer and winter temperature standards apply from March 1 through October 31, and November 1 through February 29, respectively, for both segments. The Segment 20b winter daily maximum temperature was set equal to the table value standard (TVS) because daily maximum temperatures did not exceed the Cold Stream Tier II TVS. The methodology for calculating ambient standards used the second highest observed daily maximum or maximum weekly average temperature after qualified exclusions were removed from the data set. The second highest value in the data set represents the 1 in 3 year exceedance value.

Based on evidence that there is currently no Water Supply use and there is little potential for future Water Supply use along the portion of Fourmile Creek to be included in Segment 20a, the Commission removed the Water Supply use classification from Segment 20a.

Upper Arkansas Segment 23, described as Wilson Creek (Teller County) from its source to the confluence with Fourmile Creek, was modified to include all of its tributaries and wetlands. These tributaries are currently included in Segment 20, despite the fact that the Wilson Creek tributaries do not flow directly into Fourmile Creek. This modification clarifies the boundaries of Segment 23 and makes its description more consistent with other segment descriptions. In addition, no evidence exists to suggest that the uses and classifications applied to the mainstem of Wilson Creek are not appropriate for its tributaries.

Based on evidence that there is currently no Water Supply use and there is little potential for future Water Supply use along Wilson Creek and its tributaries, the Commission removed the Water Supply use classification from Segment 23.

Similarly, long-term monitoring of the aquatic life community in Wilson Creek and North Fork Wilson Creek indicates fish do not occur and would not be expected to occur in Segment 23 due to the interrupted nature and/or low flow conditions in these streams. Therefore, acute total residual chlorine, trout-specific acute cadmium and chronic silver standards, as well as the spawning-based dissolved oxygen standard, were removed from Segment 23.

#### **Mainstem of Wildhorse Creek (Middle Arkansas Segment 4a)**

Based upon new selenium data and information regarding sources and stream flow conditions, the Commission revised the selenium ambient quality-based site-specific standards for Middle Arkansas Segment 4a. Because of the wide spatial and temporal variability of selenium concentrations in the segment, the Commission defined assessment locations at 32.6(4) in order to ensure that assessment is consistent with the methods used to derive the standards. Pueblo West will collect dissolved selenium data in order to confirm the conversion factor-derived standard or replace it with a dissolved fraction based standard in the next review cycle.

#### **Chico and Black Squirrel Creeks (Middle Arkansas Segments 4c and 4f)**

A Use Attainability Analysis conducted in Middle Arkansas Segment 4c for Cherokee Metropolitan District concluded the seasonal and limited presence of water throughout much of the Chico Creek and Black Squirrel Creek watersheds affects the number and variety of aquatic life that can reside within these streams, making the application of an Aquatic Life Warm 1 use classification inappropriate for some portions of the segment. The sampling conducted in 2006 through 2012 indicated that, while fish populations persist in discrete locations, flow is also intermittent or ephemeral in all or most of Black Squirrel Creek and throughout some reaches of Chico Creek, limiting the potential to support reproducing fish populations. The data also indicate that only the upper third and the bottom third of the Black Squirrel Creek watershed have water in enough quantity for enough time to provide habitat for fish, and sufficient water is only present at some locations within these portions. The middle reach has primarily ephemeral flows and no water was observed during all sampling events.

Based upon these results, the Commission split a portion of Segment 4c to create a new Segment 4f and revised the Aquatic Life use classification to Warm 2 for new Segment 4f. Segment 4c now includes the mainstem of Chico Creek and its tributaries, except for specific listings in Segment 4f. Segment 4f was created to account for the absence of fish in this ephemeral reach, and includes the mainstream of Black Squirrel Creek and its tributaries from just below Highway 94 to Squirrel Creek Road.

Segment 4c has Aquatic Life Warm 1, Recreation E, and Agriculture use classifications and the full suite of standards applied for those uses. Segment 4f has Aquatic Life Warm 2, Recreation P, and Agriculture use classifications, a Use Protected designation and the metals standards for protection of agriculture irrigation uses were retained to provide a level of protection for rudimentary aquatic life in this ephemeral reach.

Based on fish species expected or observed to be present, Warm Stream Tier II temperature standards were adopted for Segment 4c. Warm Stream Tier III temperature standards were adopted for Segment 4f, where fish have not been observed.

**Pesthouse Gulch (Middle Arkansas Segment 4g)**

Pueblo West Metropolitan District Wastewater Treatment Plant outfall is located on Pesthouse Gulch, a tributary to Wildhorse Creek (Segment 4a) which has been included in Middle Arkansas Segment 4d, an “all tributaries” segment. Based on evidence presented that Pesthouse Gulch above the outfall has naturally elevated selenium levels, the Commission separated out Pesthouse Gulch into Segment 4g and applied ambient-based selenium standards. Because of the wide spatial and temporal variability of selenium concentrations in the segment, the Commission defined assessment locations at 32.6(4) in order to ensure that assessment is consistent with the methods used to derive the standards. The other uses and standards of Segment 4d (Aquatic Life Warm 2, Recreation P, and Agriculture use classifications, and the metals standards for protection of agriculture irrigation uses) were retained. Pueblo West will collect dissolved selenium data in order to confirm the conversion factor-derived standard or replace it with a dissolved fraction based standard in the next review cycle.

**Golf Course Wash and Turkey Creek (Middle Arkansas Segments 4e and 18b)**

Based upon selenium data collected in these segments and an engineering report that concluded that the source of selenium in the Pueblo West Metropolitan District Wastewater Treatment Plant influent and the surrounding ground and surface waters is the geologic shale formations ubiquitous to the Middle Arkansas sub-basin, the Commission adopted ambient quality-based selenium standards for these segments.

**Pueblo Reservoir (Middle Arkansas Segment 20)**

Evidence was presented by the Board of Water Works of Pueblo, Colorado (the “Board”), Pueblo West Metropolitan District, and the Division that Pueblo Reservoir is used regularly to provide raw water directly through man-made conveyances to several Public Water Systems (PWS), including Pueblo Board of Water Works, Pueblo West MD, City of Fountain, Security WSD, Stratmoor Hills WSD and Widefield WSD. As such, application of a Direct Use Water Supply subclassification is appropriate for Pueblo Reservoir (Middle Arkansas River Segment 20). Furthermore, based on the consideration of the factors set forth in Regulation 31.17(e)(ii), the Commission determined that a numerical chlorophyll *a* standard of 5 ug/L is appropriate to apply to Pueblo Reservoir. Because this standard represents a concentration that is close to current conditions in Pueblo Reservoir, it should have no effect on dischargers, recreation, or the ability of PWSs to meet DBP limits. Compliance with this chlorophyll *a* standard will be measured at USGS Site 7b, a point near the Pueblo Reservoir Dam using a March 1 to November 30 average chlorophyll *a* (ug/L) in the mixed layer with an allowable exceedance frequency of 1-in-5 years.



### **Monument Creek (Fountain Creek Segment 6)**

Site-specific copper criteria for a portion of Segment 6 were adopted based on U.S. EPA's water quality criteria for copper (Cu) using an approved method known as the Biotic Ligand Model or BLM (U.S. EPA 2007), and EPA's method for site-specific calculations in the April 2012 "Calculation of BLM Fixed Monitoring Benchmarks for Copper at Selected Monitoring Sites in Colorado" (820OR12009). Fixed Monitoring Benchmarks (FMB) for Cu are derived from a probability-based method that incorporates time variability in the BLM-predicted instantaneous water quality criteria (IWQC) as compared to measured in-stream Cu concentrations. The term "FMB" is used because it is a benchmark that can be used to evaluate compliance with water quality criteria at the specific allowed excursion frequency set by these criteria (i.e., no more than one excursion every three years). The site-specific standard was adopted for a portion of Segment 6, described as from immediately above Tri-Lakes Wastewater Treatment Facility to the North Gate Boulevard Bridge. The BLM derives instantaneous water quality criteria on the basis of multiple variables such as dissolved organic carbon (DOC), pH and hardness-related variables. BLM variables, like DOC, can be significantly different in streams below municipal wastewater effluent discharges.

Extensive data collection supported the derivation of the BLM-based FMB for application in Monument Creek. To generate FMB values for that portion of Segment 6, data from Baptist Road and North Gate Boulevard Bridge were combined. The resulting acute FMB (FMBa) was calculated at 28.4 µg/L, and the chronic FMB (FMBc) was calculated at 17.8 µg/L. Because of contributions of tributaries and/or groundwater inflow to Monument Creek below the North Gate Boulevard Bridge, the mitigating effects of the effluent DOC are reduced while the hardness increases, such that downstream TVS remain protective. The Commission determined that retaining the TVS below the North Gate Boulevard Bridge would still be protective of the lower standard downstream.

### **Arkansas River (Lower Arkansas Segment 1c)**

The Commission deleted the Temporary Modification to the selenium standard on Lower Arkansas Segment 1c.

There are no known permitted discharges to this segment that would face unreasonable consequences in the absence of a Temporary Modification. Uncertainty over the appropriately protective standard continues to exist on Segment 1c, complicated by uncertainty over the extent the levels of selenium in the river, ranging from two- to four-fold the chronic standard, reflect natural contributions or man-made influences from water use along the river. Historically, Segment 1c of the Lower Arkansas River has elevated selenium concentrations, invoking Temporary Modifications from the chronic table value standard of 4.6 µg/l since 1998.

The Commission endorses the ongoing efforts between the State of Kansas and Division staff to improve communications and to use the TMDL program to address the non-attainment of selenium criteria on this segment. The need for additional information regarding the extent that existing quality results from natural and human-induced conditions will continue to be assessed via ongoing modeling and water quality monitoring.

### **Purgatoire River Basin (Lower Arkansas Segments 3a, 3b, 4b, 5a, 5b, 5c, 6a, 6b, 15, 16 and 17)**

Pioneer Natural Resources USA, Inc. and XTO Energy Inc. proposed a site-specific boron standard of 4.0 mg/L for Lower Arkansas River Basin segments 4b, 5a, 5b and 6a. Surface water standards for boron are changed from 0.75 mg/L to 4.0 mg/L for these segments. Boron is essential to the normal growth of all plants. The 0.75 mg/L boron level had been set to protect certain boron-sensitive plants such as pecan, black walnut, cherry, orange, and avocado.

The Commission has reviewed site-specific evidence regarding the crops and soil chemistry in the area of segments 4b, 5a, 5b and 6a. Crop data reflects that boron tolerant species such as alfalfa and other pasture grass and hay species are the predominant crops grown in the area. Further, boron sensitive species are not grown here due, in part, to elevation, climate, growing season, and the lack of consistent available water supply for high value crops.

The companies also proposed a site-specific boron standard of 2.0 mg/L for Lower Arkansas segments 5c and 6b. Segment 6b, Wet Canyon, has a vegetable garden that is irrigated with groundwater, not surface water. However, to protect Wet Canyon surface water for similar uses in this segment, should they occur in the future, the boron standard was set at 2.0 mg/L. This provides a transition zone from the upstream boron standard of 4.0 mg/L to the boron standard of 0.75 mg/L for areas downstream of I-25.

Accordingly, the Commission approved the 4.0 mg/L boron standards for the Lower Arkansas River Basin segments 4b, 5a, 5b and 6a; and 2.0 mg/L boron standard for segments 5c and 6b.

The Commission adopted a Type B Temporary Modification for temperature for Segments 3a, 3b, 4b, 5b, 6a, 6b, 15, 16 and 17 with a narrative value of "current conditions" and an expiration date of June 30, 2016. The Commission's decision to adopt the Temporary Modification was based on supporting information submitted by XTO/Pioneer, which included a predicted water quality based effluent limit compliance problem and a plan to eliminate the need for a Temporary Modification.

#### **St. Charles River (Middle Arkansas Segments 6a and 6b)**

The Commission divided Middle Arkansas Segment 6 (St. Charles River) into two segments. Segment 6a is the mainstem of the St. Charles River from a point immediately above the CF&I diversion canal near Burnt Mill to a point immediately upstream of the confluence with Edson Arroyo. Segment 6b is the mainstem of the Saint Charles River from the confluence with Edson Arroyo to the confluence with the Arkansas River. Public Service Company of Colorado (PSCo) presented evidence that the table value standards for selenium are met in the St. Charles River upstream of Edson Arroyo, but natural concentrations of selenium increase significantly downstream of Edson Arroyo. Therefore, the Commission chose the confluence with Edson Arroyo as the dividing point between Segments 6a and 6b.

Evidence submitted by PSCo showed that selenium loading to Segment 6b results from natural sources and is not exacerbated by land use or other reversible anthropogenic factors. Also, the evidence demonstrated that the naturally elevated selenium concentrations, which vary widely and at times greatly exceed the table value standards, are not impairing aquatic life. Therefore, for Segment 6b the Commission adopted site-specific ambient-based chronic and acute dissolved selenium standards. The chronic (50 ug/L) is based on the 85th percentile of all available data from the segment. The acute (173 ug/L) is based on the 95th percentile of all available data from the segment. Because of the wide spatial and temporal variability of selenium concentrations in the segment, the Commission defined assessment locations and methods at 32.6(4) in order to ensure that assessment is consistent with the methods used to derive the standards. PSCo will collect dissolved selenium data in order to confirm the conversion factor-derived standard or replace it with a dissolved fraction-based standard in the next review cycle.

The Commission removed the Temporary Modification for selenium of "current condition" that had previously been in place for Segment 6.

The Commission adopted a Type B Temporary Modification for temperature for Segment 6b with a narrative value of "current conditions" and an expiration date of June 30, 2017. The Commission's decision to adopt the Temporary Modification was based on supporting information submitted by PSCo, which included a predicted water quality based effluent limit compliance problem and a plan to eliminate the need for a Temporary Modification.

**PARTIES TO THE RULEMAKING HEARING**

1. Pueblo West Metropolitan District
2. Cherokee Metropolitan District
3. Board of Water Works of Pueblo, Colorado
4. Kansas Department of Health and Environment
5. XTO Energy and Pioneer Natural Resources
6. Tri-Lakes Wastewater Treatment Facility
7. Cripple Creek and Victor Gold Mining Company
8. Public Service Company of Colorado
9. Rio Grande Silver, Inc.
10. Hazardous Materials and Waste Management Division
11. City of Pueblo
12. Climax Molybdenum Company
13. Pikes Peak Area Council of Governments
14. U.S. Air Force Academy
15. Fountain Sanitation District
16. Lower Fountain Metropolitan Sewage Disposal District
17. Security Sanitation District
18. Upper Monument Creek Regional Wastewater Treatment Facility
19. Resurrection Mining Company
20. City of Colorado Springs and Colorado Springs Utilities
21. City of La Junta
22. Arkansas and Fountain Coalition for Urban/Rural River Evaluation
23. Colorado Monitoring Framework
24. Alamosa Riverkeeper
25. County of Pueblo
26. Colorado Parks and Wildlife
27. City of Creede
28. EVRAZ Rocky Mountain Steele
29. U.S. Environmental Protection Agency
30. Southeastern Colorado Water Conservancy District
31. U.S. Bureau of Reclamation, Eastern Colorado Area Office
32. Southwest Kansas Groundwater Management District No. 3
33. City of Lakin
34. Finney County
35. Hamilton County Economic Development
36. City of Garden City

**32.53 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; MARCH 11, 2014 RULEMAKING; FINAL ACTION MARCH 11, 2014; EFFECTIVE DATE APRIL 30, 2014**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE:**

At the request of the United States Air Force Academy (USAFA), the Water Quality Control Commission reconsidered the segment description in Fountain Creek segment 11 in order to clarify that AFA Non-Potable Reservoir #1 is part of segment 11, and evaluated the segment's antidegradation designation. The Commission revised the segment description and decided that this reservoir should be use protected pursuant to 31.8(2)(b) because it is aquatic life warm water class 2 and there is no data to conduct the review outlined in 31.8(2)(b)(iii).

**32.54 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; DECEMBER 8, 2014 RULEMAKING; FINAL ACTION JANUARY 12, 2015; EFFECTIVE DATE JUNE 30, 2015**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE**

Pursuant to the requirements in the Basic Standards (at 31.7(3)), the Commission reviewed the status of temporary modifications scheduled to expire before December 31, 2016, to determine whether the temporary modification should be modified, eliminated or extended.

Temporary modifications of standards on twelve segments were reviewed. The Commission took no action on the temporary modifications on the following segments.

Temporary modification of the selenium (type i) and sulfate (type i) standards: The City of Pueblo presented evidence indicating progress is being made on resolving the uncertainty regarding the underlying acute and chronic selenium and sulfate standards on Lower Arkansas segment 1a and chronic selenium on Lower Arkansas segment 1b. The Commission made no change to the expiration date of 6/30/2016 as the original time allotment was deemed adequate.

Temporary modification of the temperature standard (type B) for various segments in the Purgatoire Basin: The Commission made no change to the expiration date of 6/30/2016 as the original time allotment was deemed adequate to resolve the uncertainty for the following Lower Arkansas River Segments: 3a, 3b, 4b, 5b, 5c, 6a, 6b, 15, 16 and 17.

**PARTIES TO THE RULEMAKING HEARING**

1. Pioneer Natural Resources USA, Inc. and XTO Energy, Inc.
2. U.S. Energy Corp.
3. Plum Creek Water Reclamation Authority
4. Upper Clear Creek Watershed Association
5. Upper Thompson Sanitation District
6. Colorado Parks and Wildlife
7. U.S. Environmental Protection Agency
8. High Country Conservation Advocates
9. Metro Wastewater Reclamation District
10. Climax Molybdenum Company
11. Rio Grande Silver, Inc.
12. City of Pueblo
13. Tri-State Generation and Transmission, Inc.
14. Centennial Water and Sanitation District
15. Xcel Energy
16. MillerCoors
17. Seneca Coal Company
18. Peabody-Sage Creek Mining, LLC
19. City of Boulder

**32.55 STATEMENT OF BASIS AND PURPOSE REGARDING THE ADOPTION OF NON-SUBSTANTIVE CHANGES TO THE CLASSIFICATION AND NUMERIC STANDARDS FOR THE ARKANSAS RIVER BASIN, JANUARY 11, 2016 RULEMAKING; EFFECTIVE DATE MARCH 1, 2016**

The provisions of C.R.S. 25-8-202(1)(i) and 25-8-401(2) provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE**

The Commission, in a public rulemaking hearing adopted extensive changes to the format of this regulation. The Commission does not intend to change any existing designations, use classifications or standards, or the implementation of any standards as the result of changing the format.

This rulemaking was in response to longstanding issues with managing the information contained in the standards tables. The changes made in this hearing reflect a change from storing the information in word processing documents to storing the information in a relational database. This change in platform will provide better consistency, facilitate error checking as well as a more readable format for the standards tables. Storing the information in a database allows it to be used more efficiently by other programs in the Division.

While it was the Commission's intent not to change the substantive meaning of the regulations in this rulemaking, in cases where there was ambiguity the revised regulation reflects the Commission's interpretation of the previous format based on Regulation #31 (the Basic Standards and Methodologies for Surface Water ) and the experience of the Commission and its staff.

Overall format changes: The new format displays parameters by name, rather than by period table element abbreviations. The section formerly titled "Temporary Modifications and Qualifiers" does not appear in the new format. Instead, there is a separate section for qualifiers, and an "Other" section. Temporary modifications, variances and other footnotes are displayed in the "Other" section. Many items that were formerly in the "Temporary Modifications and Qualifiers" column will be displayed in the "Other" column and will have a different appearance or modified wording, although the information is substantively the same. Each footnote in the "Other" section is preceded by a heading that indicates where the footnote applies:

- Footnotes regarding a use classification will begin with the heading "Classification..."
- Footnotes regarding the antidegradation designation begin with the heading "Designation..."
- Footnotes that relate to a particular standard begin with the name of the parameter, for example "Selenium(chronic)=..."

Also, since there is more room for information within each segment, footnotes "B" and "C" were replaced with the full text in each segment where these footnotes were applied. Footnote "A" was maintained because the text is too long to be displayed in the "Other" section for each segment where it applies.

Constraints of the new format: Some adjustments were made to the way that data is displayed in order to be compatible with the functions of the Standards Database. Database organization requires that information which relates to multiple standards must be attached to each individual parameter. For example, a segment with a temporary modification listed for "all parameters" in the old format will have a temporary modification listed for each individual parameter in the new format. There are also spacing constraints in the new format, which require some information to be moved either to the "other" box on the new format, or moved out of the segment entirely and into another location in the regulation.

Clarification of changes: The shift to a database organizational structure required consistency in the way each data element is addressed. To insure that data is stored and displayed correctly, the following changes were made.

- The “type” of temporary modification is no longer displayed in the segment tables, since they have no regulatory effect and have been inconsistently displayed.
- In the old format, waters that had a reviewable antidegradation designation were identified by the absence of either “UP” or “OW” in the designation column. These segments now display the word “reviewable” under the designation heading. There needed to be a value in the designation column for every segment.
- Dissolved standards are not specifically noted as dissolved in the new format. All metals standards are dissolved unless noted with a “T” or a “t”. For example, a manganese standard in the old format of “WS(dis)” is displayed as “WS” in the new format.
- A new footnote 7 was added to clarify that although E. coli is listed in the “chronic” column, the standard is a two-month geometric mean rather than a 30-day average. The language of footnote 7 was taken from Regulation 31, Table 1, footnote 7.
- A new footnote 8 was added to indicate that all phosphorus standards are based upon the concentration of total phosphorus. In the old format, individual phosphorus standards were noted as “total” in some basins and not others.
- A new footnote 9 was added to clarify that although pH is listed in the “acute” column, the standard is not applied as a 1-day average. The language of footnote 7 was taken from Regulation 31, Table 1, footnote 3.
- Physical and Biological Parameters: Some parameters are not specifically identified in the old format segment tables as acute or chronic. The new format requires that each parameter is placed in either the acute or chronic column. Specifically, these parameters and the basis for being identified as acute or chronic are as follows:
  - pH (acute) – Regulation #31, Table 1, footnote 3
  - E. Coli (chronic) – Regulation #31, Table 1, footnote 7
  - D.O. (chronic) – Regulation #31, Table 1, footnote 1
  - cyanide (acute) – Regulation #31, Table 2
  - sulfide (chronic) - Regulation #31, Table 2
  - nitrate (acute) - Regulation #31, Table 2
  - nitrite (chronic) – not specified in Regulation #31. Nitrite has been implemented as a 30-day average standard in permits and assessments.
  - chloride (chronic) Regulation #31, Table 2
  - boron (chronic) - Regulation #31, Table 2
  - sulfate (chronic) Regulation #31, Table 2

**32.56 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; DECEMBER 14, 2015 RULEMAKING; FINAL ACTION JANUARY 11, 2016; EFFECTIVE DATE JUNE 30, 2016**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE**

Pursuant to the requirements in the Basic Standards (at 31.7(3)), the Commission reviewed the status of temporary modifications scheduled to expire before December 31, 2017, to determine whether the temporary modification should be modified, eliminated or extended. Temporary modifications of standards on twelve segments were reviewed.

The Commission took no action on the temporary modifications on the following segments.

Middle Arkansas segment 6b (Lower St Charles River): Temporary modification of the temperature standard. The Commission made no change to the expiration date of 6/30/2017 as the original time allotment was deemed adequate to resolve the uncertainty.

The Commission deleted the temporary modifications on the following segments.

Lower Arkansas segments 3a, 3b, 4b, 5b, 5c, 6a, 6b, 15, 16 and 17: Temporary modification of the temperature standard. The Commission deleted these temporary modifications because they were no longer needed.

The Commission extended the expiration date of temporary modifications on the following segments.

Lower Arkansas segment 1a: Temporary modification of the selenium and sulfate standard. The Commission extended the expiration dates to 12/31/2018 to allow time for the City of Pueblo to pursue a discharger-specific variance (DSV). The Commission reviewed Pueblo's plan for resolving the uncertainty with the underlying standard and found that the remaining uncertainty (the details of the DSV) can be resolved in this time even though all the facets of source control and treatment optimization will not be resolved in this timeframe. The two major tasks for the Division and Pueblo are to develop the Alternative Effluent Limit and to fully articulate the compliance schedule.

The Commission found that keeping the "existing quality" temporary modification in place will not allow any increased impact on the uses of the stream in segment 1a or in waters located downstream. The Commission also notes that if, due to unforeseen circumstances, the City of Pueblo and the Division anticipate that they will be unable to complete the work by January 2018 (to meet the June hearing schedule), an extension of the temporary modification can be considered in the temporary modification rulemaking hearings in December 2016 or December 2017.

The Commission added temporary modifications on the following segment.

Upper Arkansas segment 8b (lower Iowa Gulch): Temporary modification of the temperature, cadmium (chronic) and zinc (chronic) standards: The Commission made no change to the expiration date of 12/31/2017, but expanded the temporary modification to include an acute zinc standard of 754 ug/L, with the same expiration date. Resurrection Mining Company provided data predicting a compliance issue associated with its permitted discharge on segment 8b and there is still uncertainty as to the appropriate acute and chronic standard for segment 8b. The acute value is equal to the 95th percentile of the same data set presented to calculate the chronic temporary modification in the 2013 Basin Hearing. It is understood that Resurrection Mining Company will collect and evaluate additional data during the temporary modification period to better define the uses and appropriate acute and chronic water quality standards for segment 8b.

#### **PARTIES TO THE RULEMAKING HEARING**

1. City of Delta
2. Resurrection Mining Company
3. U.S. Energy Corp.
4. City of Pueblo
5. Peabody Sage Creek Mining and Seneca Coal Company
6. Climax Molybdenum Company
7. Rio Grande Silver
8. City of Colorado Springs and Colorado Springs Utilities
9. Tri-State Generation and Transmission Association, Inc.
10. High Country Conservation Advocates
11. U.S. Environmental Protection Agency
12. Colorado Parks and Wildlife
13. Town of Crested Butte and Coal Creek Watershed Coalition
14. Public Service Company of Colorado

#### **32.57 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE: OCTOBER 11, 2016 RULEMAKING; FINAL ACTION NOVEMBER 14, 2016; EFFECTIVE DATE MARCH 1, 2017**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The Commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

#### **BASIS AND PURPOSE**

##### **A. Adoption and Re-examination of Discharger-Specific Variances**

In 2010, the Commission adopted the discharger specific variance (DSV) provisions at Regulation 31.7(4), which allow a temporary water quality standard to be adopted in cases where water quality based effluent limits (WQBELs) are not feasible to achieve. A DSV is a hybrid standard that maintains the long-term water quality goal of fully protecting all designated uses, while temporarily authorizing an alternative effluent limit (AEL) to be developed for a specific pollutant and specific point source discharge where compliance with the WQBEL is not feasible.



Pursuant to 40 CFR 131.14(b)(1)(v)-(vi), the Commission must re-evaluate every DSV with a duration longer than five years and provide EPA notice of the results within 30 days of the completion of the re-evaluation process. If the Commission does not complete this action, the federal regulation states that the DSV will no longer be the applicable water quality standard for purposes of the Clean Water Act. This re-evaluation is consistent with Commission Regulation 31.7(4), which requires that the Commission re-examine all DSVs not less than once every three years. For purposes of EPA's notice requirement, the Commission's re-evaluation can be completed at two different points: 1) at the completion of a publicly noticed informational hearing where the Commission has re-examined the DSV and determined that no changes to the DSV are to be formally considered through the rulemaking process; and 2) at the effective date of a rulemaking hearing where the Commission has formally considered changes to the DSV.

**B. Lower Arkansas Segment 1b**

The Commission adopted a DSV for Lower Arkansas River Segment 1b for selenium that represents the highest degree of protection of the classified use that is feasible for the City of La Junta. For selenium, effluent limits for the City of La Junta shall not be more restrictive than a load-based effluent limit of 0.37 pounds per day as a 12-month rolling average prior to 12/31/2026. The Commission determined that in La Junta's site-specific circumstances, a 12-month rolling average loading limit would be the most effective way to measure progress in feasible selenium reduction. The Commission determined not to adopt a daily maximum alternative effluent limit at this time, because the feasible improvements are expected to reduce average loading. Daily fluctuations in selenium levels may be outside of the discharger's control at this time, therefore, an acute limit would not be an appropriate regulatory mechanism to determine whether implementation of the selected alternatives were successful.

La Junta submitted evidence that meeting the selenium WQBEL would cause substantial and widespread adverse social and economic impacts in the area where the discharge is located. Alternatives that would allow La Junta to meet the selenium WQBEL, such as disposal of wastewater via an injection well, would result in user fees that exceed the community's ability to pay. The Commission determined that the threshold for substantial and widespread social and economic impacts would be user fees exceeding 1.0% of median household income for La Junta's residents due to the current economic hardship in La Junta, including relatively high unemployment, a large existing debt burden, 26% of La Junta's citizens living in poverty and a local median household income that is significantly lower than the State's average. Since wastewater user fees currently exceed 1.0% of median household income, no additional capital investment in selenium treatment is economically feasible at this time.

The Commission determined that some reduction in selenium loading may currently be feasible through a Pollutant Minimization Plan that incorporates low-cost or no-cost operational changes. However, since it is difficult to predict or quantify how much improvement is feasible, at this time, the Commission is adopting an alternative effluent limit at the current condition. Also, there is uncertainty in characterizing the current condition, because La Junta's selenium loading is largely related to the city's water demand, which varies annually due to climate variability. The last 10 years of effluent data may not represent the longer-term current condition regarding water demand or selenium loading. Furthermore, the concentration of selenium in La Junta's source water is outside of La Junta's control and could improve or worsen over time. These uncertainties may be addressed during future re-evaluations.

La Junta will collect additional data to reduce the uncertainty when re-evaluating the AEL at future hearings. Over the next several years, monitoring frequency will be increased and will include internal monitoring locations to characterize the variability of selenium concentrations in the source water and in the reverse osmosis wastewater stream, as well as the domestic WWTF influent and effluent. La Junta will implement a Selenium Pollution Minimization Plan including water conservation, increasing efficiency in the water treatment plant, and piloting treatment of the reverse osmosis concentrate utilizing the new wastewater treatment plant. Since the basis for this DSV is economic feasibility, at future re-evaluations of the DSV, the Commission will review whether economic conditions have changed in a way that would make additional reductions in selenium feasible.

The Commission will conduct a re-evaluation of the DSV during the triennial review process for this regulation. At the time of the issues scoping hearing and the issues formulation hearing for this regulation, the Division will review all existing and readily available information and provide comments to the Commission regarding whether the DSV continues to be the highest attainable condition. The Commission also expects that La Junta will submit a progress report for the Commission's review of the DSV and the AEL during the June 2018 Arkansas River Basin rulemaking hearing. The Commission will obtain public input on the re-evaluation through the triennial review process. For purposes of EPA's notice requirement, the Commission's re-examination of this DSV will be completed at the effective date of the 2018 and 2023 Arkansas River Basin rulemaking hearings, and the Commission will submit the results of the re-evaluation to EPA no later than 30 days after the effective date of the rulemaking. The requirements of the DSV will either remain at the AEL identified at the time of the adoption of the variance, or be modified to the highest attainable condition identified during any re-evaluation rulemaking hearing held by the Commission.

Due to the remaining uncertainty in the underlying standard on Lower Arkansas River Segment 1b, the Commission directs the Water Quality Control Division to work with interested parties to collect selenium fish tissue data and further investigate the selenium criteria necessary to protect aquatic life.

#### **PARTIES TO THE RULEMAKING HEARING**

1. Suncor Energy (U.S.A.) Inc.
2. City of Las Animas
3. Colorado Parks and Wildlife
4. U.S. Environmental Protection Agency
5. City of La Junta
6. Town of Nucla

#### **32.58 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; DECEMBER 12, 2016 RULEMAKING; FINAL ACTION JANUARY 9, 2017; EFFECTIVE DATE JUNE 30, 2017**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

#### **BASIS AND PURPOSE**

Pursuant to the requirements in the Basic Standards (at 31.7(3)), the commission reviewed the status of temporary modifications scheduled to expire before December 31, 2018, to determine whether the temporary modification should be modified, eliminated or extended.

No action: The commission took no action on the temporary modifications on the following segments.

Upper Arkansas Segment 8b: temporary modifications of temperature standards. Resurrection mining presented evidence that they are making progress on the plan for eliminating the need for the temporary modification. The commission made no change to the expiration date of 12/31/2017 as the original time allotment was deemed adequate to resolve the uncertainty.

Middle Arkansas Segment 4b: temporary modifications of ammonia, arsenic, chronic boron, cadmium, chlorine, chronic chlorophyll a, chromium III, chromium VI, copper, acute cyanide, dissolved oxygen, E. Coli, chronic iron, lead, manganese, chronic mercury, chronic molybdenum, nickel, chronic nitrate, chronic nitrite, acute pH, chronic phosphorous, selenium, silver, chronic sulfide, and zinc. The commission made no change to the expiration date of 12/31/2018 as the original time allotment was deemed adequate to resolve the uncertainty.

Lower Arkansas Segment: 1a: temporary modifications of the selenium and sulfate standard. The City of Pueblo is making progress on its plans to seek a discharger-specific variance (DSV). The two major tasks for the division and Pueblo are to develop the Alternative Effluent Limit and to fully articulate the compliance schedule. The commission made no change to the expiration date of 12/31/2018 as this time allotment was deemed adequate to resolve the uncertainty.

**Extensions:**

Upper Arkansas Segment 8b: temporary modifications of the chronic cadmium, and acute and chronic zinc standards were extended to 12/31/2018. The commission extended the expiration date to 12/31/2018 for the temporary modifications for segment 8b for chronic cadmium, and acute and chronic zinc to allow time to collect additional biological data in ponded wetland habitat to resolve the uncertainty regarding the resident biota and appropriate standards for this segment. This may be suitable habitat for sensitive organisms important to the recalculation procedure. In the event that access is not granted to sample this habitat on Iowa Gulch, sampling the ponded habitat from nearby streams may be necessary to inform the resident species list in Iowa Gulch.

Middle Arkansas Segment 6b: temporary modification of the temperature standard was extended to 12/31/2018. Public Service Company of Colorado presented evidence that additional time is needed to collect data to resolve the uncertainty regarding the underlying temperature standard. Therefore, the commission extended the expiration date of the “current conditions” temporary modification for temperature to 12/31/2018.

**New temporary Modifications:**

Middle Arkansas Segment 2: temporary modification of the temperature standard. The commission adopted a “current conditions” temporary modification of temperature. Colorado Parks and Wildlife operates the Pueblo hatchery that currently has temperature compliance issues. There is uncertainty about the appropriate temperature standard in the Arkansas River below Pueblo Reservoir. Temperature records in the Arkansas River below Pueblo Reservoir indicate the cold stream tier II temperature standards have never been attained since record keeping began in 1986, and Pueblo Reservoir already has an ambient-based temperature standard. CPW will collect additional information on the Arkansas River including instream temperatures throughout the segment, effluent temperatures, and coldwater species reproduction to support a site-specific standard. The commission adopted this temporary modification with an expiration date of July 1, 2021. The commission will first review progress on this study plan in the June 2018 Arkansas Basin hearing.

Site specific standards: The commission adopted site-specific standards for the following segments.

Upper Arkansas Segment 8b and 9: site-specific standard for acute cadmium. The commission adopted a site-specific standard for Segments 8b and 9 using a hardness-based equation for acute cadmium based on the EPA recalculation procedure. The recalculation method provides a revised equation for acute cadmium which is intended to protect the resident, attainable aquatic macroinvertebrate communities and fish populations in Iowa Gulch, and is consistent with the site-specific standard on the downstream receiving waters, Upper Arkansas Segment 2c.

Resegmentation: The commission approved the following resegmentation.

Upper Arkansas Segments 8a and 8b: the boundary between Segments 8a and 8b was clarified by changing the description of the upper boundary of Segment 8b to include additional description and coordinates for the historical ASARCO water supply intake. This redefinition was necessary because the ASARCO water supply intake no longer exists. This segment boundary is based on a difference in water use and water-quality characteristics in these two segments.

New Temporary Modifications of the Arsenic Standard:

Consistent with the actions taken in 2013, the commission adopted a temporary modification of the arsenic standard on segments on the following list, with an expiration date of 12/31/2021. At the April 8, 2013 rulemaking, the commission heard testimony that concurred with the finding from a December 13, 2011 rulemaking hearing that an initial reasonable lower limit of treatment technology for arsenic is 3.0 µg/L, pending further investigation by the division, dischargers and stakeholders. The temporary modification was established by the commission to allow for a temporarily less stringent application of the chronic arsenic standard in control requirements for both existing discharges and new or increased discharges.

Upper Arkansas Segment 2a  
Upper Arkansas Segment 2c  
Upper Arkansas Segment 7  
Upper Arkansas Segment 14b  
Upper Arkansas Segment 18  
Upper Arkansas Segment 37  
Middle Arkansas Segment 7a  
Middle Arkansas Segment 7b  
Middle Arkansas Segment 18a  
Middle Arkansas Segment 20  
Fountain Creek Segment 1b  
Fountain Creek Segment 8  
Lower Arkansas Segment 9a  
Lower Arkansas Segment 11  
Lower Arkansas Segment 19

#### PARTIES TO THE RULEMAKING HEARING

1. Colorado Parks and Wildlife
2. Resurrection Mining Company
3. Public Service Company of Colorado
4. City of Pueblo
5. Peabody Sage Creek Mining Company and Seneca Coal Company
6. Tri-State Generation and Transmission Association, Inc.
7. Climax Molybdenum Company
8. Rio Grande Silver, Inc.
9. Mt. Emmons Mining Company

10. Plum Creek Water Reclamation Authority
11. Environmental Protection Agency
12. Raytheon Company
13. City of Boulder Open Space and Mountain Parks
14. High Country Conservation Advocates
15. City of Colorado Springs and Colorado Springs Utilities
16. City of Black Hawk and Black Hawk/Central City Sanitation District
17. Town of Crested Butte and Coal Creek Watershed Coalition
18. Parker Water and Sanitation District

**32.59 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE; DECEMBER 11, 2017 RULEMAKING; FINAL ACTION DECEMBER 11, 2017; EFFECTIVE DATE JANUARY 31, 2018**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The commission also adopted, in compliance with 24-4-103(4) C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE**

In this hearing, the commission made a correction to Regulation No. 32. A typographical error has been identified that does not reflect the commission's intended decisions from a past hearing.

The commission corrected the spelling of North Rush Creek, which is included in the description of Lower Arkansas Segment 9b.

**32.60 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; DECEMBER 11, 2017 RULEMAKING; FINAL ACTION JANUARY 8, 2018; EFFECTIVE DATE JUNE 30, 2018**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE**

Pursuant to the requirements in the Basic Standards (at 31.7(3)), the commission reviewed the status of temporary modifications scheduled to expire before December 31, 2019 to determine whether the temporary modification should be modified, eliminated, or extended.

No action: The commission took no action on the temporary modifications on the following segments:

Upper Arkansas Segment 8b: temporary modifications of the temperature, cadmium, and zinc standards. The commission took no action on the temporary modification of the temperature standard. This temporary modification was deleted from the table because it expires 12/31/2017. For the temporary modifications of the cadmium and zinc standards (expire 12/31/2018), the commission took no action. Resurrection Mining Company presented evidence that they are making progress on the plan for eliminating the need for the temporary modifications. The commission made no change to the expiration date as the original time allotment was deemed adequate to resolve the uncertainty.

Middle Arkansas Segment 4b: temporary modifications of the ammonia, arsenic, boron, cadmium, chlorine, chlorophyll a, chromium III, chromium VI, copper, cyanide, D.O., E. coli, iron, lead, manganese, mercury, molybdenum, nickel, nitrate, nitrite, pH, phosphorus, selenium, silver, sulfide, and zinc standards (expire 12/31/2018). EVRAZ presented evidence that they are making progress on the plan for eliminating the need for the temporary modifications. The commission made no change to the expiration date as the original time allotment was deemed adequate to resolve the uncertainty.

Middle Arkansas Segment 6b: temporary modification of the temperature standard (expires 12/31/2018). Public Service Company of Colorado presented evidence that they are making progress on the plan for eliminating the need for the temporary modifications. The commission made no change to the expiration date as the original time allotment was deemed adequate to resolve the uncertainty.

Lower Arkansas Segment 1a: temporary modifications of the selenium and sulfate standards (expire 12/31/2018). The City of Pueblo is making progress on its plans to seek a discharger specific variance (DSV). The commission made no change to the expiration date as the original time allotment was deemed adequate to resolve the uncertainty.

#### PARTIES TO THE RULEMAKING HEARING

1. Peabody Sage Creek Mining Company, Seneca Coal Company and Twentymile Coal, LLC
2. Tri-State Generation and Transmission Association, Inc.
3. Colorado Parks and Wildlife
4. Environmental Protection Agency
5. City of Black Hawk and Black Hawk/Central City Sanitation District
6. Rio Grande Silver, Inc.
7. MillerCoors LLC
8. Plum Creek Water Reclamation Authority
9. Public Service Company of Colorado
10. City of Pueblo

#### **32.61 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; JUNE 11, 2018 RULEMAKING; FINAL ACTION AUGUST 6, 2018; EFFECTIVE DATE DECEMBER 31, 2018**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

#### **BASIS AND PURPOSE**

##### **A. Water Body Segmentation**

Some segments were renumbered, combined, or new segments were created to facilitate appropriate organization of water bodies in this regulation. Renumbering and/or creation of new segments was made based on information that showed: a) the original reason for segmentation no longer applied; b) significant differences in uses, water quality and/or physical characteristics warrant a change in standards on only a portion of the existing segment; and/or c) certain segments could be merged into one segment because they had similar water quality and uses. The following changes were made:

Upper Arkansas River Segment 5a and 5b: Segment 5 was divided into segments 5a and 5b as part of changes to temperature standards. Temperature standards were changed from CS-I to CS-II on new Segment 5b: Mainstem of Trout Creek from its source to Trout Creek Reservoir, including all tributaries and wetlands. The remaining portions of Segment 5 were moved to new Segment 5a: All tributaries to the Arkansas River, including wetlands, from the source to immediately below the confluence with Brown's Creek, except for specific listings in segments 5b through 12b. The segmentation description for 5a was edited to exclude specific listings in new segment 5b.

Upper Arkansas River segments 14d, 14e and 14f: All tributaries Segment 14 was split into new Segments 14d, 14e and 14f to facilitate a change in the use classifications and temperature standards. Temperature standards were changed from CS-II to WS-II on new Segment 14d: All tributaries to the Arkansas River, including wetlands, which are not on National Forest lands, from immediately above the confluence of 6-mile Creek (38.405677, -105.122321) to the inlet to Pueblo Reservoir, except for specific listings in segments 14a, 14c, 14e, 14f, and 15-27. The remaining portions of Segment 14 were moved to new Segment 14e: All tributaries to the Arkansas River, including wetlands, which are not on National Forest lands from the Chaffee/Fremont County line to immediately below the confluence with Chandler Creek (38.407024, -105.137940). Newlin Creek (except for listings in segment 15b), Mineral Creek, Adobe Creek, and Oak Creek, including all tributaries and wetlands which are not on National Forest Service Land. As diverse and sensitive species were surveyed in these streams the Aquatic Life use classification was changed from Cold 2 to Warm 1 for new Segment 14d and from Cold 2 to Cold 1 for new Segment 14e. During the review of the aquatic life community in these streams, a reproducing population of brook trout were discovered in Turkey and Little Turkey Creeks and so were moved to new segment 14f: Turkey Creek including all tributaries and wetlands from its source to immediately below the confluence with Little Turkey Creek at 38.594727, -104.851458. to facilitate adoption of protective CS-I temperature standards.

Upper Arkansas River Segment 15a and 15b: Segment 15 was divided into segments 15a and 15b as part of changes to temperature standards. Temperature standards were changed from CS-I to CS-II on new Segment 15a: Mainstem of Badger Creek from the source to the confluence with the Arkansas River, including all tributaries and wetlands. Mainstem of Texas Creek from the forest service boundary to the confluence with the Arkansas River, including all tributaries and wetlands which are not on forest service land. The remaining portions of Segment 15 were moved to new Segment 15b: Mainstem of Grape Creek, including all tributaries and wetlands, from the source to the outlet of De Weese Reservoir, except for specific listings in segment 25. Mainstems of Hayden, Hamilton, Stout, and Big Cottonwood Creeks, including all tributaries and wetlands, from their sources to their confluences with the Arkansas River. Tributaries and wetlands to Texas Creek which are on Forest Service Land. Mainstem of Newlin Creek from the National Forest boundary to County Road 92 (38.300765, -105.140927). The segment description for Segment 15b was also given coordinates for County Road 92.

Middle Arkansas River Segment 13b and 13c: All tributaries and wetlands to the Cucharas and Huerfano Rivers not on forest service lands, except for specific listings in 13a and 13b, were moved from Lower Arkansas segment 2a to Middle Arkansas Segment 13c to reflect the actual location of these streams which are located in the Middle Arkansas River Basin. The segment description for 13b was also edited to align with this change.

Middle Arkansas River Segment 27: Segment 27 (Teller Reservoir) was moved to new segment Upper Arkansas Segment 41 to reflect Teller Reservoir's location in the Upper Arkansas River Basin.

Lower Arkansas River Segments 2a and 2d: A tributary of Segment 2a was moved to new Segment 2d: Unnamed tributary from the source north of county road 350 (37.307, -104.29) to the confluence with the Purgatoire River, to facilitate removal of the Water Supply use.

Segment descriptions were also edited to improve clarity, correct typographical errors, and correct spelling errors. These changes are listed in Section O.

**B. Aquatic Life Use Classifications and Standards**

Some segments assigned an Aquatic Life use classification were missing a standard to protect that use. The commission adopted the missing standards for the following segments:

Upper Arkansas River: 14e (full suite Aquatic Life use standards), 20b (chronic total phosphorus and nutrient footnote), 23 (acute chlorine)

Fountain Creek: 5 (arsenic)

Lower Arkansas River: 2a (full suite Aquatic Life use standards), 6a (full suite aquatic life use standards), 6b (full suite Aquatic Life use standards),

The commission reviewed information regarding the existing aquatic communities. For segments lacking an Aquatic Life use classification, a use was added where biological information demonstrated that these waters are capable of sustaining aquatic biota. Additionally, Class 2 segments with high MMI scores or a wide variety of fish species were upgraded from Class 2 to Class 1.

The following segments were upgraded from Cold 2 to Cold 1:

Upper Arkansas River: 14e

The commission reviewed information regarding the existing aquatic communities. For segments where the existing aquatic communities are not aligned with the Aquatic Life use, the following segments were downgraded from Cold to Warm:

Upper Arkansas River: 14d

The commission reviewed all Class 2 segments that have fish that are “of a catchable size and which are normally consumed and where there is evidence that fishing takes places on a recurring basis.” Water + Fish or Fish Ingestion standards were applied to the following segments:

Upper Arkansas River: 14a

Middle Arkansas River: 9

Lower Arkansas River: 9b

The division withdrew proposals to add the Water + Fish qualifier and associated standards as applied to the following segments. The division and Colorado Parks and Wildlife (CPW) will work with stakeholders to evaluate whether or not a fish ingestion qualifier is needed in the next basin hearing.

Upper Arkansas River: 8b

Middle Arkansas River: 6b

Fountain Creek: 6, 11



**C. Recreation Use Classifications and Standards**

The commission reviewed information regarding the current Recreation use classifications and evidence pertaining to actual or potential primary contact recreation, and no changes were adopted at this time. In addition, newly created segments were given the same Recreation use classification as the segment from which they were split, unless there was insufficient evidence to support keeping that classification, or evidence to show that the existing use classification was inappropriate.

Some segments assigned a Recreation use classification were missing a standard to protect that use. The commission adopted the missing standards for the following segments:

Upper Arkansas River: 20b (chronic chlorophyll and nutrient footnote)

**D. Water Supply Use Classification and Standards**

The commission added a Water Supply use classification and standards where the evidence demonstrated a reasonable potential for a hydrological connection between surface water and alluvial wells used for drinking water. The Water Supply use classification and standards were added to the following segments:

Middle Arkansas River: 4c, 4d, 12, 14

Lower Arkansas River: 7

The commission removed the Water Supply use classification and standards where the evidence demonstrated that a Water Supply use does not currently exist due to flow or other conditions, and that such a use is not reasonably expected in the future due to water rights, source water options, or other conditions. The Water Supply standard for chloride was retained for these segments, given concerns regarding the protection of aquatic life by the existing Water Supply standards. The Water Supply use classification and standards, except for chloride, were removed from the following segments:

Lower Arkansas River: 2d

For the segments where the Water Supply use classification and standards were removed, the commission adopted the division's proposal to retain the 250 mg/L chronic (30-day average) standards for chloride as an interim step, based on evidence presented demonstrating the toxic effects of chloride on aquatic life. Retaining the current chloride standard is necessary to protect the assigned Aquatic Life uses and to ensure that these waters are free from substances toxic to aquatic life in accordance with 31.11(1)(a)(iv). The commission retained the numeric standard for chloride because narrative standards have often proved challenging to implement, and interim numeric standards will provide implementable interim standards while allowing time for development of robust replacement criteria based on the latest scientific information.

The commission recognizes that there is scientific uncertainty about the appropriate standards for chloride and/or sulfate to protect the Aquatic Life use, and that appropriate standards may need to recognize that toxicity is affected by site water characteristics (similar to the influence of hardness on the toxicity of dissolved metals). The commission's intention is that future revisions to the numeric standards assigned to these segments, and also to Regulation No. 31 (i.e., aquatic life-based table values chloride and/or sulfate), can be considered if: (1) EPA issues new or updated CWA § 304(a) Aquatic Life criteria recommendations, (2) another state adopts new or revised Aquatic Life criteria and EPA approves, or (3) protective criteria otherwise become available that incorporate the latest scientific information on the risks to aquatic life posed by these pollutants.

## E. Agriculture Use Classification and Standards

The commission reviewed the single segment lacking an Agriculture use. Based on an evaluation of the available data and information, no changes were adopted at this time.

## F. Other Standards to Protect Agriculture, Aquatic Life, and Water Supply Uses

1. **Molybdenum:** In 2010, the commission adopted a new standard for molybdenum to protect cattle from the effects of molybdenosis. The table value adopted at that time was 300 µg/L, but included an assumption of 48 mg/day of copper supplementation to ameliorate the effects of molybdenosis. State and local experts on cattle nutrition indicated that copper supplementation in the region is common, but is not universal. Therefore, the copper supplementation assumption was removed from the equation, which then yielded a standard of 160 µg/L. That standard was applied in recent basin reviews.

In the 2015 Regulation No. 38 hearing, the commission adopted a standard of 150 µg/L, based on an improved understanding of the dietary- and water-intake rates for various life-stages of cattle. This standard is protective of all life-stages of cattle (including lactating cows and growing heifers, steers and bulls) at all times of year.

The Agriculture table value assumes that the safe copper:molybdenum ratio is 4:1. Food and water intake is based on growing heifers, steers, and bulls consuming 6.7 kg/day of dry matter and 56.8 liters of water per day. Molybdenum supplementation is assumed to be zero. The table value standard (TVS), which considers total copper and molybdenum intakes, is calculated from the following equation:

$$\text{Mo TVS} = \frac{(\text{Cu}_{\text{forage}} \times \text{Forage}_{\text{intake}}) + (\text{Cu}_{\text{water}} \times \text{Water}_{\text{intake}}) + \text{Cu}_{\text{supp}}}{\text{Cu:Mo Safe Ratio}} - (\text{Mo}_{\text{forage}} \times \text{Forage}_{\text{intake}}) / \text{Water}_{\text{intake}}$$

The assumed values for these equations are as follows:

$\text{Cu}_{\text{forage}} = 7 \text{ mg/kg}$ ,  $\text{Forage}_{\text{intake}} = 6.7 \text{ kg/day}$ ,  $\text{Cu}_{\text{water}} = 0.008 \text{ mg/L}$ ,  $\text{Water}_{\text{intake}} = 56.8 \text{ L/day}$ ,  $\text{Cu}_{\text{supplementation}} = 0 \text{ mg/day}$ ,  $\text{Cu:Mo Safe Ratio} = 4:1$ ,  $\text{Mo}_{\text{forage}} = 0.5 \text{ mg/kg}$ .

In 2010, the commission also adopted a new standard for molybdenum to protect the Water Supply use that was calculated in accordance with Policy 96-2.

A molybdenum standard of 150 µg/L was adopted for all segments in Regulation No. 32 that have an Agriculture use classification, and where livestock or irrigated forage are present or expected to be present.

2. **Cadmium for Aquatic Life:** The commission adopted updated hardness-based cadmium Aquatic Life standards on a targeted, site-specific basis in cold waters to reflect the most up-to-date science. The new standards, released by the U.S. Environmental Protection Agency (EPA) in March 2016, are protective of sensitive cold water aquatic life (i.e., trout). The cadmium criteria recommended by EPA and adopted by the commission are as follows:

$$\text{Acute} = e^{(0.9789 \cdot \ln(\text{hardness}) - 3.866)} \cdot (1.136672 - (\ln(\text{hardness}) \cdot 0.041838))$$

$$\text{Chronic} = e^{(0.7977 \cdot \ln(\text{hardness}) - 3.909)} \cdot (1.101672 - (\ln(\text{hardness}) \cdot 0.041838))$$

EPA's updated cadmium criteria are less stringent than Colorado's current cadmium standards when water hardness is greater than 45 mg/L CaCO<sub>3</sub>. Although the criteria are less stringent, they were developed using the latest science and are protective of aquatic life, and it is expected that Colorado's state-wide cadmium standards will likely be updated using the 2016 EPA cadmium criteria at a later date. Therefore, the commission determined it was appropriate to adopt the new criteria for waters known to be impaired for cadmium to ensure forthcoming clean-up goal development and Total Maximum Daily Load (TMDL) evaluations are based on the most relevant water quality standards available. The updated cadmium standards were adopted for the following segments:

Upper Arkansas River: 1a, 2b (acute only), 2c (acute only), 3, 4a, 5, 7, 11, 12a

3. **Cadmium, Nickel, and Lead for Water Supply:** A review of the cadmium, nickel, and lead standards showed that uses were not always adequately protected by the standards currently in the tables. Depending on hardness, the Aquatic Life standards for cadmium, lead, and nickel were not protective of the Water Supply use. The division reviewed all segments in Regulation No. 32 to determine if the current standards applied to each segment are fully protective of the assigned uses, and revised or added standards where appropriate.

The cadmium Water Supply standard was added because the acute Aquatic Life standard is not protective when the hardness was greater than 200 mg/L in non-trout streams and 345 mg/L in trout streams; the lead Water Supply standard was added because the acute Aquatic Life standard is not protective when hardness is greater than 79 mg/L; and the nickel Water Supply standard was added because the chronic Aquatic Life standard is not protective when hardness is greater than 216 mg/L. Cadmium, lead, and nickel Water Supply standards were added to the following segments:

Upper Arkansas River: 1a, 1b, 2a, 2c, 3, 4a, 4b, 5a, 5b, 7, 8a, 10, 12a, 12b, 13, 14b, 15a, 15b, 16a, 16b, 16c, 17a, 17c, 18, 19, 20b, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41

Middle Arkansas River: 1, 2, 3, 4c, 4d, 5a, 5b, 6a, 6b, 7a, 7b, 9, 11a, 11b, 12, 13a, 13b, 13c, 14, 17, 18a, 18b, 19, 20, 21, 22, 23, 24, 25, 26, 28

Fountain Creek: 1a, 1b, 2a, 2b, 3a, 3b, 4b, 4c, 4e, 5a, 6, 7a, 8, 9, 10, 11

Lower Arkansas River: 1a, 1b, 1c, 3a, 3c, 4a, 5a, 5b, 5c, 7, 8, 9a, 9b, 10, 11, 14, 15, 18, 19

4. **Aquatic Life Criteria for Selenium and Ammonia:** The commission declined to adopt EPA's revised 304(a) Aquatic Life criteria for selenium and ammonia at this time; however, the division is committed to evaluating these new criteria. Studies are currently underway for each parameter to improve understanding of these criteria in the context of water quality conditions in Colorado and how these criteria may be adopted and implemented in Colorado in the future.

## G. Antidegradation Designations

The commission reviewed all segments designated Use Protected to determine if the Use Protected designation was still warranted. Based upon available water quality data that meet the criteria of 31.8(2)b, the Use Protected designation was not removed from any segments.

The commission reviewed all Reviewable segments to determine if this Antidegradation designation was still warranted. Based upon available water quality data that fails to meet the criteria of 31.8(2)b, the Reviewable designation was not removed from any segments.

#### **H. Ambient Quality-Based and Site-Specific Criteria-Based Standards**

Ambient quality-based standards are adopted where a comprehensive analysis has been conducted demonstrating that elevated existing water quality levels are the result of natural conditions or are infeasible to reverse, but are adequate to protect the highest attainable use.

All existing ambient-based standards were reviewed and where appropriate were revised or deleted based on new information. Ambient-based standards were deleted from the following segments:

Middle Arkansas River: 4e (acute and chronic selenium), 18b (acute and chronic selenium).

Fountain Creek: 2a (chronic selenium and sulfate), 2b (acute selenium)

Prior to the June rulemaking hearing, the division withdrew its ambient quality-based standards proposals for Fountain Creek segments 2a and 2b, and Pueblo West withdrew its proposals for Middle Arkansas segments 4a (Wildhorse Creek) and 4g (Pesthouse Gulch). The standards at-issue for Fountain Creek were selenium, sulfate and iron; while selenium was the sole focus in the Middle Arkansas segments. The impetus for withdrawal was an acknowledgment by both parties that certain requirements from the 2016 revisions to the Regulation No. 31 ambient quality-based standards provisions to support the proposals had not been adequately addressed. Specifically, the division and Pueblo West had not fully developed the supporting analyses required by section 31.7(1)(b)(ii)(B) to identify sources and causes of elevated pollutant levels, characterize the highest attainable use, support retaining or revising current uses, or complete comprehensive alternatives analyses to identify whether and to what degree anthropogenic sources/causes could be addressed to improve water quality.

Where existing quality did not attain table value standards, the commission retained the current ambient-based standards in place for these segments for the time being. Where existing quality attained table value standards (i.e., Fountain Creek Segment 2a chronic selenium and sulfate; Fountain Creek Segment 2b acute selenium) or adequate information was not available to support retaining the ambient-based standards (i.e., Middle Arkansas segments 4e and 18b acute and chronic selenium), the commission reverted to table value standards for these segments. For Middle Arkansas segments 4e and 18b, evidence exists which demonstrates the occurrence of naturally-elevated selenium concentrations in these segments; however, adequate supporting information was not available to determine the extent of anthropogenic impacts, the feasibility to reverse such impacts, and the highest attainable water quality condition and use for these waterbodies.

The 2016 revisions to Regulation No. 31 provide that ambient quality-based standards are appropriate where a detailed analysis is conducted that identifies all sources and causes of elevated pollutant levels. In situations where any of the sources/causes are determined to be attributable to anthropogenic activity, a comprehensive alternatives analysis must be conducted to identify the extent to which conditions could be improved from implementing feasible pollution controls. The commission recognizes that the "comprehensive analysis" required by section 31.7(1)(b)(ii) -- the analysis to identify all pollution sources, and where non-natural sources are identified, the analysis to identify improved water quality conditions that could result from feasible pollution controls -- can be time and resource intensive. Prior to the next triennial review, the division has committed to working with stakeholders to evaluate and update the previous source identification and analysis efforts on Fountain Creek Segments 2a and 2b, to meet the Regulation 31 provisions and determine the appropriate ambient-based standards. Pueblo West has also committed to continue its current efforts of source identification and control for the Middle Arkansas segments, and will provide an update at the next triennial review hearing.

In the interim, the division has also expressed its intent to work closely with other parties on their ambient quality-based standards proposals to help ensure that the parties' supporting analyses are sufficiently comprehensive to satisfy the 2016 regulatory requirements and the intent behind those requirements. In addition, the division will continue to improve existing resources (such as the ambient standards checklist developed for the 2016 Regulation No. 31 hearing), work to better understand non-point source identification and reversibility, gain experience on alternatives analysis development, and increase its knowledge of feasible pollution control alternatives.

The commission reviewed all other existing site-specific standards. Based on an evaluation of the available data and information, no additional changes were adopted at this time.

## **I. Temporary Modifications**

All existing Temporary Modifications were examined to determine if they should be allowed to expire or if they should be extended, either unchanged or with changes to the numeric limits.

The commission allowed to expire on 12/31/2018 temporary modifications on the following segments:

Middle Arkansas River: 4b and 6b

Lower Arkansas River: 1a

To remain consistent with the commission's decisions regarding arsenic in section 32.51, all existing temporary modifications for arsenic of "As(ch)=hybrid" (expiration date of 12/31/21) were retained. In addition, for the following segments, an arsenic temporary modification was adopted for the 0.02 µg/L Water + Fish numeric standard in recognition of the uncertainty regarding "the water quality standard necessary to protect current and/or future uses" (31.7(3)). For arsenic, a known human carcinogen, the uncertainty is multi-faceted. For example, there are unresolved questions about existing water quality conditions (including spatial and temporal variation), the sources and causes of any numeric standard exceedances, and to what extent existing conditions may be a result of natural or irreversible sources. Likewise, with reference to the equations used to calculate the Water + Fish, Water Supply, and Fish Ingestion table value standards for arsenic (Policy 96-2), there are unresolved questions about the cancer slope, the bioconcentration or bioaccumulation factor, and the percentage of total arsenic in fish tissue that is inorganic. The commission recognizes the need to resolve the uncertainty in the arsenic standards and ensure that human health is adequately protected. Temporary modifications for arsenic were added to the following segments:

Lower Arkansas: 9b

## **J. Discharger Specific Variances**

There is currently one segment in the Arkansas River Basin (Lower Arkansas Segment 1b) that has a discharger specific variance (DSV) for selenium. The commission reviewed the basis for this DSV and the available information regarding progress toward achieving the highest attainable water quality. The commission determined that this DSV is still appropriate and does not require revision at this time.

Lower Arkansas Segment 1a (City of Pueblo): The commission adopted a DSV for Lower Arkansas Segment 1a for selenium and sulfate that represents the highest degree of protection of the classified uses that is feasible for the City of Pueblo James R. Dilorio Water Reclamation Facility. Selenium and sulfate are naturally present in the Pierre Shale underlying the City of Pueblo. Groundwater with high selenium and sulfate concentrations as a result of contact with the Pierre Shale enters the Pueblo sewer collection system primarily through groundwater infiltration. Even though the Pueblo WRF removes some selenium, there are elevated selenium and sulfate concentrations in the effluent. Pueblo demonstrated that it is currently not technologically feasible to comply with selenium and sulfate water quality based effluent limits. Based on the alternatives analysis and other evidence submitted by Pueblo, the commission concluded that the highest degree of protection of the classified uses would be achieved through source control measures. The measures are targeted to reduce groundwater infiltration from Basins 2 and 3 within the Pueblo sewer collection system, where elevated selenium and sulfate concentrations have been observed.

The commission concluded that the resulting effluent concentration could not be predicted from available data, and therefore in Section 32.6(6)(c) the commission adopted narrative alternative effluent limits with enforceable requirements to be implemented during the term of the variance that constitute a quantifiable expression of the highest attainable condition. These include a description of control measures for selenium and sulfate expressed as the number of manholes sealed and the amount of sewer lining measured in terms of the surface area of pipe lined instead of linear feet, to account for the higher cost of lining larger-diameter pipe. The commission also recognized that the conditions need to be flexible enough for Pueblo to target efforts where they will have the greatest impact, and so the number of manholes sealed or the amount of pipe lined may be reduced to allow for other efforts including repair of service lines or taps.

Through the economic feasibility test, Pueblo demonstrated that user fees exceeding 1.5% of median household income would result in substantial and widespread social and economic impact; therefore, pollutant control alternatives exceeding \$10 million were determined not to be economically feasible at this time. During the DSV term, Pueblo will be required to spend \$10 million to implement a comprehensive source control, sampling, analysis, and optimization adaptive management program. The adaptive management program will include the following elements, in order of priority:

- Lining up to 175,000 ft<sup>2</sup> in the sewer collection system in Basins 2 and 3.
- Sealing up to 400 manholes in Basins 2 and 3.
- The amount of sewer lining and manhole sealing may be reduced by:
  - Repair of service taps in poor condition;
  - Repair of service lines in poor condition; or
  - Additional effort where epoxy sealing of manholes is insufficient to control I & I.
- A comprehensive long-term sampling and analysis program to identify source control projects and evaluate the effectiveness of implemented controls.
- Investigation of the contribution from sump pumps.
- Pilot testing to determine the feasibility of treatment optimization to reduce selenium, and implementation of feasible treatment measures.

During the duration of the DSV, Pueblo will continue to study selenium and sulfate treatment optimization and technologies to inform future commission review of the DSV. This effort will include a long-term comprehensive sampling and analysis program, in order to better understand the seasonal and climatic controls on sulfate and selenium and to better evaluate the effectiveness of controls under a variety of climatic conditions. The commission will conduct a re-evaluation of the DSV in December 2020, December 2023, and December 2026. At these periodic reviews, the commission will determine whether the requirements of the DSV continue to be the highest attainable condition. In 2020, the commission will review Pueblo's progress implementing the pollutant minimization plan and any new data collected since the DSV was adopted. In 2023, Pueblo will provide an updated economic feasibility analysis and an updated alternatives analysis, utilizing the results of pilot studies and review of any advancements in the state of selenium treatment technologies. The plan for the re-evaluation in 2026 will be determined during the 2023 rulemaking hearing.

The requirements of the DSV will be either the AEL identified at the time of the adoption of the variance, or the highest attainable condition identified during any re-evaluation rulemaking hearing held by the commission. The commission expects that by implementing the requirements of this variance, Pueblo will achieve some level of control over selenium and sulfate through source control and treatment optimization, such that a numeric alternative effluent limit can be derived in the future, if a subsequent DSV is determined to be necessary.

The commission ensures that the discharge will not contribute to any lowering of the currently attained ambient water quality through its rule at 31.9(5), which requires initial effluent limits to be developed and implemented at the time of permitting that at a minimum represent the level currently achieved. In addition, implementation of Pueblo's pollutant minimization plan will result in incremental improvement throughout the term of the variance, which will prevent any further degrading of water quality.

Lower Arkansas Segment 1b (City of Las Animas): The commission adopted a DSV for Lower Arkansas River Segment 1b for chronic selenium that represents the highest degree of protection of the classified use that is feasible for the City of Las Animas. The city's municipal source water is alluvial well water, which has elevated levels of geogenic selenium. The city treats all raw water through a reverse osmosis treatment system, thus the primary source of selenium in the city's discharge is from the reverse osmosis water treatment plant brine. Las Animas submitted a comprehensive alternatives analysis which demonstrated that compliance with the selenium WQBEL would cause substantial and widespread adverse social and economic impacts in the area where the discharge is located. Alternatives that would allow Las Animas to meet the selenium WQBEL, such as disposal of water treatment residual process water by injection well, or evaporation, would result in user fees that exceed the community's ability to pay. The commission determined that the threshold for substantial and widespread social and economic impacts would be user fees exceeding the current rate of 1.3-1.6%- of median household income for Las Animas' residents.

The commission determined that the highest degree of protection of the classified use that is feasible can be achieved through implementation of a Pollutant Minimization Plan providing for source well optimization, conserving water, repairing losses from the water distribution system and reducing groundwater infiltration to the collection system. Since there is insufficient data at this time to quantify the expected effluent quality that would result through these measures, the commission has adopted a narrative alternative effluent limit (AEL) with enforceable requirements in lieu of a numeric limit. The best feasible effluent quality that can be achieved through source well optimization is expected to be in the range of 0.8 – 28.4 µg/L for Las Animas' combined discharge, which is the range of effluent concentrations that has been achieved under current operating conditions since 2010.

There is significant uncertainty at this time regarding whether compliance with the underlying standard is feasible though optimization of source wells, since there is limited data available on individual source well concentrations. It is not yet known how much concentrations in the source wells will change over time, particularly when operated at different flow rates. By 12/31/2025, if compliance with water quality based effluent limits based upon the underlying standards remains infeasible, then in order to make progress toward identifying longer-term solutions for compliance, the commission has determined that Las Animas should also complete a pilot study for wetland treatment of the city's reverse osmosis brine.

At the re-evaluation of this DSV at the next Arkansas Basin rulemaking hearing in 2023, the commission will review Las Animas' progress implementing the pollutant minimization plan and determine whether the requirements of the DSV continue to be the highest attainable condition. The requirements of the DSV will either remain at the AEL identified at the time of the adoption of the variance, or be modified to the highest attainable condition identified during any re-evaluation rulemaking hearing held by the commission. The commission expects that by implementing the requirements of this variance, Las Animas will be able to quantify the degree of reduction in selenium that is feasible to achieve through source water optimization and other measures, such that a numeric alternative effluent limit can be derived in the future, if a subsequent DSV is determined to be necessary.

The commission ensures that the discharge will not contribute to any lowering of the currently attained ambient water quality through its rule at 31.9(5), which requires initial effluent limits to be developed and implemented at the time of permitting that at a minimum represent the level currently achieved. In addition, implementation of Las Animas' pollutant minimization plan and source water optimization will result in improvement throughout the term of the variance, which will prevent any further degrading of water quality.

#### K. Temperature Standards for Rivers and Streams

The commission revised temperature criteria in Regulation No. 31 in 2007, and again in 2010, based on the development of the Colorado Temperature Database and a lengthy stakeholder process. In 2013, the new temperature standards were adopted for all segments with an Aquatic Life use classification in Regulation No. 32. In June 2016, temperature criteria in Regulation No. 31 were further revised, including changes to the temperature table value standards, revision of warm water winter acute standards, and the addition of footnotes to protect lake trout and mountain whitefish.

1. **Colorado Temperature Database Update:** The Colorado Temperature Database was updated in 2016 to reflect the most recent research regarding the thermal requirements of Colorado's fishes, which allowed for adoption of an overall update of the cold and warm water acute and chronic temperature table value standards. In this hearing, the commission adopted revisions at 32.6(3) to bring this regulation into conformity with the revised table value standards found in Table I of Regulation No. 31.
2. **Warm Water Winter Acute Table Values:** The 2016 updates to the temperature database also allowed for the adoption of revisions to the warm water winter acute table values. When seasonal numeric temperature standards were first adopted in 2007, warm water winter acute and chronic standards were simply set at half the summer season table values, recognizing a pattern seen in cold waters. In 2016, the acute winter table values for warm water fish were revised based on lethal temperature thresholds established in laboratory experiments for fish acclimated to "winter" temperatures. Standards derived using this new method more accurately protect warm water fish from acute thermal effects in winter. In this hearing, the commission adopted revisions at 32.6(3) to bring this regulation into conformity with the revised warm water winter acute temperature table value standards found in Table I of Regulation No. 31.



3. **Mountain Whitefish and Lake Trout Footnotes:** In 2016, the commission adopted two footnotes to Table I of Regulation No. 31 to allow for additional thermal protection of mountain whitefish and lake trout where appropriate. These species were given special standards due to their thermal sensitivity and limited distributions. Lake trout occur in only a small number of lakes and reservoirs, and thermally-sensitive spawning and early life stages of mountain whitefish are known to occur only in certain cold water tributaries. In this hearing, the commission adopted standards to protect lake trout on a site-specific basis where information provided by Colorado Parks and Wildlife biologists indicated that this species occurs and protection from thermal impacts is necessary and appropriate. In Regulation No. 32, there are no water bodies where thermally-sensitive spawning and early life stages of mountain whitefish are known to occur, based upon information provided by Colorado Parks and Wildlife.

Temperature standards to protect lake trout were added to the following segments:

Upper Arkansas River: 30 (Turquoise Reservoir, Mt Elbert Forebay and Twin Lakes (Upper and Lower)

4. **Refinement of Temperature Standards:** Since temperature criteria were revised in Regulation No. 31 in 2007, the division and others have worked to ensure that appropriate temperature standards were adopted for segments throughout the state. At times, this effort to assign temperature standards has also included reevaluation of the existing Aquatic Life use classifications, and use revisions have been proposed and adopted where appropriate. Incremental progress continues as temperature standards are refined based on the experience and data gains that have occurred since initial adoption of temperature standards.

In the 2016 Regulation No. 31 hearing, the commission declined to adopt the division's proposal for statewide solutions for temperature transition zones and shoulder seasons, in favor of a basin-by-basin consideration of temperature standards on a site-specific basis. The basin-by-basin approach was selected as it allows for consideration of temperature attainability and ambient quality-based site-specific temperature standards issues in the context of multiple lines of evidence and site-specific contravening evidence. The sections below describe the considerations and methods used to develop and support the site-specific temperature standards revisions adopted in this basin hearing.

- i. Existing Uncertainty: While a great deal of progress has been made regarding the development and implementation of temperature standards, uncertainty still remains for some segments due to the lack of site-specific temperature or aquatic community information or conflicts between the lines of evidence. This uncertainty was highlighted in the statement of basis and purpose language for the 2013 Regulation No. 32 Rulemaking Hearing at 32.52.K. To address this uncertainty, these segments were targeted for additional data collection where possible, and all new information collected for these segments was evaluated as part of this basin review.

- ii. Attainability: Following the commission's 2016 direction to consider attainability issues using a basin-by-basin approach, the division reviewed all available information to identify segments where attainability issues may exist based upon available instream temperature data and expected in-stream summer maximum weekly average temperatures (MWATs). Expected MWATs were determined using regression analysis of temperature and elevation and the NorWeST Stream Temperature Regional Database and Model. This screening found that many segments, or portions of segments, were not expected to attain the summer or winter chronic temperature standards. These waters were targeted for additional review, as were waters listed as impaired for temperature on the 2016 303(d) List.
- iii. Aquatic Life Use: For these selected segments, the division conducted a comprehensive, site-specific review of the existing use classification and temperature standards. Fishery data provided by Colorado Parks and Wildlife (CPW) was evaluated to identify fish species expected to occur, whether reproduction is expected (i.e., stocked, transient, or resident species), age class structures, and any other relevant information regarding aquatic life communities. For segments where little or no information on fish species expected to occur existed, fish population data from adjacent and representative water bodies was utilized when possible.
- iv. Thermal Drivers: In cases where temperature standards to protect the highest attainable use were determined, but the temperature standards were not attainable, site-specific factors that influence in-stream temperature were evaluated to identify any correctable anthropogenic thermal sources. All available data on temperature, hydrology, hydro-modification, canopy cover, groundwater influence, point and non-point thermal sources, and other relevant information was reviewed.

Based upon information regarding the species expected to occur, temperature data, physical habitat, land cover/use, groundwater inputs, flow conditions, and all other available information regarding thermal drivers, the commission adopted revisions of temperature standards for the segments listed below where water quality is not feasible to improve or where the thermal regime is the result of natural conditions, but is sufficient to protect the highest attainable use.

The following segments were changed from CS-II to CS-I:

Upper Arkansas River: 14f

The following segments were changed from CS-I to CS-II:

Upper Arkansas River: 5b, 15a

The following segments were changed from CS-II to WS-II:

Upper Arkansas River: 14d

Adequate data or resources were not always available to support a revision of the use classification or a temperature standards change. In these cases, no change was proposed. It is the commission's intent that the division and interested parties work to resolve the uncertainty. There is uncertainty regarding the appropriate use classifications and temperature standards to protect the highest attainable use still exist for the following segments:

Upper Arkansas River: 13, 14c, 17c, 18, 21b, 23, 24, 27

Middle Arkansas River: 1, 2, 5a, 5b, 7a, 7b, 11a, 11b, 13b, 17,

Fountain Creek: 1a, 3a, 5b

Lower Arkansas River: 1b, 3a, 5a, 5b, 5c, 6a, 07, 16c

Moving forward with this site-specific approach, the commission encourages the division to consider whether any additional information would be appropriate to be included in the use attainability analyses.

#### **L. Direct Use Water Supply Sub-classification**

Also in the March 2012 rulemaking hearing, the commission adopted a sub-classification of the Domestic Water Supply Use called "Direct Use Water Supply Lakes and Reservoirs Sub-classification" (DUWS), in Regulation No. 31, at 31.13(1)(d)(i). This sub-classification is for Water Supply lakes and reservoirs where there is a plant intake location in the lake or reservoir or a man-made conveyance from the lake or reservoir that is used regularly to provide raw water directly to a water treatment plant that treats and disinfects raw water. The commission began to apply this sub-classification in 2013 and anticipated that it would take several basin reviews to evaluate all the reservoirs in the basin. The commission adopted the DUWS sub-classification on the following reservoirs and added "DUWS" to the classification column in the standards tables. The public water systems are listed along with the reservoirs and segments:

Upper Arkansas River: 30 (Twin Lakes and Mt. Elbert Forebay), 37 (Ott Reservoir)

Fountain Creek: 8 (Big Tooth Reservoir, Lake Moraine, Woodmoor Lake), 11 (Gold Camp Reservoir, Lower Reservoir, Keeton Reservoir, South Suburban Reservoir, Unknown Reservoir at 38.70939, -104.82928)

31.17(e)(ii) also allows the commission to adopt numeric nutrient standards for DUWS lakes and reservoirs. No proposals were made to adopt standards based on this provision in this rulemaking.

#### **M. Other/Site-Specific Revisions**

Upper Arkansas Segment 8b: The commission extended the expiration date to 06/30/2020 for the temporary modifications for Segment 8b for chronic cadmium, and acute and chronic zinc. This additional time allows for collection of additional biological and temperature/water quality data in ponded wetland habitat in Iowa Gulch and several similar reference streams free from the influence of elevated metals concentrations to resolve the uncertainty regarding the resident biota and appropriate standards for this segment. Efforts will specifically target *Hyaella azteca*, as lentic habitat waters and emergent vegetation in Iowa Gulch are available; however, this species was not found in previous sampling efforts, and additional data are needed to determine if this species could be expected to be present in Iowa Gulch.

Middle Arkansas Segment 6b: Based upon information submitted by Public Service Company of Colorado (PSCo), the commission adopted a site-specific ambient-based daily maximum (DM) temperature standard for Middle Arkansas Segment 6b of 32.6°C (DM) for March – November, with the TVS of WS-II applying during the winter months.

The commission determined that the highest attainable uses for Segment 6b are the existing classifications of Agriculture, Aquatic Life Warm 2, Recreation E, and Water Supply, and that the ambient temperatures are adequate to protect these uses. To accurately represent spatial and temporal variability in natural temperature conditions, PSCo submitted water quality data from locations throughout the segment, including upstream and downstream of PSCo's Comanche Station discharge. These data demonstrate that natural conditions within the St. Charles River watershed are solely driving elevated daily maximum instream temperatures during the summer months. The commission removed the temporary modification of the DM standard that had previously been in place on Middle Arkansas Segment 6b.

An extension of the current condition temporary modification for chronic temperature from December-February was also proposed with an expiration date of 12/31/2024, but PSCo withdrew its proposal and the existing temporary modification will remain in place with an expiration date of 12/31/2018.

Fountain Creek Segment 4: The commission adopted a proposal for the resegmentation of Segment 4 of the Fountain Creek sub-basin. Segment 4 previously included all tributaries to the mainstem of Monument Creek and Fountain Creek, outside of National Forest or Air Force Academy lands, covering approximately 100 tributaries. These tributaries drain significantly different land uses ranging from mountainous to industrial areas, and have different water quality. Segment 4 was classified for Agriculture, Recreation E, Aquatic Life Warm 2, and Water Supply, and had a Use Protected designation. After extensive data collection, evaluation and field observations, the tributaries were subdivided into segments 4a, 4b, 4c, 4d, 4e and 5a, or moved to existing Segment 3a. Existing Segment 5 was renamed to create Segment 5b.

The resegmentation of Segment 4 was based on the Aquatic Life and Water Supply uses while assuming all tributaries would retain the existing Agriculture and Recreation E uses. Colorado Parks and Wildlife (CPW) provided aquatic life information collected on the various tributaries and their professional opinion on what species would be expected to be found across the watershed. Macroinvertebrate data were also used to determine Class 1 or 2 Aquatic Life uses. Most of the tributaries continue to support Aquatic Life Warm 2 classifications (segments 4a, 4b, 4d and 4e), while some tributaries were determined to be Aquatic Life Class 1 (segments 4c and 5a). Tributaries that support cold water species were moved to Segment 3a (existing) which has an Aquatic Life Cold 1 classification.

Water supply information for existing wells and surface water intakes was obtained from the Colorado Decision Support System website and information provided by AF CURE for planned future water supplies. Alluvial wells were evaluated in accordance with the division's Water Supply Identification Methodology for potential hydrologic connection to a tributary as the tributaries are all small streams with alluvial properties that would match the assumptions of the division's methodology. Wells that are greater than 200 feet from a stream or are screened at a depth greater than 60 feet were determined to be outside of the alluvium and therefore not connected to a tributary. Future uses were evaluated for tributaries that did not have a Water Supply use and were determined to be unlikely if a tributary resided within a water provider's service area boundary and the water provider has requirements to connect to the water system. Future use was considered unlikely in areas such as Fort Carson and the Air Force Academy as development is unlikely and water is provided by another water provider. The tributaries from the Pueblo County line to Pueblo West and Pueblo, as well as Black Squirrel Creek in the Monument area were determined to have the potential for future use as these are outside of a water providers service area and the potential for a new well to be installed may exist.

The tributaries were divided as tributaries to Monument Creek with Aquatic Life Warm 2 and without a Water Supply (Segment 4a), tributaries to Monument Creek with Aquatic Life Warm 2 and with a Water Supply (Segment 4b), tributaries to Monument Creek with Aquatic Life Warm 1 and Water Supply (Segment 4c), tributaries to Fountain Creek with Aquatic Life Warm 1 and without a Water Supply (Segment 4d), and tributaries to Fountain Creek with Aquatic Life Warm 2 with a Water Supply (Segment 4e). The tributaries in segments 4a, 4b, 4d and 4e continue to be designated as Use Protected based on Regulation 31.8(2)(b)(iii)(B) where the segments do, or would, qualify for 303(d) Listing of two or more parameters (typically *E. coli* and selenium). Segment 4c was determined to be Reviewable.

The Aquatic Life Cold 1 tributaries that were moved to Segment 3a either have a Water Supply use and/or have water quality that would require a Reviewable designation. Except for adding these new streams to Segment 3, no other changes have been made.

Segment 5 has been renamed as Segment 5b, and Segment 5a was created, both of which have a Warm 1 Aquatic Life use. Segment 5a has been designated as Water Supply and Recreation E as opposed to Segment 5b (current Segment 5) which is Recreation N. The segment descriptions were altered to include latitude and longitude instead of the irrigation diversion which no longer exists. No other changes have been made to these segments.

For future use and recording of the decision of which tributaries went to which segment, the following table is included to record the latitude and longitude of each tributary near the point of confluence with Monument or Fountain Creek. These points were chosen based on using GIS and the division's coverage maps in NAD83.

Stream Name	Latitude	Longitude	Final Segment
North Monument Creek	39.114968	-104.910761	COARFO03a
Dirty Woman Creek	39.081775	-104.876332	COARFO04b
Beaver Creek	39.048472	-104.867435	COARFO03a
Jackson Creek	39.043241	-104.854152	COARFO04a
Smith Creek	39.025423	-104.830462	COARFO04b
Monument Branch	39.013973	-104.823260	COARFO04a
Black Squirrel Creek	39.000318	-104.810446	COARFO04b
Elkhorn Springs	38.981928	-104.808412	COARFO04a
Kettle Creek	38.976090	-104.798813	COARFO04c
Unnamed	38.948613	-104.829623	COARFO04b
Pine Creek	38.961800	-104.799435	COARFO04a
South Pine Creek	38.937662	-104.816766	COARFO04a
Cottonwood Creek	38.927132	-104.814858	COARFO04b
Dry Creek	38.926631	-104.816170	COARFO04b
North Rockrimmon Creek	38.915555	-104.826052	COARFO04c
South Rockrimmon Creek	38.909113	-104.827132	COARFO04a
Templeton Gap North Tributary	38.906605	-104.815082	COARFO04a
Templeton Gap Floodway	38.888866	-104.824333	COARFO04a
Douglas Creek	38.888680	-104.826417	COARFO04a
South Douglas Creek	38.882480	-104.829076	COARFO04a
Mesa Creek	38.856371	-104.832046	COARFO04c
Bear Creek	38.822378	-104.840974	COARFO03a
Cheyenne Creek	38.813118	-104.823434	COARFO03a
Shooks Run	38.816411	-104.817649	COARFO04e
Spring Run	38.799946	-104.820992	COARFO04e
Spring Creek	38.808650	-104.795141	COARFO04e
Sand Creek (near Co. Springs)	38.782008	-104.778801	COARFO04e
Fishers Canyon	38.776189	-104.779734	COARFO04e
Neal Ranch	38.754761	-104.759366	COARFO04d
Unnamed	38.725284	-104.727502	COARFO04d
Crews Gulch	38.719094	-104.726343	COARFO04d
Unnamed above Fort Carson boundary	38.694465	-104.738735	COARFO04d
Unnamed below Fort Carson boundary	38.679695	-104.712972	COARFO05b
Jimmy Camp Creek above Old Pueblo Road	38.673200	-104.696739	COARFO05a

Stream Name	Latitude	Longitude	Final Segment
Jimmy Camp Creek below Old Pueblo Road	38.672228	-104.698486	COARFO05b
Little Fountain/Rock Creek above Highway 115	38.676901 (LFC) 38.698881 (RC)	-104.849436 -104.830406	COARFO03a
Little Fountain/Rock Creek below Highway 115	38.614494	-104.674764	COARFO04e
Unnamed	38.597077	-104.676750	COARFO04d
Unnamed 2	38.602678	-104.660838	COARFO04d
Unnamed	38.585843	-104.669591	COARFO04d
Unnamed	38.566210	-104.650835	COARFO04e
Williams Creek	38.564539	-104.625856	COARFO05a
Sand Creek (near Wigwam)	38.535376	-104.627254	COARFO04e
Unnamed	38.528773	-104.646758	COARFO04e
Unnamed	38.511449	-104.629547	COARFO04e
Unnamed	38.488879	-104.615683	COARFO04e
Unnamed	38.480893	-104.605607	COARFO04e
Unnamed	38.489335	-104.590919	COARFO04e
Unnamed	38.445576	-104.606713	COARFO04e
Unnamed	38.436593	-104.589458	COARFO04e
Unnamed	38.422393	-104.591365	COARFO04e
Unnamed	38.421339	-104.606992	COARFO04e
Unnamed	38.409289	-104.588270	COARFO04e
Steel Hollow	38.407341	-104.611280	COARFO04e
Unnamed	38.400587	-104.597455	COARFO04e
Unnamed	38.395210	-104.598914	COARFO04e
Unnamed	38.387537	-104.614172	COARFO04e
Unnamed	38.380028	-104.606847	COARFO04e
Porter Creek	38.372749	-104.616156	COARFO04e
Gnat Hollow	38.361287	-104.617953	COARFO04e
Unnamed	38.364057	-104.610592	COARFO04e
Unnamed	38.355674	-104.609416	COARFO04e
Unnamed	38.344821	-104.609092	COARFO04e
Unnamed	38.345192	-104.616245	COARFO04e
Unnamed	38.320417	-104.604750	COARFO04e
Unnamed	38.312846	-104.590524	COARFO04d
Unnamed	38.317828	-104.620189	COARFO04d

#### N. Standards Corrections and Clarifications

1. **Duration of Nitrite Standard:** The commission corrected the duration of the nitrite standard from chronic to acute on all segments. When the commission adopted the new format for tables in 2016, all nitrite standards were incorrectly included in the “chronic” standards column.
2. **Uranium:** To improve the clarity of the regulation, the commission included references to the basin-wide uranium standards at 32.5(3) in the Appendix 32-1 tables. For the acute and chronic uranium standards for all segments, the commission included a reference to 32.5(3) to clarify that the basic standard at 32.5(3) applies to all waters in Regulation No. 32. Because these standards already applied basin-wide, there is no practical effect of this change.

3. **Mercury:** To improve the clarity of the regulation, the commission added Total Recoverable notation (T) to the mercury Aquatic Life and Water Supply standards. The standards apply to the total recoverable fraction of all forms, both organic and inorganic, of mercury in water. Multiple forms of mercury exist in the environment and these forms differ dramatically in both their potential to cause toxic effects and their availability for uptake by organisms. Certain aquatic conditions can lead to the conversion to the highly bioaccumulative, toxic, organic form (methylmercury). The mercury standards are designed to provide protection from the accumulation of those toxic forms and therefore, the standards address all forms of mercury. The addition of the Total Recoverable notation does not represent a change in current Colorado policy or procedures.

**O. Correction of Typographical and Other Errors and Segmentation Clarification**

The following edits were made to segment descriptions to improve clarity and correct typographical errors:

- The formatting of the tables in Appendix 32-1 was modified to include only parameters that have been adopted in a majority of segments. The tables include rows for physical and biological, inorganic and metals for all parameters which the commission commonly adopts into segments. In segments where there is no numeric standard for a commonly adopted parameter, a blank row for that parameter is included to show the commission's site-specific decision not to adopt a numeric standard for that parameter. The commission removed beryllium and aluminum from all segments where no standard has been adopted, because these parameters have only been adopted on a site-specific basis, rather than basin-wide.
- Upper Arkansas segments 2a and 13: The nutrient note was added to correct a previous omission.
- Upper Arkansas Segment 20b: Total phosphorus and chlorophyll standards and a nutrient note was added to correct a previous omission.
- The qualified discharger table at 32.5(4) was updated to accurately reflect the location of Monarch Mtn Lodge and Powder Monarch LLC on Upper Arkansas Segment 13.
- Existing site-specific temperature standards for Upper Arkansas segments 4, 14c, 20a, 20b, 30 and 35, Middle Arkansas segments 20 and 26, and Lower Arkansas Segment 1a were reformatted in the tables to provide clarity and consistency.
- Existing silver standards were updated to remove the trout qualifier on Lower Arkansas segments 10, 12 and 19, and Middle Arkansas segments 3, 9, 18a, 18b, 21 and 28.
- Fountain Creek Segment 5: Coordinates were added to the segment description.
- Lower Arkansas Segment 15: Commas were modified for clarity.
- Middle Arkansas segments 5b and 6a: Coordinates were added to the diversion for clarity.
- Middle Arkansas Segment 18a: Punctuation was modified for clarity.
- Middle Arkansas Segment 26: Punctuation was modified for clarity.
- Upper Arkansas segments 4a and 4b: Coordinates were added to the Highway 115 bridge.

- Upper Arkansas Segment 14a: Rush Creek was removed from the segment description, as this stream (source at 38.185078, -104.976083) is already correctly located in Middle Arkansas Segment 18b.
- Upper Arkansas Segment 15b: Coordinates were added to County Road 92.
- Upper Arkansas Segment 25: Section Township and range were replaced with coordinates in segment description.
- Upper Arkansas segments 27 and 39: Coordinates were added to the mouth of Phantom Canyon.

#### **PARTIES TO THE RULEMAKING HEARING**

1. Arkansas Fountain Coalition for Urban River Evaluation
2. City of Las Animas
3. Public Service Company of Colorado
4. City of Pueblo
5. Pueblo West Metropolitan District
6. Resurrection Mining Company
7. Rio Grande Silver, Inc.
8. Cherokee Metropolitan District
9. Colorado Parks and Wildlife
10. Colorado Springs Utilities
11. Cripple Creek and Victor Gold Mining Company
12. Evraz Inc. NA
13. Northern Colorado Water Conservancy District
14. Tri-Lakes Wastewater Treatment Facility
15. U.S. Environmental Protection Agency

#### **32.62 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; DECEMBER 10, 2018 RULEMAKING; FINAL ACTION January 14, 2019; EFFECTIVE DATE JUNE 30, 2019**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

#### **BASIS AND PURPOSE**

Pursuant to the requirements in the Basic Standards (at 31.7(3)), the commission reviewed the status of temporary modifications scheduled to expire before December 31, 2020 to determine whether the temporary modification should be modified, eliminated, or extended.

For the temporary modifications set to expire after the effective date of this hearing, the commission reviewed progress toward resolving the uncertainty in the underlying standard and/or the extent to which conditions are a result of natural or anthropogenic conditions, and evaluated whether the temporary modifications were still necessary. The commission took no action on the following temporary modifications:

Upper Arkansas Segment 8b (COARUA08b): temporary modifications of the chronic cadmium and acute and chronic zinc standards (expire 6/30/2020). Resurrection Mining Company continues to make progress to resolve the uncertainty. The commission made no change to the expiration date, as the original time allotment was deemed adequate to resolve the uncertainty.



The commission took no action on temporary modifications that were set to expire on or before the effective date of this hearing. The commission deleted the following temporary modifications, which were allowed to expire:

Middle Arkansas Segment 4b (COARMA04b) – all  
Middle Arkansas Segment 6b (COARMA06b) – temperature  
Lower Arkansas Segment 1a (COARLA01a) - selenium and sulfate

**32.63 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; DECEMBER 9, 2019 RULEMAKING; FINAL ACTION January 13, 2020; EFFECTIVE DATE JUNE 30, 2020**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE**

Pursuant to the requirements in the Basic Standards (at 31.7(3)), the commission reviewed the status of temporary modifications scheduled to expire before December 31, 2021 to determine whether the temporary modification should be modified, eliminated, or extended.

For the temporary modifications set to expire after the effective date of this hearing, the commission reviewed progress toward resolving the uncertainty in the underlying standard and/or the extent to which conditions are a result of natural or anthropogenic conditions, and evaluated whether the temporary modifications were still necessary.

**A. Temporary Modifications for Standards Other than Arsenic**

The commission took no action on the following temporary modification:

Middle Arkansas Segment 2 (COARMA02): temporary modifications of the acute and chronic temperature standards (expire 7/1/2021). Colorado Parks and Wildlife continues to make progress to resolve the uncertainty. The commission made no change to the expiration date, as the original time allotment was deemed adequate to resolve the uncertainty.

The commission deleted the following temporary modifications:

Upper Arkansas Segment 8b (COARUA08b): temporary modifications of the acute and chronic cadmium and zinc standards (expire 6/30/2020).

Iowa Gulch, segments 8a, 8b and 9: The commission adopted site-specific standards for cadmium and zinc based on the EPA recalculation procedure. The recalculation methodology provides revised hardness-based equations for acute and chronic cadmium and acute and chronic zinc for Segment 8a, and chronic cadmium and acute and chronic zinc for segments 8b and 9. These site-specific standards, which were developed using the most up-to-date cadmium and zinc toxicity databases (as of November 2019), are intended to protect at least 95% of the resident aquatic macroinvertebrate, planktonic, and fish communities in Iowa Gulch. These site-specific standards resolve the uncertainty in the underlying standards necessary to protect current and/or future uses, which was the basis for the temporary modifications for cadmium and zinc on Segment 8b.

The Black Cloud Mine, which is located in the upper portion of Iowa Gulch, ceased mining activities in 1999. Resurrection Mining Company began reclamation in 2009 and completed reclamation of the mine in 2014. Resurrection is continuing to collect and treat toe-drain water from the tailings pile in compliance with a consent decree. Those collected waters are transported to the Yak Water Treatment Plant, and the treated water is discharged to California Gulch. Resurrection maintains a permit to discharge treated toe-drain water to Iowa Gulch Segment 8b in the event that the Yak Water Treatment Plant is not operational.

The Use Attainability Analysis submitted by Resurrection demonstrated that aquatic macroinvertebrate populations in Iowa Gulch have macroinvertebrate multi-metric Index (MMI) scores above the attainment threshold, indicating that Iowa Gulch is attaining the designated aquatic life use. Fish diversity in Iowa Gulch is limited to one family (Salmonidae), therefore a second fish family was omitted from the recalculation procedure. Planktonic organisms, such as daphnids, copepods, and rotifers are present, although primarily limited to the ponded areas in these segments. Other benthic crustaceans, such as the amphipod *Hyalella azteca*, are absent, consistent with reference streams (Rock Creek, Empire Gulch, and Big Union Creek) in which benthic crustaceans were also absent from sweep samples. Cadmium and zinc standards resulting from the recalculation procedure result in values that are sufficiently protective of the resident aquatic populations in Iowa Gulch.

#### Site-specific Standards Longevity Plan

Resurrection will provide information to the commission and division regarding updated zinc and cadmium toxicity studies and recalculated standards if warranted, as well as updated resident species lists and water quality information in Iowa Gulch to assist the commission in ensuring the site-specific standards remain appropriate in subsequent Regulation No. 32 reviews, pursuant to a longevity plan submitted by Resurrection.

### **B. Temporary Modifications for Arsenic**

The temporary modification of the chronic arsenic standard, which applies to numerous segments with a standard of 0.02 µg/l to protect the Water + Fish use, was extended from 12/31/2021 to 12/31/2024. No changes were made to the temporary modification operative values at 32.6(2)(c). For discharges existing on or before 6/1/2013, the temporary modification remains at As(ch)=current condition and numeric effluent limits will be developed by the division using the division's implementation method (WQCD Exhibit L). For new or increased discharges that commence on or after 6/1/2013, the temporary modification remains at 0.02–3.0 µg/L (total recoverable). The extension provides time to resolve the uncertainty in the underlying standard for arsenic to protect human health. Significant uncertainty remains regarding the appropriate standard to protect the use and the extent to which ambient levels of arsenic are the result of natural or irreversible conditions. In addition, there is widespread instream non-attainment of the underlying standard and predicted or demonstrated compliance problems with permit limits based on the underlying standard, as demonstrated in the division's Prehearing Statement.

It is anticipated that the uncertainty regarding the appropriate underlying standard for arsenic to protect human health will be resolved by June 2024, with the adoption of new statewide arsenic use-based standards. The division presented (WQCD Exhibit E) a detailed plan to resolve the multifaceted uncertainty for arsenic. The plan includes conducting a field study to investigate the proportion of inorganic (versus total) arsenic in the tissue of fish collected from Colorado waters, deriving a bioaccumulation or bioconcentration factor for arsenic, appropriate for use in Colorado, and characterizing ambient levels of arsenic in surface waters and groundwater statewide. As discussed below, the division will also be gathering, through permit requirements, targeted data from facilities benefiting from the arsenic temporary modification (WQCD Exhibit D). These data will help the division to better understand the contribution of arsenic in effluent from permitted facilities to ambient levels of arsenic in Colorado waters and will inform the extent to which ambient levels of arsenic are the result of natural or irreversible conditions.

Effluent arsenic concentration data from facilities throughout the state demonstrate that many facilities will likely have issues meeting effluent limits based on the anticipated revised arsenic water quality standard to protect human health. As a result, there is a widespread need to make progress to understand sources of arsenic and options for source control and treatment. To ensure such progress is made, when implementing the “current condition” temporary modification in permits, the division will include additional permit Terms and Conditions, which may include requirements for additional monitoring, source identification, and characterization of source control and treatment options for reducing arsenic concentrations in effluent (WQCD Exhibit D). Under the duration of the temporary modification, facilities would not be required to implement facility improvements to meet a specified effluent limit; however, facilities may be required to evaluate arsenic source control and treatment options for their facility. For purposes of evaluating options to reduce arsenic concentrations in effluent, the arsenic treatment removal recognized in the 2013 Arsenic Rulemaking (3 µg/L) can be used as a point of reference until the uncertainty in the underlying standard is resolved. Implementation guidance for these requirements was included in WQCD Exhibit D. These requirements are reasonable and would not cause undue economic burden for facilities, but will ensure that progress is being made toward future attainment of the underlying standards and protection of the classified uses. Implementation of these requirements would function to increase the amount of time facilities would have for long-term planning and encourage data collection that would facilitate implementation of the most appropriate source reduction and treatment options and selection of the most appropriate regulatory pathways once the new underlying standard is adopted for arsenic.

**C. Implementation of Current Condition Temporary Modifications into Permits**

Several parties to the hearing raised concerns regarding the implementation of current condition temporary modifications into permits, as described in WQCD Exhibit L. The commission was persuaded that the division has existing legal authority to proceed with implementation of these temporary modifications in the absence of a rule or policy addressing this specifically. However, the commission believes it would be beneficial to develop a policy, and therefore requested that the division work toward developing a division policy about how the division will proceed with implementing current condition temporary modifications into permits. The commission requested that the division report back to the commission next year, potentially as part of the division’s annual update to the commission regarding the 10-Year Water Quality Roadmap, regarding what the division believes is a reasonable timeline and process for developing such a policy. The commission encouraged the division to continue with its current efforts at transparency and implementation of current condition temporary modifications consistent with the evidence presented in the rulemaking, including Exhibit L, into permits prior to the development of a policy.

**32.64 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; DECEMBER 9, 2019 RULEMAKING; FINAL ACTION January 13, 2020; EFFECTIVE DATE JUNE 30, 2020**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

**BASIS AND PURPOSE**

**A. Aquatic Life Standards for Cadmium**

Cadmium is a naturally-occurring element frequently found alongside other metals, and numerous treatment techniques are available to remove cadmium from wastewater. Cadmium has both acute and chronic effects on aquatic life, and can negatively impact survival, growth, reproduction, immune and endocrine systems, development, and behavior.

The commission revised the hardness-based cadmium table value standards to protect the Aquatic Life use. The updated standards incorporate toxicity data that have become available since the cadmium standards were last updated in the 2005 Regulation No. 31 rulemaking hearing. The updated standards are based on the United States Environmental Protection Agency's (EPA) "Aquatic Life Ambient Water Quality Criteria – 2016" and toxicity data that have become available since EPA's recommended criteria were released in 2016.

The updated standards include two acute equations (acute(cold) and acute(warm)) and one chronic equation. The acute(cold) and chronic equations are the same as the acute and chronic criteria recommended by EPA in 2016. The acute(cold) equation, which is lowered to protect trout, is protective of trout and other sensitive cold water species and applies in segments classified as Aquatic Life Cold Class 1 or 2. The acute(warm) equation, which is not lowered to protect trout, is protective of warm water species and applies in segments classified as Aquatic Life Warm Class 1 or 2. The chronic equation is protective of both cold and warm water aquatic life and applies in segments classified as either Aquatic Life Cold Class 1 or 2 or Aquatic Life Warm Class 1 or 2.

Compared to the previous cadmium table value standards, the updated standards are generally less stringent. The acute(cold) standard is less stringent than the previous acute(trout) standard when water hardness is greater than 45 mg/L CaCO<sub>3</sub>. The acute(warm) equation is less stringent than the previous acute standard when water hardness is greater than 101 mg/L CaCO<sub>3</sub>. The updated chronic equation is less stringent than the previous chronic standard at all water hardness values.

In the past, Colorado has had separate acute equations for waters with trout and waters without trout. The updated standards include separate acute equations for cold waters (both with and without trout) and warm waters. This change in approach is due to the addition of toxicity data showing that sculpin, which inhabit cold waters, are also sensitive to cadmium. To ensure protection of sculpin and other sensitive cold water aquatic life in waters where trout are absent, the acute(cold) equation applies to all cold waters. As a result, the acute trout (tr) qualifier for cadmium is no longer needed on select cold water segments and was deleted from all segments where it had applied.

During the 2018 basin review, the commission adopted EPA's 2016 recommended criteria as site-specific standards in select cold water segments. The updated table value standards for cold waters are the same as EPA's 2016 recommended criteria. Therefore, to reflect the commission's state-wide adoption of the updated table value standards, the cadmium "SSE" were replaced with "TVS" on the following segments:

Upper Arkansas River: 1a, 2b (acute only), 2c (acute only), 3, 4a, 5a, 5b, 7, 11, 12a

## **B. Clarifications to Appendix 32-1**

To improve the clarity and usability of the tables, an acronym list was added to the front of Appendix 32-1 and the footnote referencing Section 32.6 was also simplified.

### **32.65 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; DECEMBER 14, 2020 RULEMAKING; FINAL ACTION DECEMBER 14, 2020; EFFECTIVE DATE FEBRUARY 14, 2021**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

## **BASIS AND PURPOSE**

The commission adopted a temporary modification for chronic arsenic on Upper Arkansas Segment 20b (COARUA20b), with an expiration date of 12/31/2024. An arsenic temporary modification was previously adopted on this segment in the 2013 Regulation No. 32 rulemaking hearing, but was inadvertently deleted during the 2018 Regulation No. 32 rulemaking hearing. The basis, requirements, and expectations for this temporary modification are described at 32.63(B).

### **32.66 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; DECEMBER 14, 2020 RULEMAKING; FINAL ACTION FEBRUARY 8, 2021; EFFECTIVE DATE JUNE 30, 2021**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

## **BASIS AND PURPOSE**

Pursuant to the requirements in the Basic Standards (at 31.7(3)), the commission reviewed the status of temporary modifications scheduled to expire before December 31, 2022 to determine whether the temporary modification should be modified, eliminated, or extended.

The commission took no action on the temporary modifications set to expire on or before the effective date of this hearing, allowing the following temporary modifications to expire and be deleted from Appendix 32-1:

Middle Arkansas Segment 2 (COARMA02): acute and chronic temperature (expires 7/1/2021)

### **32.67 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; DECEMBER 14, 2020 RULEMAKING; FINAL ACTION FEBRUARY 8, 2021; EFFECTIVE DATE JUNE 30, 2021**

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402; provide the specific statutory authority for adoption of these regulatory amendments. The commission also adopted in compliance with 24-4-103(4) C.R.S. the following statement of basis and purpose.

## **BASIS AND PURPOSE**

Lower Arkansas Segment 1a (COARLA01a): The Commission reviewed the discharger specific variance (DSV) for acute and chronic selenium, and chronic sulfate, adopted in the June 2018 Arkansas Basin Hearing for the City of Pueblo's James R. Dilorio Water Reclamation Facility. See Section 32.6(6)(c). The Commission reviewed Pueblo's progress toward achieving the narrative alternate limits (AELs) for selenium and sulfate, and determined that the narrative AELs continue to represent the highest attainable water quality that is feasible for Pueblo to achieve. Therefore, the Commission determined that the selenium and sulfate DSV is still appropriate and does not require revision at this time.

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

**5 CCR 1002-32**

**REGULATION NO. 32**  
**CLASSIFICATIONS AND NUMERIC STANDARDS**  
**FOR**  
**ARKANSAS RIVER BASIN**

**APPENDIX 32-1**  
**Stream Classifications and Water Quality Standards Tables**

Effective 06/30/2021

## 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 <sup>2</sup>	=	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 #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Upper Arkansas River Basin

1a. All streams and wetlands within Mount Massive and Collegiate Peaks Wilderness areas.								
COARUA01A	Classifications	Physical and Biological			Metals (ug/L)			
Designation	Agriculture	DM	MWAT	acute	chronic			
OW	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	
*Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	150	Chromium III(T)	50	---	
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS	
					Copper	TVS	TVS	
				Inorganic (mg/L)	Iron	---	WS	
				acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS	
		Boron	---	0.75	Lead(T)	50	---	
		Chloride	---	250	Manganese	TVS	TVS/WS	
		Chlorine	0.019	0.011	Mercury(T)	---	0.01	
		Cyanide	0.005	---	Molybdenum(T)	---	150	
		Nitrate	10	---	Nickel	TVS	TVS	
		Nitrite	0.05	---	Nickel(T)	---	100	
		Phosphorus	---	0.11	Selenium	TVS	TVS	
		Sulfate	---	WS	Silver	TVS	TVS(tr)	
		Sulfide	---	0.002	Uranium	varies*	varies*	
					Zinc	TVS	TVS	

1b. Mainstem of the East Fork of the Arkansas River from its source to a point immediately above the confluence with Birdseye Gulch.								
COARUA01B	Classifications	Physical and Biological			Metals (ug/L)			
Designation	Aq Life Cold 1	DM	MWAT	acute	chronic			
Reviewable	Recreation E	Temperature °C	CS-I	CS-I	Arsenic	340	---	
	Water Supply	acute	chronic	Arsenic(T)	---	0.02		
			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/m²)	---	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	
*Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.				Inorganic (mg/L)	Iron	---	WS	
				acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS	
		Boron	---	---	Lead(T)	50	---	
		Chloride	---	250	Manganese	TVS	TVS/WS	
		Chlorine	0.019	0.011	Mercury(T)	---	0.01	
		Cyanide	0.005	---	Molybdenum(T)	---	210	
		Nitrate	10	---	Nickel	TVS	TVS	
		Nitrite	0.05	---	Nickel(T)	---	100	
		Phosphorus	---	0.11	Selenium	TVS	TVS	
		Sulfate	---	WS	Silver	TVS	TVS(tr)	
		Sulfide	---	0.002	Uranium	varies*	varies*	
					Zinc	TVS	TVS	

1b. Mainstem of the East Fork of the Arkansas River from its source to a point immediately above the confluence with Birdseye Gulch.							
COARUA01B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Aq Life Cold 1		DM	MWAT	acute	chronic	
Reviewable	Recreation E	Temperature °C	CS-I	CS-I	Arsenic	340	---
	Water Supply		acute	chronic	Arsenic(T)	---	0.02
Qualifiers:		D.O. (mg/L)	---	6.0	Cadmium	TVS	TVS
Other:  Temporary Modification(s): Arsenic(chronic) = hybrid Expiration Date of 12/31/2024  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		D.O. (spawning)	---	7.0	Cadmium(T)	5.0	---
		pH	6.5 - 9.0	---	Chromium III	---	TVS
		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III(T)	50	---
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
					Copper	TVS	TVS
		Inorganic (mg/L)			Iron	---	WS
					Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	---	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	210
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
Sulfide	---	0.002	Uranium	varies*	varies*		
			Zinc	TVS	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 32.6 for further details on applied standards.



# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Upper Arkansas River Basin

2a. Mainstem of the East Fork of the Arkansas River and the Arkansas River from a point immediately above the confluence with Birdseye Gulch to a point immediately above the confluence with the California Gulch.						
COARUA02A	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
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Other:		pH	6.5 - 9.0	---	Chromium III	---
Temporary Modification(s):		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Chromium III(T)	50
Arsenic(chronic) = hybrid		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
Expiration Date of 12/31/2024					Copper	TVS
*chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4).		Inorganic (mg/L)			Iron	---
*Phosphorus(chronic) = applies only above the facilities listed at 32.5(4).		acute	chronic	Iron(T)	---	1000
*Uranium(acute) = See 32.5(3) for details.		Ammonia	TVS	TVS	Lead	TVS
*Uranium(chronic) = See 32.5(3) for details.		Boron	---	0.75	Lead(T)	50
		Chloride	---	250	Manganese	TVS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---	Molybdenum(T)	---
		Nitrate	10	---	Nickel	TVS
		Nitrite	0.05	---	Nickel(T)	---
		Phosphorus	---	0.11*	Selenium	TVS
		Sulfate	---	WS	Silver	TVS
		Sulfide	---	0.002	Uranium	varies*
					Zinc	TVS

2b. Mainstem of the Arkansas River from a point immediately above California Gulch to a point immediately above the confluence with Lake Fork.						
COARUA02B	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)	---	7.6
Qualifiers:		D.O. (mg/L)	---	6.0	Cadmium	TVS
Other:		D.O. (spawning)	---	7.0	Chromium III	TVS
*Designation: 9/30/00 Base-line does not apply		pH	6.5 - 9.0	---	Chromium III(T)	---
*Cadmium(chronic) = (1.101672-[ln(hardness)*0.041838])*e^(0.7998[ln hardness]-3.1725)		chlorophyll a (mg/m <sup>2</sup> )	---	---	Chromium VI	TVS
*Uranium(acute) = See 32.5(3) for details.		E. Coli (per 100 mL)	---	126	Copper	TVS
*Uranium(chronic) = See 32.5(3) for details.					Iron(T)	---
*Zinc(acute) = 0.978*e^(0.8537[ln(hardness)]+2.2178)		Inorganic (mg/L)			Lead	TVS
*Zinc(chronic) = 0.986*e^(0.8537[ln(hardness)]+2.0469)		acute	chronic	Manganese	TVS	TVS
		Ammonia	TVS	TVS	Mercury(T)	---
		Boron	---	0.75	Molybdenum(T)	---
		Chloride	---	---	Nickel	TVS
		Chlorine	0.019	0.011	Selenium	TVS
		Cyanide	0.005	---	Silver	TVS
		Nitrate	100	---	Uranium	varies*
		Nitrite	0.05	---	Zinc	---
		Phosphorus	---	---	Zinc	SSE*
		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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

2c. Mainstem of the Arkansas River from a point immediately above the confluence with the Lake Fork to a point immediately above the confluence with Lake Creek.							
COARUA02C	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	SSE*
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/m²)	---	---	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 Base-line does not apply		Inorganic (mg/L)			Iron	---	WS
*Cadmium(chronic) = (1.101672-[ln(hardness)*0.041838])*e^(0.7998[ln hardness]-3.1725)		acute	chronic	Iron(T)	---	1000	
*Uranium(acute) = See 32.5(3) for details.		Ammonia	TVS	TVS	Lead	TVS	TVS
*Uranium(chronic) = See 32.5(3) for details.		Boron	---	0.75	Lead(T)	50	---
*Zinc(acute) = 0.978*e^(0.8537[ln(hardness)]+2.2178)		Chloride	---	250	Manganese	TVS	TVS/WS
*Zinc(chronic) = 0.986*e^(0.8537[ln(hardness)]+2.0469)		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	---	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	---	SSE*
					Zinc	SSE*	---
3. Mainstem of the Arkansas River from a point immediately above the confluence with the Lake Creek to the Chaffee/Fremont County line.							
COARUA03	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	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/m²)	---	---	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
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)			Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		acute	chronic	Iron(T)	---	1000	
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	---	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	TVS

3. Mainstem of the Arkansas River from a point immediately above the confluence with the Lake Creek to the Chaffee/Fremont County line.							
COARUA03	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	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 <sup>2</sup> )	---	---	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
		Inorganic (mg/L)			Iron	---	WS
			acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	---	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

4a. Mainstem of the Arkansas River from the Chaffee/Fremont County Line to a point immediately above Highway 115 bridge (38.390243, -105.068648), due east of Florence.						
COARUA04A	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	varies*	varies*	Arsenic	340
	Recreation E		acute	chronic	Arsenic(T)	---
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Other:		pH	6.5 - 9.0	---	Chromium III	---
Temporary Modification(s):		chlorophyll a (mg/m <sup>2</sup> )	---	---	Chromium III(T)	50
Arsenic(chronic) = hybrid		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
Expiration Date of 12/31/2024					Copper	TVS
		Inorganic (mg/L)			Iron	---
			acute	chronic	Iron(T)	---
		Ammonia	TVS	TVS	Lead	TVS
		Boron	---	0.75	Lead(T)	50
		Chloride	---	250	Manganese	TVS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---	Molybdenum(T)	---
		Nitrate	10	---	Nickel	TVS
		Nitrite	0.05	---	Nickel(T)	---
		Phosphorus	---	---	Selenium	TVS
		Sulfate	---	WS	Silver	TVS
		Sulfide	---	0.002	Uranium	varies*
					Zinc	TVS

4b. Mainstem of the Arkansas River from a point immediately above Highway 115 bridge (38.390243, -105.068648), due east of Florence, to the inlet of Pueblo Reservoir.						
COARUA04B	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
Reviewable	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Arsenic	340
	Recreation E		acute	chronic	Arsenic(T)	---
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0
Other:		chlorophyll a (mg/m <sup>2</sup> )	---	---	Chromium III	---
Temporary Modification(s):		E. Coli (per 100 mL)	---	126	Chromium III(T)	50
Arsenic(chronic) = hybrid					Chromium VI	TVS
Expiration Date of 12/31/2024		Inorganic (mg/L)			Copper	TVS
			acute	chronic	Iron	---
		Ammonia	TVS	TVS	Iron(T)	---
		Boron	---	0.75	Lead	TVS
		Chloride	---	250	Lead(T)	50
		Chlorine	0.019	0.011	Manganese	TVS
		Cyanide	0.005	---	Mercury(T)	---
		Nitrate	10	---	Molybdenum(T)	---
		Nitrite	0.5	---	Nickel	TVS
		Phosphorus	---	---	Nickel(T)	---
		Sulfate	---	WS	Selenium	TVS
		Sulfide	---	0.002	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Upper Arkansas River Basin

5a. All tributaries to the Arkansas River, including wetlands, from the source to immediately below the confluence with Brown's Creek, except for specific listings in segments 5b through 12b.							
COARUA05A	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 <sup>2</sup> )	---	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
*chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4).		Inorganic (mg/L)			Iron	---	WS
*Phosphorus(chronic) = applies only above the facilities listed at 32.5(4).			acute	chronic	Iron(T)	---	1000
*Uranium(acute) = See 32.5(3) for details.		Ammonia	TVS	TVS	Lead	TVS	TVS
*Uranium(chronic) = See 32.5(3) for details.		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11*	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	TVS
5b. Mainstem of Trout Creek from its source to Trout Creek Reservoir, including all tributaries and wetlands.							
COARUA05B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT		acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	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 <sup>2</sup> )	---	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
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)			Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.			acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# **REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS** **Upper Arkansas River Basin**

6. Mainstem of California Gulch, including all tributaries, from the source to the confluence with the Arkansas River. Mainstem of St. Kevin's Gulch from the source to the confluence with Tennessee Creek.					
COARUA06	Classifications	Physical and Biological		Metals (ug/L)	
Designation	Agriculture	DM	MWAT	acute	chronic
Reviewable	Recreation N			Arsenic	---
Qualifiers:		acute	chronic	Cadmium	---
Other:	D.O. (mg/L)	---	---	Chromium III	---
*Uranium(acute) = See 32.5(3) for details.	pH	---	---	Chromium VI	---
*Uranium(chronic) = See 32.5(3) for details.	chlorophyll a (mg/m <sup>2</sup> )	---	---	Copper	---
	E. Coli (per 100 mL)	---	630	Iron	---
	Inorganic (mg/L)			Lead	---
	acute	chronic	Manganese	---	---
	Ammonia	---	---	Mercury(T)	---
	Boron	---	---	Molybdenum(T)	---
	Chloride	---	---	Nickel	---
	Chlorine	---	---	Selenium	---
	Cyanide	---	---	Silver	---
	Nitrate	---	---	Uranium	varies*
	Nitrite	---	---	Zinc	---
	Phosphorus	---	---		
	Sulfate	---	---		
	Sulfide	---	---		

  

7. Mainstem of Evans Gulch from the source to the confluence with the Arkansas River.					
COARUA07	Classifications	Physical and Biological		Metals (ug/L)	
Designation	Agriculture	DM	MWAT	acute	chronic
Reviewable	Aq Life Cold 1	CS-I	CS-I	Arsenic	340
	Recreation E	acute	chronic	Arsenic(T)	---
	Water Supply			Cadmium	TVS
Qualifiers:	D.O. (mg/L)	---	6.0	Cadmium(T)	5.0
Other:	D.O. (spawning)	---	7.0	Chromium III	---
Temporary Modification(s):	pH	6.5 - 9.0	---	Chromium III(T)	TVS
Arsenic(chronic) = hybrid	chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium VI	---
Expiration Date of 12/31/2024	E. Coli (per 100 mL)	---	126	Copper	TVS
	Inorganic (mg/L)			Iron	WS
	acute	chronic	Iron(T)	---	1000
	Ammonia	TVS	TVS	Lead	TVS
	Boron	---	0.75	Lead(T)	50
	Chloride	---	250	Manganese	TVS
	Chlorine	0.019	0.011	Mercury(T)	---
	Cyanide	0.005	---	Molybdenum(T)	150
	Nitrate	10	---	Nickel	TVS
	Nitrite	0.05	---	Nickel(T)	100
	Phosphorus	---	0.11	Selenium	TVS
	Sulfate	---	WS	Silver	TVS
	Sulfide	---	0.002	Uranium	varies*
			Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

8a. Mainstem of Iowa Gulch from the source to the historic upper ASARCO water supply intake at 39.224327, -106.223432.								
COARUA08A	Classifications	Physical and Biological			Metals (ug/L)			
Designation	Agriculture	DM	MWAT	acute	chronic			
Reviewable	Aq Life Cold 2	Temperature °C	CS-II	CS-II	Arsenic	340	---	
	Recreation E	acute	chronic	Arsenic(T)	---	0.02-10	A	
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	SSE*	SSE*	
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0	---	
Other:  *Cadmium(acute) = (1.136672-[ln(hardness)*0.041838])*e^(0.9789*ln(hardness)-3.5146) *Cadmium(chronic) = (1.101672-[ln(hardness)*0.041838])*e^(0.7977*ln(hardness)-3.5338) *Zinc(acute) = 0.978*e^(0.8571[ln(hardness)]+1.3673) *Zinc(chronic) = 0.986*e^(0.8571[ln(hardness)]+1.1711) *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	---	TVS	
		chlorophyll a (mg/m²)	---	150	Chromium III(T)	50	---	
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS	
					Copper	TVS	TVS	
		Inorganic (mg/L)			Iron	---	WS	
		acute	chronic	Iron(T)	---	1000		
		Ammonia	TVS	TVS	Lead	TVS	TVS	
		Boron	---	0.75	Lead(T)	50	---	
		Chloride	---	250	Manganese	TVS	TVS/WS	
		Chlorine	0.019	0.011	Mercury(T)	---	0.01	
		Cyanide	0.005	---	Molybdenum(T)	---	150	
		Nitrate	10	---	Nickel	TVS	TVS	
		Nitrite	0.05	---	Nickel(T)	---	100	
		Phosphorus	---	0.11	Selenium	TVS	TVS	
		Sulfate	---	WS	Silver	TVS	TVS(tr)	
		Sulfide	---	0.002	Uranium	varies*	varies*	
					Zinc	SSE*	SSE*	
		8b. Mainstem of Iowa Gulch from a point immediately below the historic upper ASARCO water supply intake at 39.224327, -106.223432 to a point immediately below the headgate of the Paddock #1 Ditch (Iowa Ditch) at 39.215532, -106.286037.						
		COARUA08B	Classifications	Physical and Biological			Metals (ug/L)	
		Designation	Agriculture	DM	MWAT	acute	chronic	
UP	Aq Life Cold 2	Temperature °C	CS-II	CS-II	Arsenic	340	---	
	Recreation E	acute	chronic	Arsenic(T)	---	100		
Qualifiers:		D.O. (mg/L)	---	6.0	Cadmium	SSE*	SSE*	
Other:  *Cadmiium(acute) = (1.136672-[ln(hardness)*0.041838])*e^(0.9789*ln(hardness)-3.5146) *Cadmiium(chronic) = (1.101672-[ln(hardness)*0.041838])*e^(0.7977*ln(hardness)-3.5338) *Zinc(acute) = 0.978*e^(0.8571[ln(hardness)]+1.3673) *Zinc(chronic) = 0.986*e^(0.8571[ln(hardness)]+1.1711) *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		D.O. (spawning)	---	7.0	Chromium III	TVS	TVS	
		pH	6.5 - 9.0	---	Chromium III(T)	---	100	
		chlorophyll a (mg/m²)	---	150	Chromium VI	TVS	TVS	
		E. Coli (per 100 mL)	---	126	Copper	TVS	TVS	
					Iron(T)	---	1000	
		Inorganic (mg/L)			Lead	TVS	TVS	
		acute	chronic	Manganese	TVS	TVS		
		Ammonia	TVS	TVS	Mercury(T)	---	0.01	
		Boron	---	0.75	Molybdenum(T)	---	150	
		Chloride	---	---	Nickel	TVS	TVS	
		Chlorine	0.019	0.011	Selenium	TVS	TVS	
		Cyanide	---	---	Silver	TVS	TVS(tr)	
		Nitrate	100	---	Uranium	varies*	varies*	
		Nitrite	0.05	---	Zinc	SSE*	SSE*	
		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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

9. Mainstem of Iowa Gulch from a point immediately below the headgate of the Paddock #1 Ditch (Iowa Ditch) at 39.215532, -106.286037 to the confluence with the Arkansas River.							
COARUA09	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)	---	7.6	
Qualifiers:		D.O. (mg/L)	---	6.0	Cadmium	SSE*	SSE*
Other:		D.O. (spawning)	---	7.0	Chromium III	TVS	TVS
		pH	6.5 - 9.0	---	Chromium III(T)	---	100
		chlorophyll a (mg/m²)	---	150	Chromium VI	TVS	TVS
		E. Coli (per 100 mL)	---	126	Copper	TVS	TVS
					Iron(T)	---	1000
		Inorganic (mg/L)			Lead	TVS	TVS
		acute	chronic	Manganese	TVS	TVS	
		Ammonia	TVS	TVS	Mercury(T)	---	0.01
		Boron	---	0.75	Molybdenum(T)	---	150
		Chloride	---	---	Nickel	TVS	TVS
		Chlorine	0.019	0.011	Selenium	TVS	TVS
		Cyanide	0.005	---	Silver	TVS	TVS(tr)
		Nitrate	100	---	Uranium	varies*	varies*
		Nitrite	0.05	---	Zinc	SSE*	SSE*
		Phosphorus	---	0.11			
		Sulfate	---	---			
		Sulfide	---	0.002			

10. Mainstem of Lake Creek, including all tributaries and wetlands, from the source to the confluence with the Arkansas River, except for the specific listing in segment 11.							
COARUA10	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
		chlorophyll a (mg/m²)	---	150	Chromium III(T)	50	---
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
					Copper	14.6	10.6
		Inorganic (mg/L)			Iron	---	WS
		acute	chronic	Iron(T)	---	1000	
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

11. Mainstem of South Fork of Lake Creek, including all tributaries and wetlands, from the source to the confluence with Lake Creek.						
COARUA11	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	CS-I	CS-I	Aluminum	750
	Recreation E	acute	chronic	Arsenic	340	---
Qualifiers:		D.O. (mg/L)	---	6.0	Arsenic(T)	---
Other:		D.O. (spawning)	---	7.0	Cadmium	TVS
*Uranium(acute) = See 32.5(3) for details.		pH	5.0-9.0	---	Chromium III	TVS
*Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III(T)	---
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
					Copper	TVS
		Inorganic (mg/L)			Iron(T)	---
		acute	chronic	Lead	TVS	TVS
		Ammonia	TVS	TVS	Manganese	TVS
		Boron	---	0.75	Mercury(T)	---
		Chloride	---	---	Molybdenum(T)	---
		Chlorine	0.019	0.011	Nickel	TVS
		Cyanide	0.005	---	Selenium	TVS
		Nitrate	100	---	Silver	TVS
		Nitrite	0.05	---	Uranium	varies*
		Phosphorus	---	0.11	Zinc	TVS
		Sulfate	---	---		
		Sulfide	---	0.002		

12a. Mainstem of Chalk Creek from the source to the confluence with the Arkansas River.						
COARUA12A	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
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Other:		pH	6.5 - 9.0	---	Chromium III	---
Temporary Modification(s):		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Chromium III(T)	50
Arsenic(chronic) = hybrid		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
Expiration Date of 12/31/2024					Copper	TVS
		Inorganic (mg/L)			Iron	---
		acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS
		Boron	---	0.75	Lead(T)	50
		Chloride	---	250	Manganese	TVS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---	Molybdenum(T)	---
		Nitrate	10	---	Nickel	TVS
		Nitrite	0.05	---	Nickel(T)	---
		Phosphorus	---	0.11*	Selenium	TVS
		Sulfate	---	WS	Silver	TVS
		Sulfide	---	0.002	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 32.6 for further details on applied standards.



# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

12b. Mainstem of Cottonwood Creek (Chaffee County), from the source to the confluence with the Arkansas River; South Fork of the Arkansas, including all tributaries and wetlands, from the National Forest boundary to the confluence with the Arkansas River.						
COARUA12B	Classifications	Physical and Biological			Metals (ug/L)	
Designation	Agriculture	DM	MWAT	acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	Arsenic	340
	Recreation E	acute	chronic	Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Other:		pH	6.5 - 9.0	---	Chromium III	---
Temporary Modification(s):		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Chromium III(T)	50
Arsenic(chronic) = hybrid		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
Expiration Date of 12/31/2024					Copper	TVS
*chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4).		Inorganic (mg/L)			Iron	---
*Phosphorus(chronic) = applies only above the facilities listed at 32.5(4).		acute	chronic	Iron(T)	---	1000
*Uranium(acute) = See 32.5(3) for details.		Ammonia	TVS	TVS	Lead	TVS
*Uranium(chronic) = See 32.5(3) for details.		Boron	---	0.75	Lead(T)	50
		Chloride	---	250	Manganese	TVS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---	Molybdenum(T)	---
		Nitrate	10	---	Nickel	TVS
		Nitrite	0.05	---	Nickel(T)	---
		Phosphorus	---	0.11*	Selenium	TVS
		Sulfate	---	WS	Silver	TVS
		Sulfide	---	0.002	Uranium	varies*
					Zinc	TVS

13. All tributaries to the Arkansas River, including wetlands, which are on National Forest lands, from the confluence with Brown's Creek to the inlet to Pueblo Reservoir, except for specific listings in segments 12b, 14a, 14c and 15-27.

COARUA13	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
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Other:		pH	6.5 - 9.0	---	Chromium III	---
Temporary Modification(s):		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Chromium III(T)	50
Arsenic(chronic) = hybrid		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
Expiration Date of 12/31/2024					Copper	TVS
*chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4).		Inorganic (mg/L)			Iron	---
*Phosphorus(chronic) = applies only above the facilities listed at 32.5(4).		acute	chronic	Iron(T)	---	1000
*Uranium(acute) = See 32.5(3) for details.		Ammonia	TVS	TVS	Lead	TVS
*Uranium(chronic) = See 32.5(3) for details.		Boron	---	0.75	Lead(T)	50
		Chloride	---	250	Manganese	TVS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---	Molybdenum(T)	---
		Nitrate	10	---	Nickel	TVS
		Nitrite	0.05	---	Nickel(T)	---
		Phosphorus	---	0.11*	Selenium	TVS
		Sulfate	---	WS	Silver	TVS
		Sulfide	---	0.002	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

14a. Mainstem of Big Red Creek, Little Red Creek, and Hardscrabble Creek from their sources to their confluence with the Arkansas River.							
COARUA14A	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	7.6	
Qualifiers:		D.O. (mg/L)	---	6.0	Cadmium	TVS	TVS
Fish Ingestion Standards Apply		D.O. (spawning)	---	7.0	Chromium III	TVS	TVS
Other:		pH	6.5 - 9.0	---	Chromium III(T)	---	100
*Uranium(acute) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	150	Chromium VI	TVS	TVS
*Uranium(chronic) = See 32.5(3) for details.		E. Coli (per 100 mL)	---	126	Copper	TVS	TVS
					Iron(T)	---	1000
		Inorganic (mg/L)		Lead	TVS	TVS	
		acute	chronic	Manganese	TVS	TVS	
		Ammonia	TVS	TVS	Mercury(T)	---	0.01
		Boron	---	0.75	Molybdenum(T)	---	150
		Chloride	---	---	Nickel	TVS	TVS
		Chlorine	0.019	0.011	Selenium	TVS	TVS
		Cyanide	0.005	---	Silver	TVS	TVS
		Nitrate	100	---	Uranium	varies*	varies*
		Nitrite	0.5	---	Zinc	TVS	TVS
		Phosphorus	---	0.17			
		Sulfate	---	---			
		Sulfide	---	0.002			

14b. All tributaries to the Arkansas River, including wetlands, which are not on National Forest lands, from the confluence with Brown's Creek to the Chaffee/Fremont County line, except for the specific listing in segment 12b.							
COARUA14B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Cold 2	Temperature °C	CS-II	CS-II	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/m²)	---	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
		Inorganic (mg/L)		Iron	---	WS	
		acute	chronic	Iron(T)	---	1000	
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Upper Arkansas River Basin

14c. Mainstems of North and South Hardscrabble Creeks, including all tributaries and wetlands, from their sources to their confluences.						
COARUA14C	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	varies*	varies*	Arsenic	340
	Recreation E		acute	chronic	Arsenic(T)	0.02
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Other:		pH	6.5 - 9.0	---	Chromium III	TVS
		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III(T)	50
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
					Copper	TVS
					Iron	---
					Iron(T)	1000
					Lead	TVS
					Lead(T)	50
					Manganese	TVS
					Mercury(T)	0.01
					Molybdenum(T)	150
					Nickel	TVS
					Nickel(T)	100
					Selenium	TVS
					Silver	TVS
					Uranium	varies*
					Zinc	TVS

14d. All tributaries to the Arkansas River, including wetlands, which are not on National Forest lands, from immediately above the confluence of 6-mile Creek (38.405677, -105.122321) to the inlet to Pueblo Reservoir, except for specific listings in segments 14a, 14c, 14e, 14f, and 15-27.						
COARUA14D	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
Reviewable	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Arsenic(T)	7.6
	Recreation E		acute	chronic	Beryllium(T)	100
Qualifiers:		D.O. (mg/L)	---	6.0	Cadmium(T)	10
Other:		D.O. (spawning)	---	7.0	Chromium III(T)	100
		pH	6.5 - 9.0	---	Chromium VI(T)	100
		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Copper(T)	200
		E. Coli (per 100 mL)	---	126	Iron	---
					Lead(T)	100
					Manganese	---
					Mercury(T)	---
					Molybdenum(T)	150
					Nickel(T)	200
					Selenium(T)	20
					Silver	---
					Uranium	varies*
					Zinc(T)	2000

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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

14e. All tributaries to the Arkansas River, including wetlands, which are not on National Forest lands from the Chaffee/Fremont County line to immediately below the confluence with Chandler Creek (38.407024,-105.137940). Newlin Creek (except for listings in segment 15b), Mineral Creek, Adobe Creek, and Oak Creek, including all tributaries and wetlands which are not on National Forest Service Land.

COARUA14E	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM		MWAT	acute		chronic
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	Arsenic	340	---
	Recreation E	acute		chronic	Arsenic(T)	---	100
Qualifiers:		D.O. (mg/L)	---	6.0	Cadmium	TVS	TVS
<b>Other:</b>  *chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		D.O. (spawning)	---	7.0	Chromium III	TVS	TVS
		pH	6.5 - 9.0	---	Chromium III(T)	---	100
		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Chromium VI	TVS	TVS
		E. Coli (per 100 mL)	---	126	Copper	TVS	TVS
					Iron(T)	---	1000
		Inorganic (mg/L)			Lead	TVS	TVS
		acute		chronic	Manganese	TVS	TVS
		Ammonia	---	---	Mercury(T)	---	0.01
		Boron	---	0.75	Molybdenum(T)	---	150
		Chloride	---	---	Nickel	TVS	TVS
		Chlorine	0.019	0.011	Selenium	TVS	TVS
		Cyanide	0.005	---	Silver	TVS	TVS
		Nitrate	100	---	Uranium	varies*	varies*
		Nitrite	0.05	---	Zinc	TVS	TVS
		Phosphorus	---	0.11*			
		Sulfate	---	---			
Sulfide	---	0.002					

14f. Turkey Creek including all tributaries and wetlands from its source to immediately below the confluence with Little Turkey Creek at 38.594727, -104.851458.

COARUA14F	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT	acute		chronic
Reviewable	Aq Life Cold 2	Temperature °C	CS-I	CS-I	Arsenic(T)	---	7.6
	Recreation E		acute	chronic	Beryllium(T)	---	100
Qualifiers:		D.O. (mg/L)	---	6.0	Cadmium(T)	---	10
<b>Other:</b>  *chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		D.O. (spawning)	---	7.0	Chromium III(T)	---	100
		pH	6.5 - 9.0	---	Chromium VI(T)	---	100
		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Copper(T)	---	200
		E. Coli (per 100 mL)	---	126	Iron	---	---
					Lead(T)	---	100
		Inorganic (mg/L)			Manganese	---	---
			acute	chronic	Mercury(T)	---	---
		Ammonia	---	---	Molybdenum(T)	---	150
		Boron	---	0.75	Nickel(T)	---	200
		Chloride	---	---	Selenium(T)	---	20
		Chlorine	---	---	Silver	---	---
		Cyanide	0.2	---	Uranium	varies*	varies*
		Nitrate	100	---	Zinc(T)	---	2000
		Nitrite	10	---			
		Phosphorus	---	0.11*			
		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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

15a. Mainstem of Badger Creek from the source to the confluence with the Arkansas, including all tributaries and wetlands. Mainstem of Texas Creek from the forest service boundary to the confluence with the Arkansas River, including all tributaries and wetlands which are not on forest service land.							
COARUA15A	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	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 <sup>2</sup> )	---	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
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)			Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		acute	chronic	Iron(T)	---	1000	
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	TVS

15b. Mainstem of Grape Creek, including all tributaries and wetlands, from the source to the outlet of De Weese Reservoir, except for specific listings in segment 25. Mainstems of Hayden, Hamilton, Stout, and Big Cottonwood Creeks, including all tributaries and wetlands, from their sources to their confluences with the Arkansas River. Tributaries and wetlands to Texas Creek which are on Forest Service Land. Mainstem of Newlin Creek from the National Forest boundary to County Road 92 (38.300765, -105.140927).							
COARUA15B	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 <sup>2</sup> )	---	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
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)			Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		acute	chronic	Iron(T)	---	1000	
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

16a. Mainstem of Middle Tallahassee Creek, including all tributaries and wetlands, from the source to the intersection with Road 23.						
COARUA16A	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
		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Qualifiers:		pH	6.5 - 9.0	---	Chromium III	---
Other:		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III(T)	50
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
		Inorganic (mg/L)		Copper	TVS	TVS
				Iron	---	WS
		acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS
		Boron	---	0.75	Lead(T)	50
		Chloride	---	250	Manganese	TVS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---	Molybdenum(T)	---
		Nitrate	10	---	Nickel	TVS
		Nitrite	0.05	---	Nickel(T)	---
		Phosphorus	---	0.11	Selenium	TVS
		Sulfate	---	WS	Silver	TVS
		Sulfide	---	0.002	Uranium	varies*
				Zinc	TVS	TVS
16b. Mainstem of North Tallahassee Creek, South Tallahassee Creek, Middle Tallahassee Creek, and Tallahassee Creek from their sources to a point immediately below their confluence with South Tallahassee Creek, except for the specific listing in segment 16a.						
COARUA16B	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
Reviewable	Aq Life Cold 2	Temperature °C	CS-II	CS-II	Arsenic	340
	Recreation E	acute	chronic	Arsenic(T)	---	0.02-10 <sup>A</sup>
Water Supply		D.O. (mg/L)	---	6.0	Cadmium	TVS
		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Qualifiers:		pH	6.5 - 9.0	---	Chromium III	---
Other:		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III(T)	50
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
		Inorganic (mg/L)		Copper	TVS	TVS
				Iron	---	WS
		acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS
		Boron	---	0.75	Lead(T)	50
		Chloride	---	250	Manganese	TVS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---	Molybdenum(T)	---
		Nitrate	10	---	Nickel	TVS
		Nitrite	0.05	---	Nickel(T)	---
		Phosphorus	---	0.11	Selenium	TVS
		Sulfate	---	WS	Silver	TVS
		Sulfide	---	0.002	Uranium	varies*
				Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

16c. Mainstem of Tallahassee Creek from a point immediately below the confluence with South Tallahassee Creek to the confluence with the Arkansas River.						
COARUA16C	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	Arsenic	340
	Recreation E	acute	chronic	Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Other:		pH	6.5 - 9.0	---	Chromium III	---
Temporary Modification(s):		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III(T)	50
Arsenic(chronic) = hybrid		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
Expiration Date of 12/31/2024					Copper	TVS
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)		Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS
		Boron	---	0.75	Lead(T)	50
		Chloride	---	250	Manganese	TVS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---	Molybdenum(T)	---
		Nitrate	10	---	Nickel	TVS
		Nitrite	0.05	---	Nickel(T)	---
		Phosphorus	---	0.11	Selenium	TVS
		Sulfate	---	WS	Silver	TVS
		Sulfide	---	0.002	Uranium	varies*
					Zinc	TVS

17a. Mainstem of Cottonwood Creek (Fremont County), including all tributaries and wetlands, from the source to a point immediately below the confluence with North Waugh Creek.						
COARUA17A	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
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Other:		pH	6.5 - 9.0	---	Chromium III	---
Temporary Modification(s):		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III(T)	50
Arsenic(chronic) = hybrid		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
Expiration Date of 12/31/2024					Copper	TVS
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)		Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS
		Boron	---	0.75	Lead(T)	50
		Chloride	---	250	Manganese	TVS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---	Molybdenum(T)	---
		Nitrate	10	---	Nickel	TVS
		Nitrite	0.05	---	Nickel(T)	---
		Phosphorus	---	0.11	Selenium	TVS
		Sulfate	---	WS	Silver	TVS
		Sulfide	---	0.002	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 32.6 for further details on applied standards.

## REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

### Upper Arkansas River Basin

17b. Mainstem of Cottonwood Creek (Fremont county), including all tributaries and wetlands, from a point immediately below the confluence with North Waugh Creek to the intersection with F6 Road.						
COARUA17B	Classifications	Physical and Biological			Metals (ug/L)	
Designation	Agriculture	DM	MWAT		acute	chronic
Reviewable	Aq Life Cold 2	CS-II	CS-II	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	100
<b>Qualifiers:</b>		D.O. (mg/L)	---	6.0	Cadmium	TVS
<b>Other:</b>		D.O. (spawning)	---	7.0	Chromium III	TVS
*Uranium(acute) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III(T)	100
*Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium VI	TVS
		E. Coli (per 100 mL)	---	126	Copper	TVS
					Iron(T)	1000
		Inorganic (mg/L)			Lead	TVS
		acute	chronic		Manganese	TVS
		Ammonia	TVS	TVS	Mercury(T)	---
		Boron	---	0.75	Molybdenum(T)	---
		Chloride	---	---	Nickel	TVS
		Chlorine	0.019	0.011	Selenium	TVS
		Cyanide	0.005	---	Silver	TVS
		Nitrate	100	---	Uranium	varies*
		Nitrite	0.05	---	Zinc	TVS
		Phosphorus	---	0.11		
		Sulfate	---	---		
		Sulfide	---	0.002		

17c. Mainstem of Cottonwood Creek from F6 Road to the confluence with Currant Creek.						
COARUA17C	Classifications	Physical and Biological			Metals (ug/L)	
Designation	Agriculture	DM	MWAT		acute	chronic
Reviewable	Aq Life Cold 1	CS-II	CS-II	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS
<b>Qualifiers:</b>		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
<b>Other:</b>		pH	6.5 - 9.0	---	Chromium III	TVS
		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III(T)	50
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
					Copper	TVS
		Inorganic (mg/L)			Iron	WS
		acute	chronic		Iron(T)	1000
		Ammonia	TVS	TVS	Lead	TVS
		Boron	---	0.75	Lead(T)	50
		Chloride	---	250	Manganese	TVS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---	Molybdenum(T)	---
		Nitrate	10	---	Nickel	TVS
		Nitrite	0.05	---	Nickel(T)	---
		Phosphorus	---	0.11	Selenium	TVS
		Sulfate	---	WS	Silver	TVS
		Sulfide	---	0.002	Uranium	varies
					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 32.6 for further details on applied standards.



# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

18. Mainstem of Currant Creek (Park County), including all tributaries and wetlands, from the source to the confluence with Tallahassee Creek, except for the specific listings in 17a, 17b, and 17c.							
COARUA18	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	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 <sup>2</sup> )	---	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
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)			Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		acute	chronic	Iron(T)	---	1000	
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	TVS
19. Mainstem of Fourmile Creek, including all tributaries and wetlands, from the source to immediately below the confluence with High Creek.							
COARUA19	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 <sup>2</sup> )	---	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
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)			Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		acute	chronic	Iron(T)	---	1000	
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

20a. Mainstem of Fourmile Creek, including all tributaries and wetlands, from immediately below the confluence with High Creek to a point immediately above the confluence with Long Gulch, except for the specific listing to segment 23.							
COARUA20A	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Cold 1	Temperature °C	varies*	varies*	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	7.6	
Qualifiers:		D.O. (mg/L)	---	6.0	Cadmium	TVS	TVS
Other:		D.O. (spawning)	---	7.0	Chromium III	TVS	TVS
*chlorophyll a (mg/m²)(chronic) = applies only above the facilities listed at 32.5(4).		pH	6.5 - 9.0	---	Chromium III(T)	---	100
*Phosphorus(chronic) = applies only above the facilities listed at 32.5(4).		chlorophyll a (mg/m²)	---	150*	Chromium VI	TVS	TVS
*Uranium(acute) = See 32.5(3) for details.		E. Coli (per 100 mL)	---	126	Copper	TVS	TVS
*Uranium(chronic) = See 32.5(3) for details.					Iron(T)	---	1000
*Temperature =		Inorganic (mg/L)			Lead	TVS	TVS
DM=14.2 and MWAT=9.7 from 11/1-2/29		acute	chronic	Manganese	TVS	TVS	
DM= 27.1 and MWAT=21 from 3/1-10/31		Ammonia	TVS	TVS	Mercury(T)	---	0.01
		Boron	---	0.75	Molybdenum(T)	---	150
		Chloride	---	---	Nickel	TVS	TVS
		Chlorine	0.019	0.011	Selenium	TVS	TVS
		Cyanide	0.005	---	Silver	TVS	TVS(tr)
		Nitrate	100	---	Uranium	varies*	varies*
		Nitrite	0.05	---	Zinc	TVS	TVS
		Phosphorus	---	0.11*			
		Sulfate	---	---			
		Sulfide	---	0.002			
20b. Mainstem of Fourmile Creek, including all tributaries and wetlands, from the confluence with Long Gulch to the confluence with the Arkansas River.							
COARUA20B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Cold 1	Temperature °C	varies*	varies*	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/m²)	---	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
*chlorophyll a (mg/m²)(chronic) = applies only above the facilities listed at 32.5(4).		Inorganic (mg/L)			Iron	---	WS
*Phosphorus(chronic) = applies only above the facilities listed at 32.5(4).		acute	chronic	Iron(T)	---	1000	
*Sulfate(chronic) = Dissolved standards applicable at the point of withdraw.		Ammonia	TVS	TVS	Lead	TVS	TVS
*Manganese(chronic) = Dissolved standards applicable at the point of withdraw.		Boron	---	0.75	Lead(T)	50	---
*Uranium(acute) = See 32.5(3) for details.		Chloride	---	250	Manganese	TVS	TVS/WS*
*Uranium(chronic) = See 32.5(3) for details.		Chlorine	0.019	0.011	Mercury(T)	---	0.01
*Temperature =		Cyanide	0.005	---	Molybdenum(T)	---	150
DM=13 and MWAT=9.4 from 11/1-2/29		Nitrate	10	---	Nickel	TVS	TVS
DM= 28.1 and MWAT=22 from 3/1-10/31		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11*	Selenium	TVS	TVS
		Sulfate	---	WS*	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	TVS

20b. Mainstem of Fourmile Creek, including all tributaries and wetlands, from the confluence with Long Gulch to the confluence with the Arkansas River.							
COARUA20B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT	acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	varies*	varies*	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 <sup>2</sup> )	---	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
		Inorganic (mg/L)			Iron	---	WS
			acute	chronic	Iron(T)	---	1000
*chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4).		Ammonia	TVS	TVS	Lead	TVS	TVS
*Phosphorus(chronic) = applies only above the facilities listed at 32.5(4).		Boron	---	0.75	Lead(T)	50	---
*Sulfate(chronic) = Dissolved standards applicable at the point of withdraw.		Chloride	---	250	Manganese	TVS	TVS/WS*
*Manganese(chronic) = Dissolved standards applicable at the point of withdraw.		Chlorine	0.019	0.011	Mercury(T)	---	0.01
*Uranium(acute) = See 32.5(3) for details.		Cyanide	0.005	---	Molybdenum(T)	---	150
*Uranium(chronic) = See 32.5(3) for details.		Nitrate	10	---	Nickel	TVS	TVS
*Temperature =		Nitrite	0.05	---	Nickel(T)	---	100
DM=13 and MWAT=9.4 from 11/1-2/29		Phosphorus	---	0.11*	Selenium	TVS	TVS
DM= 28.1 and MWAT=22 from 3/1-10/31		Sulfate	---	WS*	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

21a. Mainstem of Cripple Creek from the source to a point 1.5 miles upstream of the confluence with Fourmile Creek.							
COARUA21A	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Cold 2	Temperature °C	CS-II	CS-II	Arsenic	340	---
	Recreation E		acute	chronic	Arsenic(T)	---	100
Qualifiers:		D.O. (mg/L)	---	6.0	Cadmium	TVS	TVS
Other:		D.O. (spawning)	---	7.0	Chromium III	TVS	TVS
*chlorophyll a (mg/m²)(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III(T)	---	100
		chlorophyll a (mg/m²)	---	150*	Chromium VI	TVS	TVS
		E. Coli (per 100 mL)	---	126	Copper	TVS	TVS
					Iron(T)	---	1000
					Lead	TVS	TVS
					Manganese	TVS	TVS
					Mercury(T)	---	0.01
					Molybdenum(T)	---	150
					Nickel	TVS	TVS
					Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	TVS
	21b. Mainstem of Cripple Creek from a point 1.5 miles upstream to the confluence with Fourmile Creek.						
COARUA21B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Cold 2	Temperature °C	CS-I	CS-I	Arsenic	340	---
	Recreation E		acute	chronic	Arsenic(T)	---	100
Qualifiers:		D.O. (mg/L)	---	6.0	Cadmium	TVS	TVS
Other:		D.O. (spawning)	---	7.0	Chromium III	TVS	TVS
*Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III(T)	---	100
		chlorophyll a (mg/m²)	---	---	Chromium VI	TVS	TVS
		E. Coli (per 100 mL)	---	126	Copper	TVS	TVS
					Iron(T)	---	1000
					Lead	TVS	TVS
					Manganese	TVS	TVS
					Mercury(T)	---	0.01
					Molybdenum(T)	---	150
					Nickel	TVS	TVS
					Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	TVS

21b. Mainstem of Cripple Creek from a point 1.5 miles upstream to the confluence with Fourmile Creek.							
COARUA21B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Cold 2	Temperature °C	CS-I	CS-I	Arsenic	340	---
	Recreation E		acute	chronic	Arsenic(T)	---	100
Qualifiers:		D.O. (mg/L)	---	6.0	Cadmium	TVS	TVS
Other:  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		D.O. (spawning)	---	7.0	Chromium III	TVS	TVS
		pH	6.5 - 9.0	---	Chromium III(T)	---	100
		chlorophyll a (mg/m <sup>2</sup> )	---	---	Chromium VI	TVS	TVS
		E. Coli (per 100 mL)	---	126	Copper	TVS	TVS
					Iron(T)	---	1000
		Inorganic (mg/L)			Lead	TVS	TVS
					Manganese	TVS	TVS
		Ammonia	TVS(sp)	TVS(elp)	Mercury(T)	---	0.01
		Boron	---	0.75	Molybdenum(T)	---	150
		Chloride	---	---	Nickel	TVS	TVS
		Chlorine	0.019	0.011	Selenium	TVS	TVS
		Cyanide	0.005	---	Silver	TVS	TVS
		Nitrate	100	---	Uranium	varies*	varies*
		Nitrite	0.05	---	Zinc	TVS	TVS
		Phosphorus	---	---			
		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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Upper Arkansas River Basin

22a. Mainstem of Arequa Gulch from the source to the confluence with Cripple Creek.								
COARUA22A	Classifications	Physical and Biological			Metals (ug/L)			
Designation	Agriculture		DM	MWAT		acute	chronic	
UP	Aq Life Cold 2	Temperature °C	CS-II	CS-II	Aluminum	11000	11000	
	Recreation N		acute	chronic	Arsenic	340	---	
Qualifiers:		D.O. (mg/L)	---	6.0	Arsenic(T)	---	100	
Other:		D.O. (spawning)	---	7.0	Cadmium	TVS	TVS	
*Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.0 - 9.0	---	Chromium III	TVS	TVS	
		chlorophyll a (mg/m²)	---	---	Chromium III(T)	---	100	
		E. Coli (per 100 mL)	---	630	Chromium VI	TVS	TVS	
					Copper	TVS	TVS	
			Inorganic (mg/L)		Iron(T)	---	1000	
				acute	chronic	Lead	TVS	TVS
		Ammonia	TVS	TVS	Manganese	5903	3674	
		Boron	---	0.75	Mercury(T)	---	0.01	
		Chloride	---	---	Molybdenum(T)	---	150	
		Chlorine	0.019	0.011	Nickel	TVS	TVS	
		Cyanide	0.005	---	Selenium	TVS	TVS	
		Nitrate	100	---	Silver	TVS	TVS	
		Nitrite	0.05	---	Uranium	varies*	varies*	
		Phosphorus	---	0.11	Zinc	3500	600	
		Sulfate	---	---				
Sulfide	---	0.002						

22b. Squaw Gulch from the source to the confluence with Cripple Creek.								
COARUA22B	Classifications	Physical and Biological			Metals (ug/L)			
Designation	Agriculture		DM	MWAT		acute	chronic	
UP	Aq Life Cold 2	Temperature °C	CS-II	CS-II	Arsenic(T)	---	200	
	Recreation N		acute	chronic	Cadmium(T)	---	50	
Qualifiers:		D.O. (mg/L)	---	6.0	Chromium III(T)	---	1000	
Other:		D.O. (spawning)	---	7.0	Chromium VI(T)	---	1000	
*Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Copper(T)	---	500	
		chlorophyll a (mg/m²)	---	---	Iron	---	---	
		E. Coli (per 100 mL)	---	630	Lead(T)	---	100	
					Manganese	---	---	
			Inorganic (mg/L)		Mercury(T)	---	10	
				acute	chronic	Molybdenum(T)	---	150
		Ammonia	---	---	Nickel	---	---	
		Boron	---	5.0	Selenium(T)	---	50	
		Chloride	---	---	Silver	---	---	
		Chlorine	---	---	Uranium	varies*	varies*	
		Cyanide	0.2	---	Zinc(T)	---	25000	
		Nitrate	100	---				
		Nitrite	10	---				
		Phosphorus	---	0.11				
		Sulfate	---	---				
Sulfide	---	---						

22b. Squaw Gulch from the source to the confluence with Cripple Creek.							
COARUA22B Classifications		Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT		acute	chronic
UP	Aq Life Cold 2	Temperature °C	CS-II	CS-II	Arsenic(T)	---	200
	Recreation N		acute	chronic	Cadmium(T)	---	50
Qualifiers:		D.O. (mg/L)	---	6.0	Chromium III(T)	---	1000
Other:  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		D.O. (spawning)	---	7.0	Chromium VI(T)	---	1000
		pH	6.5 - 9.0	---	Copper(T)	---	500
		chlorophyll a (mg/m²)	---	---	Iron	---	---
		E. Coli (per 100 mL)	---	630	Lead(T)	---	100
					Manganese	---	---
					Mercury(T)	---	10

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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

23. Mainstem of Wilson Creek (Teller County), including all tributaries and wetlands, from the source to the confluence with Fourmile Creek.							
COARUA23	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT	acute	chronic	
Reviewable	Aq Life Cold 2	Temperature °C	CS-II	CS-II	Arsenic	340	
	Recreation E		acute	chronic	Arsenic(T)	---	
Qualifiers:		D.O. (mg/L)	---	6.0	Cadmium	TVS	
Other:		pH	6.5 - 9.0	---	Chromium III	TVS	
*chlorophyll a (mg/m²)(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	150*	Chromium III(T)	---	
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
		Inorganic (mg/L)			Copper	TVS	TVS
			acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Manganese	TVS	TVS
		Chloride	---	---	Mercury(T)	---	0.01
		Chlorine	0.019	0.011	Molybdenum(T)	---	150
		Cyanide	0.005	---	Nickel	TVS	TVS
		Nitrate	100	---	Selenium	TVS	TVS
		Nitrite	0.05	---	Silver	TVS	TVS
		Phosphorus	---	0.11*	Uranium	varies*	varies*
		Sulfate	---	---	Zinc	TVS	TVS
		Sulfide	---	0.002			
		24. Mainstem of East and West Beaver Creeks, including all tributaries and wetlands, from the source to the confluence with Beaver Creek; mainstem of Beaver Creek from the source to the point of diversion to Brush Hollow Reservoir.					
COARUA24	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT	acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	Arsenic	340	
	Recreation E		acute	chronic	Arsenic(T)	---	
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS	
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0	
Other:		pH	6.5 - 9.0	---	Chromium III	---	
Temporary Modification(s): Arsenic(chronic) = hybrid Expiration Date of 12/31/2024  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	150	Chromium III(T)	50	
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
		Inorganic (mg/L)			Copper	TVS	TVS
			acute	chronic	Iron	---	WS
					Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
			Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

25. Mainstem of Cottonwood Creek (Custer County) from the headwaters to 37.940597, -105.411656.						
COARUA25	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
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Other:		pH	6.5 - 9.0	---	Chromium III	---
		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III(T)	50
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
					Copper	TVS
		Inorganic (mg/L)			Iron	---
		acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS
		Boron	---	0.75	Lead(T)	50
		Chloride	---	250	Manganese	TVS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---	Molybdenum(T)	---
		Nitrate	10	---	Nickel	TVS
		Nitrite	0.05	---	Nickel(T)	---
		Phosphorus	---	0.11	Selenium	TVS
		Sulfate	---	WS	Silver	TVS
		Sulfide	---	0.002	Uranium	varies*
					Zinc	TVS

26. Mainstem of Beaver Creek from the point of diversion for Brush Hollow Reservoir to the confluence with the Arkansas River.						
COARUA26	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
Reviewable	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340
	Recreation E	acute	chronic	Arsenic(T)	---	100
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium	TVS
Other:		pH	6.5 - 9.0	---	Chromium III	TVS
		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III(T)	---
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
		Inorganic (mg/L)			Copper	TVS
		acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS
		Boron	---	0.75	Manganese	TVS
		Chloride	---	---	Mercury(T)	---
		Chlorine	0.019	0.011	Molybdenum(T)	---
		Cyanide	0.005	---	Nickel	TVS
		Nitrate	100	---	Selenium	TVS
		Nitrite	0.5	---	Silver	TVS
		Phosphorus	---	0.17	Uranium	varies*
		Sulfate	---	---	Zinc	TVS
		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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

27. Mainstem of Eightmile Creek, including all tributaries and wetlands, from the source to the mouth of Phantom Canyon (38.495270,-105.110024).						
COARUA27	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	Arsenic	340
	Recreation E		acute	chronic	Arsenic(T)	0.02
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Other:  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	TVS
		chlorophyll a (mg/m²)	---	150	Chromium III(T)	50
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
					Copper	TVS
		Inorganic (mg/L)			Iron	---
					Iron(T)	1000
			acute	chronic	Lead	TVS
		Ammonia	TVS	TVS	Lead(T)	50
		Boron	---	0.75	Manganese	TVS
		Chloride	---	250		TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---		0.01
		Nitrate	10	---	Molybdenum(T)	---
		Nitrite	0.05	---		150
		Phosphorus	---	0.11	Nickel	TVS
		Sulfate	---	WS	Nickel(T)	TVS
		Sulfide	---	0.002		100
					Selenium	TVS
					Silver	TVS
					Uranium	varies*
						varies*
					Zinc	TVS
						TVS

28. All lakes and reservoirs within the Mount Massive and Collegiate Peaks Wilderness areas.

COARUA28	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
OW	Aq Life Cold 1	Temperature °C	CL	CL	Arsenic	340
	Recreation E		acute	chronic	Arsenic(T)	0.02
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Other:  *chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	TVS
		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
					Copper	TVS
		Inorganic (mg/L)			Iron	---
					Iron(T)	1000
			acute	chronic	Lead	TVS
		Ammonia	TVS	TVS	Lead(T)	50
		Boron	---	0.75	Manganese	TVS
		Chloride	---	250		TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---		0.01
		Nitrate	10	---	Molybdenum(T)	---
		Nitrite	0.05	---		150
		Phosphorus	---	0.025*	Nickel	TVS
		Sulfate	---	WS	Nickel(T)	TVS
		Sulfide	---	0.002		100
					Selenium	TVS
					Silver	TVS
					Uranium	varies*
						varies*
					Zinc	TVS
						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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Upper Arkansas River Basin

29. All lakes and reservoirs tributary to the Arkansas River from the source to immediately below the confluence with Brown's Creek, except for specific listings in segments 28 and 30.							
COARUA29	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Cold 1	Temperature °C	CL	CL	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	---
<b>Other:</b>  *chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	---	TVS
		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50	---
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
					Copper	TVS	TVS
		Inorganic (mg/L)			Iron	---	WS
					Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.025*	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	TVS
30. Turquoise Reservoir, Clear Creek Reservoir, Twin Lakes and Mt. Elbert Forebay.							
COARUA30	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Cold 1	Temperature °C	varies*	varies*	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02	
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS	TVS
	DUWS*	D.O. (spawning)	---	7.0	Cadmium(T)	5.0	---
Qualifiers:		pH	6.5 - 9.0	---	Chromium III	---	TVS
<b>Other:</b>  *chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Classification: DUWS to Twin Lakes and Elbert Forebay *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details. *Temperature = DM and MWAT=CLL from 1/1-3/31 Turquoise Reservoir, Twin Lakes (Upper and Lower), Mt. Elbert Forebay DM=22.4 and MWAT=16.6 from 4/1-12/31 All others DM and MWAT=CLL from 4/1-12/31		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50	---
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
					Copper	TVS	TVS
		Inorganic (mg/L)			Iron	---	WS
					Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.025*	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.



## REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Upper Arkansas River Basin

31. All lakes and reservoirs tributary to the Arkansas River which are on National Forest lands, from the confluence with Brown's Creek to the inlet to Pueblo Reservoir, except for specific listings in segments 32 and 34-40.						
COARUA31	Classifications	Physical and Biological			Metals (ug/L)	
Designation	Agriculture		DM	MWAT	acute	chronic
Reviewable	Aq Life Cold 1	Temperature °C	CL	CL	Arsenic	340
	Recreation E		acute	chronic	Arsenic(T)	0.02
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Other:		pH	6.5 - 9.0	---	Chromium III	TVS
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
					Copper	TVS
					Iron	---
					Iron(T)	1000
					Lead	TVS
					Lead(T)	50
					Manganese	TVS
					Mercury(T)	---
					Molybdenum(T)	150
					Nickel	TVS
					Nickel(T)	100
					Selenium	TVS
					Silver	TVS
					Uranium	varies*
					Zinc	TVS
32. All lakes and reservoirs tributary to the South Fork of the Arkansas from the source to the confluence with the Arkansas River.						
COARUA32	Classifications	Physical and Biological			Metals (ug/L)	
Designation	Agriculture		DM	MWAT	acute	chronic
Reviewable	Aq Life Cold 1	Temperature °C	CL	CL	Arsenic	340
	Recreation E		acute	chronic	Arsenic(T)	0.02
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Other:		pH	6.5 - 9.0	---	Chromium III	TVS
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
					Copper	TVS
					Iron	---
					Iron(T)	1000
					Lead	TVS
					Lead(T)	50
					Manganese	TVS
					Mercury(T)	---
					Molybdenum(T)	150
					Nickel	TVS
					Nickel(T)	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

33. All lakes and reservoirs tributary to the Arkansas River which are not on National Forest lands, from the confluence with Brown's Creek to the inlet to Pueblo Reservoir, except for specific listings in segments 32 and 34-40.						
COARUA33	Classifications	Physical and Biological			Metals (ug/L)	
Designation	Agriculture	DM	MWAT		acute	chronic
Reviewable	Aq Life Cold 2	CL, CLL	CL, CLL	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02-10 <sup>A</sup>
	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
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area.		chlorophyll a (ug/L)	8*	Chromium III(T)	50	---
*Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area.		E. Coli (per 100 mL)	126	Chromium VI	TVS	TVS
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)		Copper	TVS	TVS
*Uranium(chronic) = See 32.5(3) for details.		acute	chronic	Iron	---	WS
		Ammonia	TVS	Iron(T)	---	1000
		Boron	0.75	Lead	TVS	TVS
		Chloride	250	Lead(T)	50	---
		Chlorine	0.019	Manganese	TVS	TVS/WS
		Cyanide	0.005	Mercury(T)	---	0.01
		Nitrate	10	Molybdenum(T)	---	150
		Nitrite	0.05	Nickel	TVS	TVS
		Phosphorus	0.025*	Nickel(T)	---	100
		Sulfate	WS	Selenium	TVS	TVS
		Sulfide	0.002	Silver	TVS	TVS(tr)
				Uranium	varies*	varies*
				Zinc	TVS	TVS

  

34. All lakes and reservoirs tributary to the mainstems of Texas, Badger, Hayden, Hamilton, Stout, and Big Cottonwood Creeks from their sources to their confluences with the Arkansas River. All lakes and reservoirs tributary to the mainstem of Grape Creek from the source to the outlet of DeWeese Reservoir, except for the specific listing in segment 35.						
COARUA34	Classifications	Physical and Biological			Metals (ug/L)	
Designation	Agriculture	DM	MWAT		acute	chronic
Reviewable	Aq Life Cold 1	CL	CL	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
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area.		chlorophyll a (ug/L)	8*	Chromium III(T)	50	---
*Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area.		E. Coli (per 100 mL)	126	Chromium VI	TVS	TVS
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)		Copper	TVS	TVS
*Uranium(chronic) = See 32.5(3) for details.		acute	chronic	Iron	---	WS
		Ammonia	TVS	Iron(T)	---	1000
		Boron	0.75	Lead	TVS	TVS
		Chloride	250	Lead(T)	50	---
		Chlorine	0.019	Manganese	TVS	TVS/WS
		Cyanide	0.005	Mercury(T)	---	0.01
		Nitrate	10	Molybdenum(T)	---	150
		Nitrite	0.05	Nickel	TVS	TVS
		Phosphorus	0.025*	Nickel(T)	---	100
		Sulfate	WS	Selenium	TVS	TVS
		Sulfide	0.002	Silver	TVS	TVS(tr)
				Uranium	varies*	varies*
				Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Upper Arkansas River Basin

35. DeWeese Reservoir.								
COARUA35	Classifications	Physical and Biological			Metals (ug/L)			
Designation	Agriculture	DM	MWAT	acute	chronic			
Reviewable	Aq Life Cold 1	Temperature °C	varies*	varies*	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	
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details. *Temperature = DM=CLL and MWAT=CLL from 1/1-3/31 DM= CLL and MWAT=21.3 from 4/1-12/31		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50	---	
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS	
		Inorganic (mg/L)			Copper	TVS	TVS	
					Iron	---	WS	
				acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS	
		Boron	---	0.75	Lead(T)	50	---	
		Chloride	---	250	Manganese	TVS	TVS/WS	
		Chlorine	0.019	0.011	Mercury(T)	---	0.01	
		Cyanide	0.005	---	Molybdenum(T)	---	150	
		Nitrate	10	---	Nickel	TVS	TVS	
		Nitrite	0.05	---	Nickel(T)	---	100	
		Phosphorus	---	0.025*	Selenium	TVS	TVS	
		Sulfate	---	WS	Silver	TVS	TVS(tr)	
		Sulfide	---	0.002	Uranium	varies*	varies*	
					Zinc	TVS	TVS	
36. All lakes and reservoirs tributary to the mainstem of Currant Creek (Park County) from the source to the confluence with Tallahassee Creek, except lakes and reservoirs tributary to Cottonwood Creek (Fremont County) from a point immediately below the confluence with North Waugh Creek to the intersection with F6 Road. All lakes and reservoirs tributary to the mainstem of Middle Tallahassee Creek from the source to the intersection with Road 23.								
COARUA36	Classifications	Physical and Biological			Metals (ug/L)			
Designation	Agriculture	DM	MWAT	acute	chronic			
Reviewable	Aq Life Cold 1	Temperature °C	CL	CL	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	
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50	---	
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS	
		Inorganic (mg/L)			Copper	TVS	TVS	
					Iron	---	WS	
				acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS	
		Boron	---	0.75	Lead(T)	50	---	
		Chloride	---	250	Manganese	TVS	TVS/WS	
		Chlorine	0.019	0.011	Mercury(T)	---	0.01	
		Cyanide	0.005	---	Molybdenum(T)	---	150	
		Nitrate	10	---	Nickel	TVS	TVS	
		Nitrite	0.05	---	Nickel(T)	---	100	
		Phosphorus	---	0.025*	Selenium	TVS	TVS	
		Sulfate	---	WS	Silver	TVS	TVS(tr)	
		Sulfide	---	0.002	Uranium	varies*	varies*	
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Upper Arkansas River Basin

37. All lakes and reservoirs tributary to the mainstem of Fourmile Creek from the source to the confluence with the Arkansas River. This segment includes Wrights Reservoir.						
COARUA37	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	CL,CLL CL,CLL	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS
	DUWS*	D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Qualifiers:		pH	6.5 - 9.0	---	Chromium III	---
Other:		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50
Temporary Modification(s):		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
Arsenic(chronic) = hybrid					Copper	TVS
Expiration Date of 12/31/2024		Inorganic (mg/L)		Iron	---	WS
		acute	chronic	Iron(T)	---	1000
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area.		Ammonia	TVS	TVS	Lead	TVS
*Classification: DUWS applies to Ott Reservoir		Boron	---	0.75	Lead(T)	50
*Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area.		Chloride	---	250	Manganese	TVS
*Uranium(acute) = See 32.5(3) for details.		Chlorine	0.019	0.011	Mercury(T)	---
*Uranium(chronic) = See 32.5(3) for details.		Cyanide	0.005	---	Molybdenum(T)	---
		Nitrate	10	---	Nickel	TVS
		Nitrite	0.05	---	Nickel(T)	---
		Phosphorus	---	0.025*	Selenium	TVS
		Sulfate	---	WS	Silver	TVS
		Sulfide	---	0.002	Uranium	varies*
					Zinc	TVS
						TVS

38. All lakes and reservoirs tributary to the mainstem of East and West Beaver Creeks from the source to the confluence with Beaver Creek. This segment includes Skagway and Bison Reservoirs.						
COARUA38	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	CL,CLL CL,CLL	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS
	DUWS*	D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Qualifiers:		pH	6.5 - 9.0	---	Chromium III	---
Other:		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area.		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
*Classification: Bison Reservoir = DUWS					Copper	TVS
*Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area.		Inorganic (mg/L)		Iron	---	WS
*Uranium(acute) = See 32.5(3) for details.		acute	chronic	Iron(T)	---	1000
*Uranium(chronic) = See 32.5(3) for details.		Ammonia	TVS	TVS	Lead	TVS
		Boron	---	0.75	Lead(T)	50
		Chloride	---	250	Manganese	TVS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---	Molybdenum(T)	---
		Nitrate	10	---	Nickel	TVS
		Nitrite	0.05	---	Nickel(T)	---
		Phosphorus	---	0.025*	Selenium	TVS
		Sulfate	---	WS	Silver	TVS
		Sulfide	---	0.002	Uranium	varies*
					Zinc	TVS
						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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Upper Arkansas River Basin

39. All lakes and reservoirs tributary to the mainstem of Eightmile Creek from the source to the mouth of Phantom Canyon (38.495270,-105.110024).							
COARUA39	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Cold 1	Temperature °C	CL	CL	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	---
<b>Other:</b>  *chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	---	TVS
		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50	---
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
		Inorganic (mg/L)			Copper	TVS	TVS
		acute	chronic	Iron	---	WS	
		Ammonia	TVS	TVS	Iron(T)	---	1000
		Boron	---	0.75	Lead	TVS	TVS
		Chloride	---	250	Lead(T)	50	---
		Chlorine	0.019	0.011	Manganese	TVS	TVS/WS
		Cyanide	0.005	---	Mercury(T)	---	0.01
		Nitrate	10	---	Molybdenum(T)	---	150
		Nitrite	0.05	---	Nickel	TVS	TVS
		Phosphorus	---	0.025*	Nickel(T)	---	100
		Sulfate	---	WS	Selenium	TVS	TVS
		Sulfide	---	0.002	Silver	TVS	TVS(tr)
					Uranium	varies*	varies*
					Zinc	TVS	TVS
		40. Brush Hollow Reservoir.					
COARUA40	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Warm 1	Temperature °C	WL	WL	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02	
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
<b>Other:</b>  *chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (ug/L)	---	20*	Chromium III	---	TVS
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
		Inorganic (mg/L)			Chromium VI	TVS	TVS
		acute	chronic	Copper	TVS	TVS	
		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	0.083*	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	TVS

40. Brush Hollow Reservoir.							
COARUA40	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Warm 1	Temperature °C	WL	WL	Arsenic	340	---
	Recreation E		acute	chronic	Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
Other:  *chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (ug/L)	---	20*	Chromium III	---	TVS
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
		Inorganic (mg/L)			Chromium VI	TVS	TVS
			acute	chronic	Copper	TVS	TVS
		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	0.083*	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
			Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Upper Arkansas River Basin

41. Teller Reservoir							
COARUA41	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Cold 1	Temperature °C	CLL	CLL	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
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50	---
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
					Copper	TVS	TVS
		Inorganic (mg/L)			Iron	---	WS
					Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.025*	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
				Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Middle Arkansas River Basin

1. All tributaries, including wetlands, to the Arkansas River within the Sangre de Cristo, Greenhorn, and Spanish Peaks Wilderness Areas.							
COARMA01	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:  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	---	TVS
		chlorophyll a (mg/m²)	---	150	Chromium III(T)	50	---
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
					Copper	TVS	TVS
		Inorganic (mg/L)			Iron	---	WS
			acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	TVS
2. Mainstem of the Arkansas River from the outlet of Pueblo Reservoir to a point immediately above the confluence with Wildhorse/Dry Creek Arroyo.							
COARMA02	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	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:  Temporary Modification(s): Arsenic(chronic) = hybrid Expiration Date of 12/31/2024  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	---	TVS
		chlorophyll a (mg/m²)	---	---	Chromium III(T)	50	---
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
					Copper	TVS	TVS
		Inorganic (mg/L)			Iron	---	WS
			acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	---	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Middle Arkansas River Basin

3. Mainstem of the Arkansas River from a point immediately above the confluence with Wildhorse/Dry Creek Arroyo to a point immediately above the confluence with Fountain Creek							
COARMA03	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02	
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
Other:		chlorophyll a (mg/m²)	---	---	Chromium III	---	TVS
Temporary Modification(s):		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
Arsenic(chronic) = hybrid		Inorganic (mg/L)		Chromium VI	TVS	TVS	
Expiration Date of 12/31/2024		acute	chronic	Copper	TVS	TVS	
*Uranium(acute) = See 32.5(3) for details.		Ammonia	TVS	TVS	Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.05	---	Molybdenum(T)	---	150
		Phosphorus	---	---	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	26.3	17.1
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	TVS
4a. Mainstem of Wildhorse Creek from the source to the confluence with the Arkansas River.							
COARMA04A	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	100	
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Other:		pH	6.5 - 9.0	---	Chromium III	TVS	TVS
*chlorophyll a (mg/m²)(chronic) = applies only above the facilities listed at 32.5(4).		chlorophyll a (mg/m²)	---	150*	Chromium III(T)	---	100
*Phosphorus(chronic) = applies only above the facilities listed at 32.5(4).		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
*Selenium(acute) = See selenium assessment location at 32.6(4).		Inorganic (mg/L)		Copper	TVS	TVS	
*Selenium(chronic) = See selenium assessment location at 32.6(4).		acute	chronic	Iron(T)	---	1000	
*Uranium(acute) = See 32.5(3) for details.		Ammonia	TVS	TVS	Lead	TVS	TVS
*Uranium(chronic) = See 32.5(3) for details.		Boron	---	0.75	Manganese	TVS	TVS
		Chloride	---	---	Mercury(T)	---	0.01
		Chlorine	0.019	0.011	Molybdenum(T)	---	150
		Cyanide	0.005	---	Nickel	TVS	TVS
		Nitrate	100	---	Selenium	2376*	2110*
		Nitrite	0.05	---	Silver	TVS	TVS
		Phosphorus	---	0.17*	Uranium	varies*	varies*
		Sulfate	---	---	Zinc	TVS	TVS
		Sulfide	---	0.002			

4a. Mainstem of Wildhorse Creek from the source to the confluence with the Arkansas River.

COARMA04A	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM		MWAT	acute		chronic
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute	chronic		Arsenic(T)	---	100
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
<p><b>Other:</b></p> <p>*chlorophyll a (mg/m<sup>2</sup>)(chronic) = applies only above the facilities listed at 32.5(4).</p> <p>*Phosphorus(chronic) = applies only above the facilities listed at 32.5(4).</p> <p>*Selenium(acute) = See selenium assessment location at 32.6(4).</p> <p>*Selenium(chronic) = See selenium assessment location at 32.6(4).</p> <p>*Uranium(acute) = See 32.5(3) for details.</p> <p>*Uranium(chronic) = See 32.5(3) for details.</p>		pH	6.5 - 9.0	---	Chromium III	TVS	TVS
		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Chromium III(T)	---	100
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
		Inorganic (mg/L)			Copper	TVS	TVS
			acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Manganese	TVS	TVS
		Chloride	---	---	Mercury(T)	---	0.01
		Chlorine	0.019	0.011	Molybdenum(T)	---	150
		Cyanide	0.005	---	Nickel	TVS	TVS
		Nitrate	100	---	Selenium	2376*	2110*
		Nitrite	0.05	---	Silver	TVS	TVS
		Phosphorus	---	0.17*	Uranium	varies*	varies*
		Sulfate	---	---	Zinc	TVS	TVS
		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 32.6 for further details on applied standards.



# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Middle Arkansas River Basin

4b. Mainstem of Rock Creek, Salt Creek and Peck Creek from their sources to the confluence with the Arkansas River.							
COARMA04B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
UP	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	7.6	
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Other:		pH	6.5 - 9.0	---	Chromium III	TVS	TVS
*Uranium(acute) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	150	Chromium III(T)	---	100
*Uranium(chronic) = See 32.5(3) for details.		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
		Inorganic (mg/L)		Copper	TVS	TVS	
		acute	chronic	Iron(T)	---	1000	
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Manganese	TVS	TVS
		Chloride	---	---	Mercury(T)	---	0.01
		Chlorine	0.019	0.011	Molybdenum(T)	---	150
		Cyanide	0.005	---	Nickel	TVS	TVS
		Nitrate	100	---	Selenium	TVS	TVS
		Nitrite	0.05	---	Silver	TVS	TVS
		Phosphorus	---	0.17	Uranium	varies*	varies*
		Sulfate	---	---	Zinc	TVS	TVS
		Sulfide	---	0.002			

4c. Mainstem of Chico Creek, including all tributaries and wetlands, from the source to the confluence with the Arkansas River, except for specific listings in segment 4f.							
COARMA04C	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Water Supply	acute	chronic	Arsenic(T)	---	0.02	
	Recreation E	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
Other:		chlorophyll a (mg/m²)	---	150*	Chromium III	---	TVS
*chlorophyll a (mg/m²)(chronic) = applies only above the facilities listed at 32.5(4).		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
*Phosphorus(chronic) = applies only above the facilities listed at 32.5(4).		Inorganic (mg/L)		Chromium VI	TVS	TVS	
*Uranium(acute) = See 32.5(3) for details.		acute	chronic	Copper	TVS	TVS	
*Uranium(chronic) = See 32.5(3) for details.		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	0.17*	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	TVS

4c. Mainstem of Chico Creek, including all tributaries and wetlands, from the source to the confluence with the Arkansas River, except for specific listings in segment 4f.							
COARMA04C	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Water Supply		acute	chronic	Arsenic(T)	---	0.02
	Recreation E	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
<b>Other:</b>  *chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Chromium III	---	TVS
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
		Inorganic (mg/L)			Chromium VI	TVS	TVS
			acute	chronic	Copper	TVS	TVS
		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	0.17*	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Middle Arkansas River Basin

4d. All tributaries, including wetlands, to the Arkansas River and Pueblo Reservoir from the inlet to Pueblo Reservoir to the Colorado Canal headgate, except for specific listings in the Fountain Creek Subbasin and in segments 4a, 4b, 4c and 4e through 18b.							
COARMA04D	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic(T)	---	0.02-10 <sup>A</sup>
	Water Supply	acute	chronic	Beryllium(T)	---	100	
	Recreation E	D.O. (mg/L)	---	5.0	Cadmium(T)	5.0	10
Qualifiers:		pH	6.5 - 9.0	---	Chromium III	---	TVS
Other:  *chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Chromium III(T)	50	---
		E. Coli (per 100 mL)	---	126	Chromium VI(T)	---	100
		Inorganic (mg/L)			Copper(T)	---	200
			acute	chronic	Iron	---	WS
		Ammonia	---	---	Lead(T)	50	100
		Boron	---	0.75	Manganese	---	WS
		Chloride	---	250	Mercury(T)	---	---
		Chlorine	---	---	Molybdenum(T)	---	150
		Cyanide	0.2	---	Nickel(T)	---	100
		Nitrate	10	---	Selenium(T)	---	20
		Nitrite	10	---	Silver	---	---
		Phosphorus	---	0.17*	Uranium	varies*	varies*
		Sulfate	---	WS	Zinc(T)	---	2000
		Sulfide	---	---			
4e. Golf Course Wash							
COARMA04E	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	100	
		D.O. (mg/L)	---	5.0	Beryllium(T)	---	100
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	---	10
Other:  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III	TVS	TVS
		E. Coli (per 100 mL)	---	126	Chromium III(T)	---	100
		Inorganic (mg/L)			Chromium VI(T)	---	100
			acute	chronic	Copper(T)	---	200
		Ammonia	TVS	TVS	Iron	---	---
		Boron	---	0.75	Lead(T)	---	100
		Chloride	---	---	Manganese	---	---
		Chlorine	---	---	Mercury(T)	---	---
		Cyanide	0.2	---	Molybdenum(T)	---	150
		Nitrate	100	---	Nickel(T)	---	200
		Nitrite	10	---	Selenium	TVS	TVS
		Phosphorus	---	0.17	Silver	---	---
		Sulfate	---	---	Uranium	varies*	varies*
		Sulfide	---	---	Zinc(T)	---	2000

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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Middle Arkansas River Basin

4f. Mainstem of Black Squirrel Creek, including all tributaries and wetlands, from just below Highway 94 to Squirrel Creek Road.							
COARMA04F	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT			
UP	Aq Life Warm 2	Temperature °C	WS-III	WS-III	Arsenic(T)	---	100
	Recreation P		acute	chronic	Beryllium(T)	---	100
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium(T)	---	10
Other:		pH	6.5 - 9.0	---	Chromium III(T)	---	100
*chlorophyll a (mg/m²)(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	150*	Chromium VI(T)	---	100
		E. Coli (per 100 mL)	---	205	Copper(T)	---	200
		Inorganic (mg/L)			Iron	---	---
			acute	chronic	Lead(T)	---	100
		Ammonia	---	---	Manganese(T)	---	200
		Boron	---	0.75	Mercury(T)	---	---
		Chloride	---	---	Molybdenum(T)	---	150
		Chlorine	---	---	Nickel(T)	---	200
		Cyanide	0.2	---	Selenium(T)	---	20
		Nitrate	100	---	Silver	---	---
		Nitrite	10	---	Uranium	varies*	varies*
		Phosphorus	---	0.17*	Zinc(T)	---	2000
		Sulfate	---	---			
		Sulfide	---	---			

4g. Mainstem of Pesthouse Gulch, from the source to the confluence with Wildhorse Creek.							
COARMA04G	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT			
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic(T)	---	100
	Recreation E		acute	chronic	Beryllium(T)	---	100
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium(T)	---	10
Other:		pH	6.5 - 9.0	---	Chromium III(T)	---	100
*chlorophyll a (mg/m²)(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Selenium(acute) = See selenium assessment location at 32.6(4). *Selenium(chronic) = See selenium assessment location at 32.6(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	150*	Chromium VI(T)	---	100
		E. Coli (per 100 mL)	---	126	Copper(T)	---	200
		Inorganic (mg/L)			Iron	---	---
			acute	chronic	Lead(T)	---	100
		Ammonia	---	---	Manganese(T)	---	200
		Boron	---	0.75	Mercury(T)	---	---
		Chloride	---	---	Molybdenum(T)	---	150
		Chlorine	---	---	Nickel(T)	---	200
		Cyanide	0.2	---	Selenium	389*	369*
		Nitrate	100	---	Silver	---	---
		Nitrite	10	---	Uranium	varies*	varies*
		Phosphorus	---	0.17*	Zinc(T)	---	2000
		Sulfate	---	---			
		Sulfide	---	---			

4g. Mainstem of Pesthouse Gulch, from the source to the confluence with Wildhorse Creek.							
COARMA04G		Classifications		Physical and Biological		Metals (ug/L)	
Designation	Agriculture		DM	MWAT		acute	chronic
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic(T)	---	100
	Recreation E		acute	chronic	Beryllium(T)	---	100
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium(T)	---	10
Other:		pH	6.5 - 9.0	---	Chromium III(T)	---	100
*chlorophyll a (mg/m²)(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Selenium(acute) = See selenium assessment location at 32.6(4). *Selenium(chronic) = See selenium assessment location at 32.6(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	150*	Chromium VI(T)	---	100
		E. Coli (per 100 mL)	---	126	Copper(T)	---	200
		Inorganic (mg/L)			Iron	---	---
			acute	chronic	Lead(T)	---	100
		Ammonia	---	---	Manganese(T)	---	200
		Boron	---	0.75	Mercury(T)	---	---
		Chloride	---	---	Molybdenum(T)	---	150
		Chlorine	---	---	Nickel(T)	---	200
		Cyanide	0.2	---	Selenium	389*	369*
		Nitrate	100	---	Silver	---	---
		Nitrite	10	---	Uranium	varies*	varies*
		Phosphorus	---	0.17*	Zinc(T)	---	2000
		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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Middle Arkansas River Basin

5a. Mainstem of the Saint Charles River, including all tributaries and wetlands, from the source to the San Isabel National Forest boundary.						
COARMA05A	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
UP	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
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Other:		pH	6.5 - 9.0	---	Chromium III	---
Temporary Modification(s):		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III(T)	50
Arsenic(chronic) = hybrid		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
Expiration Date of 12/31/2024					Copper	TVS
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)		Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS
		Boron	---	0.75	Lead(T)	50
		Chloride	---	250	Manganese	TVS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---	Molybdenum(T)	---
		Nitrate	10	---	Nickel	TVS
		Nitrite	0.05	---	Nickel(T)	---
		Phosphorus	---	0.11	Selenium	TVS
		Sulfate	---	WS	Silver	TVS
		Sulfide	---	0.002	Uranium	varies*
					Zinc	TVS

5b. Mainstem of the Saint Charles River, including all tributaries and wetlands, from the San Isabel National Forest boundary to a point immediately above the CF&I diversion canal (38.045800, -104.802787) near Burnt Mill.

COARMA05B	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
UP	Aq Life Cold 1	Temperature °C	CS-II	CS-II	Arsenic	340
	Recreation E	acute	chronic	Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Other:		pH	6.5 - 9.0	---	Chromium III	---
Temporary Modification(s):		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III(T)	50
Arsenic(chronic) = hybrid		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
Expiration Date of 12/31/2024					Copper	TVS
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)		Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS
		Boron	---	0.75	Lead(T)	50
		Chloride	---	250	Manganese	TVS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---	Molybdenum(T)	---
		Nitrate	10	---	Nickel	TVS
		Nitrite	0.05	---	Nickel(T)	---
		Phosphorus	---	0.11	Selenium	TVS
		Sulfate	---	WS	Silver	TVS
		Sulfide	---	0.002	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Middle Arkansas River Basin

6a. Mainstem of the Saint Charles River from a point immediately above the CF&I diversion canal (38.045800, -104.802787) near Burnt Mill to a point immediately upstream of the confluence with Edson Arroyo.							
COARMA06A	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02-10	<sup>A</sup>
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
<b>Other:</b>  *chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Chromium III	---	TVS
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
		Inorganic (mg/L)			Chromium VI	TVS	TVS
			acute	chronic	Copper	TVS	TVS
		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.05	---	Molybdenum(T)	---	150
		Phosphorus	---	0.17*	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	TVS
6b. Mainstem of the Saint Charles River from the confluence with Edson Arroyo to the confluence with the Arkansas River.							
COARMA06B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
UP	Aq Life Warm 2	Temperature °C	varies*	varies*	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02-10	<sup>A</sup>
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
<b>Other:</b>  *Selenium(acute) = See selenium assessment location at 32.6(4). *Selenium(chronic) = See selenium assessment location at 32.6(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details. *Temperature = DM=32.6 and MWAT=WS-II from 3/1-11/30 DM=WS-II and MWAT=WS-II from 12/1-2/29		chlorophyll a (mg/m <sup>2</sup> )	---	---	Chromium III	---	TVS
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
		Inorganic (mg/L)			Chromium VI	TVS	TVS
			acute	chronic	Copper	TVS	TVS
		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.05	---	Molybdenum(T)	---	150
		Phosphorus	---	---	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	173*	50*
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# **REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS** **Middle Arkansas River Basin**

7a. Mainstem of Greenhorn Creek, including all tributaries and wetlands, from the source to the San Isabel National Forest boundary, except for specific listings in segment 1.  
Mainstem of Graneros Creek, from the source to the San Isabel National Forest boundary, except for specific listings in segment 1. All tributaries to Muddy Creek, including wetlands, from the source to the San Isabel National Forest boundary.

COARMA07A	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
<b>Qualifiers:</b>		D.O. (spawning)	---	7.0	Cadmium(T)	5.0	---
<b>Other:</b>		pH	6.5 - 9.0	---	Chromium III	---	TVS
Temporary Modification(s):		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III(T)	50	---
Arsenic(chronic) = hybrid		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
Expiration Date of 12/31/2024		<b>Inorganic (mg/L)</b>			Copper	TVS	TVS
*Uranium(acute) = See 32.5(3) for details.		acute	chronic		Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		Ammonia	TVS	TVS	Iron(T)	---	1000
		Boron	---	0.75	Lead	TVS	TVS
		Chloride	---	250	Lead(T)	50	---
		Chlorine	0.019	0.011	Manganese	TVS	TVS/WS
		Cyanide	0.005	---	Mercury(T)	---	0.01
		Nitrate	10	---	Molybdenum(T)	---	150
		Nitrite	0.05	---	Nickel	TVS	TVS
		Phosphorus	---	0.11	Nickel(T)	---	100
		Sulfate	---	WS	Selenium	TVS	TVS
		Sulfide	---	0.002	Silver	TVS	TVS(tr)
					Uranium	varies*	varies*
					Zinc	TVS	TVS

7b. Mainstem of Greenhorn Creek, including all tributaries and wetlands, from the San Isabel National Forest boundary to a point immediately below the Greenhorn Highline (Hayden Supply Ditch) diversion dam. Mainstem of Graneros Creek below the San Isabel National Forest boundary. Muddy Creek, including all tributaries and wetlands, from the San Isabel National Forest boundary to 232/Bondurant Road.

COARMA07B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT		acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	Arsenic	340	---
	Recreation E	acute	chronic		Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS	TVS
<b>Qualifiers:</b>		D.O. (spawning)	---	7.0	Cadmium(T)	5.0	---
<b>Other:</b>		pH	6.5 - 9.0	---	Chromium III	---	TVS
Temporary Modification(s):		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III(T)	50	---
Arsenic(chronic) = hybrid		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
Expiration Date of 12/31/2024		<b>Inorganic (mg/L)</b>			Copper	TVS	TVS
*Uranium(acute) = See 32.5(3) for details.		acute	chronic		Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		Ammonia	TVS	TVS	Iron(T)	---	1000
		Boron	---	0.75	Lead	TVS	TVS
		Chloride	---	250	Lead(T)	50	---
		Chlorine	0.019	0.011	Manganese	TVS	TVS/WS
		Cyanide	0.005	---	Mercury(T)	---	0.01
		Nitrate	10	---	Molybdenum(T)	---	150
		Nitrite	0.05	---	Nickel	TVS	TVS
		Phosphorus	---	0.11	Nickel(T)	---	100
		Sulfate	---	WS	Selenium	TVS	TVS
		Sulfide	---	0.002	Silver	TVS	TVS(tr)
					Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Middle Arkansas River Basin

8. Deleted.							
COARMA08	Classifications	Physical and Biological			Metals (ug/L)		
Designation		DM	MWAT	acute	chronic		
Qualifiers:		acute	chronic				
Other:							
		Inorganic (mg/L)					
		acute	chronic				
9. Mainstem of Greenhorn Creek, from a point immediately below the Greenhorn Highline (Hayden Supply Ditch) diversion dam, to the confluence with the Saint Charles River.							
COARMA09	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E		acute	chronic	Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
Water + Fish Standards Apply		chlorophyll a (mg/m²)	---	150*	Chromium III	---	TVS
Other:		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
		Inorganic (mg/L)			Chromium VI	TVS	TVS
Temporary Modification(s):			acute	chronic	Copper	TVS	TVS
Arsenic(chronic) = hybrid		Ammonia	TVS	TVS	Iron	---	WS
Expiration Date of 12/31/2024		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
*chlorophyll a (mg/m²)(chronic) = applies only above the facilities listed at 32.5(4).		Chlorine	0.019	0.011	Lead(T)	50	---
*Phosphorus(chronic) = applies only above the facilities listed at 32.5(4).		Cyanide	0.005	---	Manganese	TVS	TVS/WS
*Uranium(acute) = See 32.5(3) for details.		Nitrate	10	---	Mercury(T)	---	0.01
*Uranium(chronic) = See 32.5(3) for details.		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	0.17*	Nickel	TVS	TVS
		Sulfate	---	700	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Middle Arkansas River Basin

10. Mainstem of Sixmile Creek from the source to the confluence with the Arkansas River.							
COARMA10	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT		acute	chronic
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E		acute	chronic	Arsenic(T)	---	100
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Other:  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	TVS	TVS
		chlorophyll a (mg/m²)	---	150	Chromium III(T)	---	100
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
		Inorganic (mg/L)			Copper	TVS	TVS
			acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Manganese	TVS	TVS
		Chloride	---	---	Mercury(T)	---	0.01
		Chlorine	0.019	0.011	Molybdenum(T)	---	150
		Cyanide	0.005	---	Nickel	TVS	TVS
		Nitrate	100	---	Selenium	TVS	TVS
		Nitrite	0.5	---	Silver	TVS	TVS
		Phosphorus	---	0.17	Uranium	varies*	varies*
		Sulfate	---	---	Zinc	TVS	TVS
		Sulfide	---	0.002			
11a. Mainstem of the Huerfano River including all tributaries and wetlands, from the source to 570 Road near Malachite, except for the specific listings in segment 1. Pass Creek, including all tributaries and wetlands, from the source to 565 Road. Muddy Creek, including all tributaries and wetlands, from the source to a point immediately below the confluence with Bruff Creek, except for the specific listings in segment 1. Mainstem of Turkey Creek (in Huerfano County) from the source to 620 Road, except for the specific listings in segment 1.							
COARMA11A	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:  Temporary Modification(s): Arsenic(chronic) = hybrid Expiration Date of 12/31/2024  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	---	TVS
		chlorophyll a (mg/m²)	---	150	Chromium III(T)	50	---
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
		Inorganic (mg/L)			Copper	TVS	TVS
			acute	chronic	Iron	---	WS
		Ammonia	TVS	TVS	Iron(T)	---	1000
		Boron	---	0.75	Lead	TVS	TVS
		Chloride	---	250	Lead(T)	50	---
		Chlorine	0.019	0.011	Manganese	TVS	TVS/WS
		Cyanide	0.005	---	Mercury(T)	---	0.01
		Nitrate	10	---	Molybdenum(T)	---	150
		Nitrite	0.05	---	Nickel	TVS	TVS
		Phosphorus	---	0.11	Nickel(T)	---	100
		Sulfate	---	WS	Selenium	TVS	TVS
		Sulfide	---	0.002	Silver	TVS	TVS(tr)
			Uranium	varies*	varies*		
			Zinc	TVS	TVS		

11a. Mainstem of the Huerfano River including all tributaries and wetlands, from the source to 570 Road near Malachite, except for the specific listings in segment 1. Pass Creek, including all tributaries and wetlands, from the source to 565 Road. Muddy Creek, including all tributaries and wetlands, from the source to a point immediately below the confluence with Bruff Creek, except for the specific listings in segment 1. Mainstem of Turkey Creek (in Huerfano County) from the source to 620 Road, except for the specific listings in segment 1.

COARMA11A	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/m²)	---	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
		Inorganic (mg/L)			Iron	---	WS
*Uranium(acute) = See 32.5(3) for details.			acute	chronic	Iron(T)	---	1000
*Uranium(chronic) = See 32.5(3) for details.		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.



# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Middle Arkansas River Basin

11b. Mainstem of the Huerfano River, including all tributaries and wetlands, from 570 Road near Malachite to Highway 69 at Badito, except for the specific listings in segment 1, 11a and 17.							
COARMA11B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	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/m²)	---	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
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)			Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		acute	chronic	Iron(T)	---	1000	
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	TVS
12. Mainstem of Huerfano River from Highway 69 at Badito to the confluence with the Arkansas River.							
COARMA12	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Water Supply	acute	chronic	Arsenic(T)	---	0.02-10 <sup>A</sup>	
	Recreation E	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
Other:		chlorophyll a (mg/m²)	---	150	Chromium III	---	TVS
*Uranium(acute) = See 32.5(3) for details.		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
*Uranium(chronic) = See 32.5(3) for details.		Inorganic (mg/L)			Chromium VI	TVS	TVS
		acute	chronic	Copper	TVS	TVS	
		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	0.17	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Middle Arkansas River Basin

13a. All tributaries, including wetlands, to the Cucharas River within the San Isabel National Forest boundaries, except for the specific listings in segment 1. Mainstem of the Cucharas River, from the source to a point immediately above the confluence with Middle Creek, except for the specific listings in segment 1. Wahatoya Creek, including all tributaries and wetlands, from the source to the confluence with the Cucharas River, except for the specific listings in segment 1. All tributaries to Middle Creek, including wetlands, from the source to a point immediately below the confluence of North and South Middle Creeks.

COARMA13A	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
<b>Qualifiers:</b>		D.O. (spawning)	---	7.0	Cadmium(T)	5.0	---
<b>Other:</b>		pH	6.5 - 9.0	---	Chromium III	---	TVS
Temporary Modification(s):		chlorophyll a (mg/m <sup>2</sup> )	---	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
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)			Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		acute	chronic		Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	TVS

13b. Mainstem of the Cucharas River from a point immediately above the confluence with Middle Creek to the confluence with North Abeyta Creek (37.567852, -104.907046). All tributaries, including wetlands, to the Cucharas River from the San Isabel National Forest boundary to a point immediately below North Abeyta Creek (37.567852, -104.907046), except for specific listings in Segment 13a. Mainstem of Middle Creek, including all tributaries and wetlands, from a point immediately below the confluence of North and South Middle Creeks to the confluence with the Cucharas River, except for specific listings in 13a.

COARMA13B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT		acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	Arsenic	340	---
	Recreation E	acute	chronic		Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS	TVS
<b>Qualifiers:</b>		D.O. (spawning)	---	7.0	Cadmium(T)	5.0	---
<b>Other:</b>		pH	6.5 - 9.0	---	Chromium III	---	TVS
Temporary Modification(s):		chlorophyll a (mg/m <sup>2</sup> )	---	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
*chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4).		Inorganic (mg/L)			Iron	---	WS
*Phosphorus(chronic) = applies only above the facilities listed at 32.5(4).		acute	chronic		Iron(T)	---	1000
*Uranium(acute) = See 32.5(3) for details.		Ammonia	TVS	TVS	Lead	TVS	TVS
*Uranium(chronic) = See 32.5(3) for details.		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11*	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Middle Arkansas River Basin

13c. All tributaries and wetlands to the Cucharas and Huerfano Rivers not on forest service lands, except for specific listings in 13a and 13b.								
COARMA13C	Classifications	Physical and Biological			Metals (ug/L)			
Designation	Agriculture	DM	MWAT	acute	chronic			
UP	Aq Life Warm 2	Temperature °C	WS-III	WS-III	Arsenic(T)	---	0.02-10 <sup>A</sup>	
	Recreation N	acute	chronic	Beryllium(T)	---	4.0		
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium(T)	5.0	---	
Qualifiers:		pH	6.5 - 9.0	---	Chromium III	---	TVS	
Other:  *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	---	Chromium III(T)	50	---	
		E. Coli (per 100 mL)	---	630	Chromium VI(T)	50	100	
		Inorganic (mg/L)		Copper(T)	---	200		
		acute	chronic	Iron	---	WS		
		Ammonia	---	---	Lead(T)	50	100	
		Boron	---	0.75	Manganese	---	WS	
		Chloride	---	250	Mercury(T)	2.0	---	
		Chlorine	---	---	Molybdenum(T)	---	150	
		Cyanide	0.2	---	Nickel(T)	---	100	
		Nitrate	10	---	Nickel(T)	---	100	
		Nitrite	1.0	---	Selenium(T)	---	20	
		Phosphorus	---	0.17*	Silver(T)	---	100	
		Sulfate	---	WS	Uranium	varies*	varies*	
		Sulfide	---	0.05	Zinc(T)	---	2000	
14. Mainstem of the Cucharas River from the point of diversion for the Walsenburg public water supply to the outlet of Cucharas Reservoir.								
COARMA14	Classifications	Physical and Biological			Metals (ug/L)			
Designation	Agriculture	DM	MWAT	acute	chronic			
Reviewable	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Arsenic	340	---	
	Water Supply	acute	chronic	Arsenic(T)	---	0.02		
	Recreation E	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS	
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---	
Other:  *chlorophyll a (mg/m²)(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	150*	Chromium III	---	TVS	
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---	
		Inorganic (mg/L)		Chromium VI	TVS	TVS		
		acute	chronic	Copper	TVS	TVS		
		Ammonia	TVS	TVS	Iron	---	WS	
		Boron	---	0.75	Iron(T)	---	1000	
		Chloride	---	250	Lead	TVS	TVS	
		Chlorine	0.019	0.011	Lead(T)	50	---	
		Cyanide	0.005	---	Manganese	TVS	TVS/WS	
		Nitrate	10	---	Mercury(T)	---	0.01	
		Nitrite	0.5	---	Molybdenum(T)	---	150	
		Phosphorus	---	0.17*	Nickel	TVS	TVS	
		Sulfate	---	WS	Nickel(T)	---	100	
		Sulfide	---	0.002	Selenium	TVS	TVS	
			Silver	TVS	TVS			
			Uranium	varies*	varies*			
			Zinc	TVS	TVS			

14. Mainstem of the Cucharas River from the point of diversion for the Walsenburg public water supply to the outlet of Cucharas Reservoir.

COARMA14	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM		MWAT	acute		chronic
Reviewable	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Water Supply	acute		chronic	Arsenic(T)	---	0.02
	Recreation E	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
<b>Other:</b>  *chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Chromium III	---	TVS
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
		Inorganic (mg/L)			Chromium VI	TVS	TVS
		acute		chronic	Copper	TVS	TVS
		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	0.17*	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Middle Arkansas River Basin

15. Mainstem of Cucharas River from the outlet of Cucharas Reservoir to the confluence with the Huerfano River.							
COARMA15	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT		acute	chronic
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic(T)	---	100
	Recreation E		acute	chronic	Beryllium(T)	---	100
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium(T)	---	10
Other:		pH	6.5 - 9.0	---	Chromium III	TVS	TVS
*Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	---	Chromium III(T)	---	100
		E. Coli (per 100 mL)	---	126	Chromium VI(T)	---	100
		Inorganic (mg/L)			Copper(T)	---	200
			acute	chronic	Iron	---	---
		Ammonia	---	---	Lead(T)	---	100
		Boron	---	0.75	Manganese	---	---
		Chloride	---	---	Mercury(T)	---	---
		Chlorine	---	---	Molybdenum(T)	---	150
		Cyanide	0.2	---	Nickel(T)	---	200
		Nitrate	100	---	Selenium(T)	---	20
		Nitrite	10	---	Silver	---	---
		Phosphorus	---	---	Uranium	varies*	varies*
		Sulfate	---	---	Zinc(T)	---	2000
		Sulfide	---	---			
		16. Deleted.					
COARMA16	Classifications	Physical and Biological			Metals (ug/L)		
Designation			DM	MWAT		acute	chronic
Qualifiers:			acute	chronic			
Other:							
		Inorganic (mg/L)					
			acute	chronic			

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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Middle Arkansas River Basin

17. All tributaries to Apache Creek, including wetlands, from the source to a point immediately below the confluence of North and South Apache Creeks, except for the specific listings in segment 1. All tributaries, including wetlands, to the Huerfano River above the confluence with the Cucharas River that are within the San Isabel National Forest boundaries, except for the specific listings in segment 1 and 11a.							
COARMA17	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/m²)	---	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
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)			Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		acute	chronic	Iron(T)	---	1000	
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	TVS

18a. Mainstem of Boggs Creek from the source to Pueblo Reservoir.							
COARMA18A	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02	
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
Other:		chlorophyll a (mg/m²)	---	150	Chromium III	---	TVS
Temporary Modification(s):		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
Arsenic(chronic) = hybrid		Inorganic (mg/L)			Chromium VI	TVS	TVS
Expiration Date of 12/31/2024		acute	chronic	Copper	TVS	TVS	
*Uranium(acute) = See 32.5(3) for details.		Ammonia	TVS	TVS	Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	0.17	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS(tr)
					Uranium	varies*	varies*
					Zinc	TVS	TVS

18a. Mainstem of Boggs Creek from the source to Pueblo Reservoir.							
COARMA18A Classifications		Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E		acute	chronic	Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
Other:		chlorophyll a (mg/m²)	---	150	Chromium III	---	TVS
Temporary Modification(s):		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
Arsenic(chronic) = hybrid		Inorganic (mg/L)			Chromium VI	TVS	TVS
Expiration Date of 12/31/2024			acute	chronic	Copper	TVS	TVS
*Uranium(acute) = See 32.5(3) for details.		Ammonia	TVS	TVS	Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	0.17	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS(tr)
					Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Middle Arkansas River Basin

18b. Turkey Creek (Pueblo County) from U.S. Highway 50 to Pueblo Reservoir. Unnamed tributary to Arkansas River, that flows from the south and whose confluence with the Arkansas River is located at 38.267623, -104.668298. Mainstem of Rush Creek (Pueblo County) from the source to the confluence with the Arkansas River.							
COARMA18B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02	
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
Other:		chlorophyll a (mg/m²)	---	150	Chromium III	---	TVS
Temporary Modification(s):		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
Arsenic(chronic) = hybrid		Inorganic (mg/L)		Chromium VI	TVS	TVS	
Expiration Date of 12/31/2024		acute	chronic	Copper	TVS	TVS	
*Uranium(acute) = See 32.5(3) for details.		Ammonia	TVS	TVS	Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	0.17	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	TVS
19. All lakes and reservoirs tributary to the Arkansas River within the Sangre de Cristo, Greenhorn, and Spanish Peaks Wilderness areas.							
COARMA19	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Cold 1	Temperature °C	CL	CL	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
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area.		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50	---
*Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area.		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)		Copper	TVS	TVS	
*Uranium(chronic) = See 32.5(3) for details.		acute	chronic	Iron	---	WS	
		Ammonia	TVS	TVS	Iron(T)	---	1000
		Boron	---	0.75	Lead	TVS	TVS
		Chloride	---	250	Lead(T)	50	---
		Chlorine	0.019	0.011	Manganese	TVS	TVS/WS
		Cyanide	0.005	---	Mercury(T)	---	0.01
		Nitrate	10	---	Molybdenum(T)	---	150
		Nitrite	0.05	---	Nickel	TVS	TVS
		Phosphorus	---	0.025*	Nickel(T)	---	100
		Sulfate	---	WS	Selenium	TVS	TVS
		Sulfide	---	0.002	Silver	TVS	TVS(tr)
					Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Middle Arkansas River Basin

20. Pueblo Reservoir.							
COARMA20	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Cold 1	Temperature °C	varies*	varies*	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02	
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS	TVS
	DUWS	D.O. (spawning)	---	7.0	Cadmium(T)	5.0	---
Qualifiers:		pH	6.5 - 9.0	---	Chromium III	---	TVS
Other:		chlorophyll a (ug/L)	---	5*	Chromium III(T)	50	---
Temporary Modification(s):		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
Arsenic(chronic) = hybrid					Copper	TVS	TVS
Expiration Date of 12/31/2024		Inorganic (mg/L)			Iron	---	WS
*chlorophyll a (ug/L)(chronic) = See assessment location at 32.6(4).		acute	chronic	Iron(T)	---	1000	
*Uranium(acute) = See 32.5(3) for details.		Ammonia	TVS	TVS	Lead	TVS	TVS
*Uranium(chronic) = See 32.5(3) for details.		Boron	---	0.75	Lead(T)	50	---
*Temperature =		Chloride	---	250	Manganese	TVS	TVS/WS
DM=CLL and MWAT=CLL from 1/1-3/31		Chlorine	0.019	0.011	Mercury(T)	---	0.01
DM= CLL and MWAT=23.6 from 4/1-12/31		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	---	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	TVS

21. All lakes and reservoirs tributary to Chico Creek from the source to the confluence with the Arkansas River.							
COARMA21	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Warm 1	Temperature °C	WL	WL	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02	
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
Other:		chlorophyll a (ug/L)	---	20*	Chromium III	---	TVS
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area.		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
*Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area.		Inorganic (mg/L)			Chromium VI	TVS	TVS
*Uranium(acute) = See 32.5(3) for details.		acute	chronic	Copper	TVS	TVS	
*Uranium(chronic) = See 32.5(3) for details.		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	0.083*	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	TVS

21. All lakes and reservoirs tributary to Chico Creek from the source to the confluence with the Arkansas River.							
COARMA21	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Warm 1	Temperature °C	WL	WL	Arsenic	340	---
	Recreation E		acute	chronic	Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
Other:  *chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (ug/L)	---	20*	Chromium III	---	TVS
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
		Inorganic (mg/L)			Chromium VI	TVS	TVS
			acute	chronic	Copper	TVS	TVS
		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	0.083*	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
			Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Middle Arkansas River Basin

22. All lakes and reservoirs tributary to the Saint Charles River from the source to a point immediately above the CF&I diversion canal near Burnt Mill.						
COARMA22	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
UP	Aq Life Cold 1	Temperature °C	CL	CL	Arsenic	340
	Recreation E	acute	chronic	Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Other:  *chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	---
		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
		Inorganic (mg/L)		Copper	TVS	TVS
				Iron	---	WS
		acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS
		Boron	---	0.75	Lead(T)	50
		Chloride	---	250	Manganese	TVS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---	Molybdenum(T)	---
		Nitrate	10	---	Nickel	TVS
		Nitrite	0.05	---	Nickel(T)	---
		Phosphorus	---	0.025*	Selenium	TVS
		Sulfate	---	WS	Silver	TVS
		Sulfide	---	0.002	Uranium	varies*
				Zinc	TVS	TVS
23. All lakes and reservoirs tributary to Greenhorn Creek from the source to a point immediately below the Greenhorn Highline (Hayden Supply Ditch) diversion dam, except for specific listings in segment 19. All lakes and reservoirs tributary to Graneros Creek from the source to the San Isabel National Forest boundary, except for specific listings in segment 19. All lakes and reservoirs tributary to Muddy Creek from the source to 232/Bondurant Road. Beckwith Reservoir.						
COARMA23	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	CL	CL	Arsenic	340
	Recreation E	acute	chronic	Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS
		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Qualifiers:		pH	6.5 - 9.0	---	Chromium III	---
Other:  *chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Classification: DUWS Applies only to Beckwith Reservoir *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
		Inorganic (mg/L)		Copper	TVS	TVS
				Iron	---	WS
		acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS
		Boron	---	0.75	Lead(T)	50
		Chloride	---	250	Manganese	TVS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---	Molybdenum(T)	---
		Nitrate	10	---	Nickel	TVS
		Nitrite	0.05	---	Nickel(T)	---
		Phosphorus	---	0.025*	Selenium	TVS
		Sulfate	---	WS	Silver	TVS
		Sulfide	---	0.002	Uranium	varies*
				Zinc	TVS	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 32.6 for further details on applied standards.



## REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

### Middle Arkansas River Basin

24. All lakes and reservoirs tributary to the Huerfano River from the source to Highway 69 at Badito, except for the specific listings in segment 19. All lakes and reservoirs tributary to the Huerfano River above the confluence with the Cucharas River that are within the San Isabel National Forest boundaries, except for the specific listings in segment 19.								
COARMA24	Classifications	Physical and Biological			Metals (ug/L)			
Designation	Agriculture		DM	MWAT	acute	chronic		
Reviewable	Aq Life Cold 1	Temperature °C	CL	CL	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	
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50	---	
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS	
					Copper	TVS	TVS	
		Inorganic (mg/L)			Iron	---	WS	
			acute	chronic	Iron(T)	---	1000	
		Ammonia	TVS	TVS	Lead	TVS	TVS	
		Boron	---	0.75	Lead(T)	50	---	
		Chloride	---	250	Manganese	TVS	TVS/WS	
		Chlorine	0.019	0.011	Mercury(T)	---	0.01	
		Cyanide	0.005	---	Molybdenum(T)	---	150	
		Nitrate	10	---	Nickel	TVS	TVS	
		Nitrite	0.05	---	Nickel(T)	---	100	
		Phosphorus	---	0.025*	Selenium	TVS	TVS	
		Sulfate	---	WS	Silver	TVS	TVS(tr)	
		Sulfide	---	0.002	Uranium	varies*	varies*	
					Zinc	TVS	TVS	
		25. All lakes and reservoirs tributary to the Cucharas River from the source to the point of diversion for the Walsenburg public water supply, except for the specific listings in segment 19. Huajatolla Reservoirs and Diagre Reservoir						
		COARMA25	Classifications	Physical and Biological			Metals (ug/L)	
Designation	Agriculture		DM	MWAT	acute	chronic		
Reviewable	Aq Life Cold 1	Temperature °C	CL	CL	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	
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50	---	
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS	
					Copper	TVS	TVS	
		Inorganic (mg/L)			Iron	---	WS	
			acute	chronic	Iron(T)	---	1000	
		Ammonia	TVS	TVS	Lead	TVS	TVS	
		Boron	---	0.75	Lead(T)	50	---	
		Chloride	---	250	Manganese	TVS	TVS/WS	
		Chlorine	0.019	0.011	Mercury(T)	---	0.01	
		Cyanide	0.005	---	Molybdenum(T)	---	150	
		Nitrate	10	---	Nickel	TVS	TVS	
		Nitrite	0.05	---	Nickel(T)	---	100	
		Phosphorus	---	0.025*	Selenium	TVS	TVS	
		Sulfate	---	WS	Silver	TVS	TVS(tr)	
		Sulfide	---	0.002	Uranium	varies*	varies*	
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Middle Arkansas River Basin

26. Horseshoe Lake, Martin Lake (Ohem Lake) and Walsenburg Lower Town Lake.						
COARMA26	Classifications	Physical and Biological		Metals (ug/L)		
Designation		DM	MWAT	acute	chronic	
Reviewable	Agriculture					
	Aq Life Cold 1	Temperature °C	varies*	varies*	Arsenic	340
	Recreation E		acute	chronic	Arsenic(T)	---
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS
Qualifiers:	DUWS	D.O. (spawning)	---	7.0	Cadmium(T)	5.0
		pH	6.5 - 9.0	---	Chromium III	---
		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
Other:  *chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details. *Temperature = Horseshoe DM=CLL and MWAT=CLL from 1/1-3/31, DM= CLL and MWAT=18.8 from 4/1-12/31. Martin DM=CLL and MWAT=CLL from 1/1-3/31, DM= CLL and MWAT=21.7 from 4/1-12/31. Walsenburg DM=CL and MWAT=CL		Inorganic (mg/L)			Copper	TVS
			acute	chronic	Iron	---
		Ammonia	TVS	TVS	Iron(T)	---
		Boron	---	0.75	Lead	TVS
		Chloride	---	250	Lead(T)	50
		Chlorine	0.019	0.011	Manganese	TVS
		Cyanide	0.005	---	Mercury(T)	---
		Nitrate	10	---	Molybdenum(T)	---
		Nitrite	0.05	---	Nickel	TVS
		Phosphorus	---	0.025*	Nickel(T)	---
		Sulfate	---	WS	Selenium	TVS
		Sulfide	---	0.002	Silver	TVS
					Uranium	varies*
					Zinc	TVS
						TVS
						TVS
27. Deleted.						
COARMA27	Classifications	Physical and Biological		Metals (ug/L)		
Designation		DM	MWAT	acute	chronic	
Qualifiers:		acute	chronic			
		Inorganic (mg/L)				
		acute	chronic			

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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Middle Arkansas River Basin

28. Valco Ponds and Runyon/Fountain Lake.							
COARMA28	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Warm 1	Temperature °C	WL	WL	Arsenic	340	---
	Recreation E		acute	chronic	Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
Other:  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	---	Chromium III	---	TVS
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
		Inorganic (mg/L)			Chromium VI	TVS	TVS
			acute	chronic	Copper	TVS	TVS
		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	---	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Fountain Creek Basin

1a. Mainstem of Fountain Creek, including all tributaries and wetlands, from the source to a point immediately above the confluence with Monument Creek, except for specific listings in segment 1b.							
COARFO01A	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT		acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	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/m²)	---	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
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)			Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.			acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	TVS
1b. Severy Creek and all tributaries from the source to a point just upstream of where US Forest Service Road 330 crosses the stream.							
COARFO01B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT		acute	chronic	
OW	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/m²)	---	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
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)			Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.			acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Fountain Creek Basin

2a. Mainstem of Fountain Creek from a point immediately above the confluence with Monument Creek to a point immediately above the State Highway 47 Bridge.							
COARFO02A	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02-10	<sup>A</sup>
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
Other:  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	---	Chromium III	---	TVS
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
		Inorganic (mg/L)		Chromium VI	TVS	TVS	
		acute	chronic	Copper	TVS	TVS	
		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	---	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	TVS

2b. Mainstem of Fountain Creek from a point immediately above the State Highway 47 Bridge to the confluence with the Arkansas River.							
COARFO02B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02-10	<sup>A</sup>
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
Other:  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	---	Chromium III	---	TVS
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
		Inorganic (mg/L)		Chromium VI	TVS	TVS	
		acute	chronic	Copper	TVS	TVS	
		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron(T)	---	3300
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	---	Nickel	TVS	TVS
		Sulfate	---	485	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	28.1
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	TVS

2b. Mainstem of Fountain Creek from a point immediately above the State Highway 47 Bridge to the confluence with the Arkansas River.							
COARFO02B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E		acute	chronic	Arsenic(T)	---	0.02-10 <sup>A</sup>
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
Other:  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m <sup>2</sup> )	---	---	Chromium III	---	TVS
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
		Inorganic (mg/L)			Chromium VI	TVS	TVS
			acute	chronic	Copper	TVS	TVS
		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron(T)	---	3300
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	---	Nickel	TVS	TVS
		Sulfate	---	485	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	28.1
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

## REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Fountain Creek Basin

3a. All tributaries to Fountain Creek which are within the boundaries of National Forest or Air Force Academy lands, including all wetlands, from a point immediately above the confluence with Monument Creek to the confluence with the Arkansas River, except for the mainstem of Monument Creek in the Air Force Academy lands and specific listings in segment 3b. Cheyenne Creek, including tributaries and wetlands from the source to the confluence with Fountain Creek. Bear Creek below Gold Camp Road to the confluence with Fountain Creek. Little Fountain Creek from the source to Highway 115. Rock Creek from the source to Highway 115. North Monument Creek from the source to the confluence with Monument Creek. Beaver Creek from the source to the confluence with Monument Creek.

COARF003A	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
<b>Qualifiers:</b>		D.O. (spawning)	---	7.0	Cadmium(T)	5.0	---
<b>Other:</b>		pH	6.5 - 9.0	---	Chromium III	---	TVS
Temporary Modification(s):		chlorophyll a (mg/m <sup>2</sup> )	---	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
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)			Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		acute	chronic		Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	TVS

3b. Bear Creek, and all tributaries, from the source to a point immediately upstream of Gold Camp Road.

COARF003B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM		MWAT	acute	chronic	
OW	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
<b>Qualifiers:</b>		D.O. (spawning)	---	7.0	Cadmium(T)	5.0	---
<b>Other:</b>		pH	6.5 - 9.0	---	Chromium III	---	TVS
Temporary Modification(s):		chlorophyll a (mg/m <sup>2</sup> )	---	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
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)			Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		acute	chronic		Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Fountain Creek Basin

4a. Mainstems of Jackson Creek, Monument Branch, Elkhorn Springs, Pine Creek, South Pine Creek, South Rockrimmon Creek, Templeton Gap North, Templeton Gap Floodway, Douglas Creek and South Douglas Creek, from the sources to confluences with Monument Creek, including all tributaries and wetlands, which are not within the boundaries of the National Forest or Air Force Academy lands.

COARF004A	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM		MWAT	acute		chronic
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute		chronic	Arsenic(T)	---	100
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Other:  *chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	TVS	TVS
		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Chromium III(T)	---	100
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
		Inorganic (mg/L)			Copper	TVS	TVS
		acute		chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Manganese	TVS	TVS
		Chloride	---	250	Mercury(T)	---	0.01
		Chlorine	0.019	0.011	Molybdenum(T)	---	150
		Cyanide	0.005	---	Nickel	TVS	TVS
		Nitrate	100	---	Selenium	TVS	TVS
		Nitrite	0.5	---	Silver	TVS	TVS
		Phosphorus	---	0.17*	Uranium	varies*	varies*
		Sulfate	---	---	Zinc	TVS	TVS
		Sulfide	---	0.002			

4b. All tributaries to Monument Creek from the sources to the confluences with Monument Creek which are not within the boundaries of National Forest or Air Force Academy lands, including all wetlands, from a point immediately below the confluence with North Monument Creek to the confluence with Fountain Creek, except for specific listings in segments 3a, 4a and 4c. This includes Dirty Woman Creek, Smith Creek, Black Squirrel Creek, Cottonwood Creek, Dry Creek and an unnamed tributary with the confluence at Monument Creek located near (38.948613, -104.829623).

COARF004B		Classifications		Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM		MWAT	acute		chronic		
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---		
	Recreation E	acute		chronic	Arsenic(T)	---	0.02-10 <sup>A</sup>		
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS		
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---		
Other:  *chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Chromium III	---	TVS		
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---		
		Inorganic (mg/L)			Chromium VI	TVS	TVS		
		acute		chronic	Copper	TVS	TVS		
		Ammonia	TVS	TVS	Iron	---	WS		
		Boron	---	0.75	Iron(T)	---	1000		
		Chloride	---	250	Lead	TVS	TVS		
		Chlorine	0.019	0.011	Lead(T)	50	---		
		Cyanide	0.005	---	Manganese	TVS	TVS/WS		
		Nitrate	10	---	Mercury(T)	---	0.01		
		Nitrite	0.5	---	Molybdenum(T)	---	150		
		Phosphorus	---	0.17*	Nickel	TVS	TVS		
		Sulfate	---	WS	Nickel(T)	---	100		
		Sulfide	---	0.002	Selenium	TVS	TVS		
					Silver	TVS	TVS		
					Uranium	varies*	varies*		
			Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Fountain Creek Basin

4c. Mainstems of Kettle Creek, North Rockrimmon Creek and Mesa Creek, including tributaries and wetlands, from the sources to confluences with Monument Creek.							
COARFO04C	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT	acute	chronic	
Reviewable	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E		acute	chronic	Arsenic(T)	---	0.02-10 <sup>A</sup>
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
<b>Other:</b>  *chlorophyll a (mg/m²)(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	150*	Chromium III	---	TVS
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
		Inorganic (mg/L)			Chromium VI	TVS	TVS
			acute	chronic	Copper	TVS	TVS
		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	0.17*	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	TVS
4d. All tributaries with confluences with Fountain Creek from South Academy Blvd (CO83) to and including the unnamed tributary immediately south of Old Pueblo Road (38.585843, -104.669591), including tributaries and wetlands, except for Little Fountain Creek and its tributaries and wetlands, and specific listings in segments 3a, 5a and 5b. All tributaries with confluences with Fountain Creek from a point immediately above University Blvd (CO47) (38.312846, -104.590524), to the confluence with the Arkansas River.							
COARFO04D	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT	acute	chronic	
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E		acute	chronic	Arsenic(T)	---	100
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
<b>Other:</b>  *chlorophyll a (mg/m²)(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	TVS	TVS
		chlorophyll a (mg/m²)	---	150*	Chromium III(T)	---	100
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
		Inorganic (mg/L)			Copper	TVS	TVS
			acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Manganese	TVS	TVS
		Chloride	---	250	Mercury(T)	---	0.01
		Chlorine	0.019	0.011	Molybdenum(T)	---	150
		Cyanide	0.005	---	Nickel	TVS	TVS
		Nitrate	100	---	Selenium	TVS	TVS
		Nitrite	0.5	---	Silver	TVS	TVS
		Phosphorus	---	0.17*	Uranium	varies*	varies*
		Sulfate	---	---	Zinc	TVS	TVS
		Sulfide	---	0.002			

4d. All tributaries with confluences with Fountain Creek from South Academy Blvd (CO83) to and including the unnamed tributary immediately south of Old Pueblo Road (38.585843, -104.669591), including tributaries and wetlands, except for Little Fountain Creek and its tributaries and wetlands, and specific listings in segments 3a, 5a and 5b. All tributaries with confluences with Fountain Creek from a point immediately above University Blvd (CO47) (38.312846, -104.590524), to the confluence with the Arkansas River.

COARFO04D	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM		MWAT	acute		chronic
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute	chronic		Arsenic(T)	---	100
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Other:		pH	6.5 - 9.0	---	Chromium III	TVS	TVS
*chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Chromium III(T)	---	100
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
		Inorganic (mg/L)			Copper	TVS	TVS
		acute		chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Manganese	TVS	TVS
		Chloride	---	250	Mercury(T)	---	0.01
		Chlorine	0.019	0.011	Molybdenum(T)	---	150
		Cyanide	0.005	---	Nickel	TVS	TVS
		Nitrate	100	---	Selenium	TVS	TVS
		Nitrite	0.5	---	Silver	TVS	TVS
		Phosphorus	---	0.17*	Uranium	varies*	varies*
		Sulfate	---	---	Zinc	TVS	TVS
		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 32.6 for further details on applied standards.



# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Fountain Creek Basin

4e. All tributaries to Fountain Creek, including tributaries and wetlands, from a point immediately below the confluence with Monument Creek to University Blvd (CO47) near Pueblo except for specific listings in 3a, 4d, 5a and 5b.						
COARF004E	Classifications	Physical and Biological			Metals (ug/L)	
Designation		DM	MWAT		acute	chronic
UP	Agriculture					
	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340
	Recreation E		acute	chronic	Arsenic(T)	---
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0
<b>Other:</b>  *chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Chromium III	---
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50
		Inorganic (mg/L)			Chromium VI	TVS
			acute	chronic	Copper	TVS
		Ammonia	TVS	TVS	Iron	---
		Boron	---	0.75	Iron(T)	---
		Chloride	---	250	Lead	TVS
		Chlorine	0.019	0.011	Lead(T)	50
		Cyanide	0.005	---	Manganese	TVS
		Nitrate	10	---	Mercury(T)	---
		Nitrite	0.5	---	Molybdenum(T)	---
		Phosphorus	---	0.17*	Nickel	TVS
		Sulfate	---	WS	Nickel(T)	---
		Sulfide	---	0.002	Selenium	TVS
					Silver	TVS
					Uranium	varies*
					Zinc	TVS
5a. Jimmy Camp Creek, including all tributaries and wetlands from the source to Old Pueblo Road (38.673200, -104.696739). Williams Creek, including all tributaries and wetlands, from the source to the confluence with Fountain Creek.						
COARF005A	Classifications	Physical and Biological			Metals (ug/L)	
Designation		DM	MWAT		acute	chronic
Reviewable	Agriculture					
	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Arsenic	340
	Water Supply		acute	chronic	Arsenic(T)	---
	Recreation E	D.O. (mg/L)	---	5.0	Cadmium	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0
<b>Other:</b>  Temporary Modification(s): Arsenic(chronic) = hybrid Expiration Date of 12/31/2024  *chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Chromium III	---
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50
		Inorganic (mg/L)			Chromium VI	TVS
			acute	chronic	Copper	TVS
		Ammonia	TVS	TVS	Iron	---
		Boron	---	0.75	Iron(T)	---
		Chloride	---	250	Lead	TVS
		Chlorine	0.019	0.011	Lead(T)	50
		Cyanide	0.005	---	Manganese	TVS
		Nitrate	10	---	Mercury(T)	---
		Nitrite	0.5	---	Molybdenum(T)	---
		Phosphorus	---	0.17*	Nickel	TVS
		Sulfate	---	WS	Nickel(T)	---
		Sulfide	---	0.002	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 32.6 for further details on applied standards.

# **REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS** **Fountain Creek Basin**

5b. Jimmy Camp Creek from Old Pueblo Road (38.673200, -104.696739) to the confluence with Fountain Creek, including the marshland located on the 60-acre parcel at 13030 Old Pueblo Road. Unnamed tributary from the boundary of Fort Carson (38.694465, -104.738735) to the confluence with Fountain Creek.

COARFO05B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM		MWAT	acute		chronic
Reviewable	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation N	acute		chronic	Arsenic(T)	---	7.6
<b>Qualifiers:</b>		D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
<b>Other:</b>		pH	6.5 - 9.0	---	Chromium III	TVS	TVS
*Uranium(acute) = See 32.5(3) for details.		chlorophyll a (mg/m <sup>2</sup> )	---	---	Chromium III(T)	---	100
*Uranium(chronic) = See 32.5(3) for details.		E. Coli (per 100 mL)	---	630	Chromium VI	TVS	TVS
		Inorganic (mg/L)			Copper	TVS	TVS
		acute		chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Manganese	TVS	TVS
		Chloride	---	---	Mercury(T)	---	0.01
		Chlorine	0.019	0.011	Molybdenum(T)	---	150
		Cyanide	0.005	---	Nickel	TVS	TVS
		Nitrate	100	---	Selenium	TVS	TVS
		Nitrite	0.5	---	Silver	TVS	TVS
		Phosphorus	---	0.17	Uranium	varies*	varies*
		Sulfate	---	---	Zinc	TVS	TVS
		Sulfide	---	0.002			

6. Mainstem of Monument Creek, from the boundary of National Forest lands to the confluence with Fountain Creek.

COARFO06	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM		MWAT	acute		chronic
Reviewable	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute		chronic	Arsenic(T)	---	0.02-10 <sup>A</sup>
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
<b>Qualifiers:</b>		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
<b>Other:</b>		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Chromium III	---	TVS
*chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4).		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
*Phosphorus(chronic) = applies only above the facilities listed at 32.5(4).		Inorganic (mg/L)			Chromium VI	TVS	TVS
*Copper(acute) = Copper BLM –based Fixed Monitoring Benchmark (FMB)		acute		chronic	Copper	---	TVS*
Copper FMBa = 28.4µg/L for a subsegment of Monument Creek from immediately above the Tri-Lakes Wastewater Treatment Facility to the North Gate Boulevard Bridge.		Ammonia	TVS	TVS	Copper	TVS*	---
*Copper(chronic) = Copper BLM –based Fixed Monitoring Benchmark (FMB)		Boron	---	0.75	Iron	---	WS
Copper FMBc = 17.8µg/L for a subsegment of Monument Creek from immediately above the Tri-Lakes Wastewater Treatment Facility to the North Gate Boulevard Bridge.		Chloride	---	250	Iron(T)	---	1000
*Uranium(acute) = See 32.5(3) for details.		Chlorine	0.019	0.011	Lead	TVS	TVS
*Uranium(chronic) = See 32.5(3) for details.		Cyanide	0.005	---	Lead(T)	50	---
		Nitrate	10	---	Manganese	TVS	TVS/WS
		Nitrite	0.5	---	Mercury(T)	---	0.01
		Phosphorus	---	0.17*	Molybdenum(T)	---	150
		Sulfate	---	WS	Nickel	TVS	TVS
		Sulfide	---	0.002	Nickel(T)	---	100
					Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

7a. Pikeview Reservoir, Willow Springs Pond #1, and Willow Springs Pond #2.						
COARFO07A	Classifications	Physical and Biological			Metals (ug/L)	
Designation	Agriculture	DM	MWAT	acute chronic		
UP	Aq Life Warm 2	Temperature °C	WL WL	Arsenic	340 ---	
	Recreation E	acute chronic		Arsenic(T)	--- 0.02	
	Water Supply	D.O. (mg/L)	--- 5.0	Cadmium	TVS TVS	
Qualifiers:		pH	6.5 - 9.0 ---	Cadmium(T)	5.0 ---	
Water + Fish Standards Apply		chlorophyll a (mg/m²)	--- ---	Chromium III	--- TVS	
Other:		E. Coli (per 100 mL)	--- 126	Chromium III(T)	50 ---	
*Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		Inorganic (mg/L)		Chromium VI	TVS TVS	
		acute chronic		Copper	TVS TVS	
		Ammonia	TVS TVS	Iron	--- WS	
		Boron	--- 0.75	Iron(T)	--- 1000	
		Chloride	--- 250	Lead	TVS TVS	
		Chlorine	0.019 0.011	Lead(T)	50 ---	
		Cyanide	0.005 ---	Manganese	TVS TVS/WS	
		Nitrate	10 ---	Mercury(T)	--- 0.01	
		Nitrite	0.5 ---	Molybdenum(T)	--- 150	
		Phosphorus	--- ---	Nickel	TVS TVS	
		Sulfate	--- WS	Nickel(T)	--- 100	
		Sulfide	--- 0.002	Selenium	TVS TVS	
				Silver	TVS TVS	
				Uranium	varies* varies*	
				Zinc	TVS TVS	
7b. Prospect Lake, Quail Lake, and Monument Lake.						
COARFO07B	Classifications	Physical and Biological			Metals (ug/L)	
Designation	Agriculture	DM	MWAT	acute chronic		
UP	Aq Life Warm 2	Temperature °C	WL WL	Arsenic	340 ---	
	Recreation E	acute chronic		Arsenic(T)	--- 7.6	
		D.O. (mg/L)	--- 5.0	Cadmium	TVS TVS	
Qualifiers:		pH	6.5 - 9.0 ---	Chromium III	TVS TVS	
Fish Ingestion Standards Apply		chlorophyll a (ug/L)	--- 20*	Chromium III(T)	--- 100	
Other:		E. Coli (per 100 mL)	--- 126	Chromium VI	TVS TVS	
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		Inorganic (mg/L)		Copper	TVS TVS	
		acute chronic		Iron(T)	--- 1000	
		Ammonia	TVS TVS	Lead	TVS TVS	
		Boron	--- 0.75	Manganese	TVS TVS	
		Chloride	--- ---	Mercury(T)	--- 0.01	
		Chlorine	0.019 0.011	Molybdenum(T)	--- 150	
		Cyanide	0.005 ---	Nickel	TVS TVS	
		Nitrate	100 ---	Selenium	TVS TVS	
		Nitrite	0.5 ---	Silver	TVS TVS	
		Phosphorus	--- 0.083*	Uranium	varies* varies*	
		Sulfate	--- ---	Zinc	TVS TVS	
		Sulfide	--- 0.002			

D.O. = dissolved oxygen  
DM = daily maximum  
MWAT = maximum weekly average temperature  
See 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Fountain Creek Basin

8. All lakes and reservoirs tributary to the mainstem of Fountain Creek from the source to a point immediately above the confluence with Monument Creek, except for specific listings in segment 9.							
COARFO08	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Cold 1	Temperature °C	CL	CL	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02	
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS	TVS
	DUWS*	D.O. (spawning)	---	7.0	Cadmium(T)	5.0	---
Qualifiers:		pH	6.5 - 9.0	---	Chromium III	---	TVS
Other:		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50	---
Temporary Modification(s):		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
Arsenic(chronic) = hybrid					Copper	TVS	TVS
Expiration Date of 12/31/2024		Inorganic (mg/L)			Iron	---	WS
		acute	chronic	Iron(T)	---	1000	
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area.		Ammonia	TVS	TVS	Lead	TVS	TVS
*Classification: DUWS applies to Big Tooth Reservoir, Lake Moraine, Woodmoor Lake		Boron	---	0.75	Lead(T)	50	---
*Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area.		Chloride	---	250	Manganese	TVS	TVS/WS
*Uranium(acute) = See 32.5(3) for details.		Chlorine	0.019	0.011	Mercury(T)	---	0.01
*Uranium(chronic) = See 32.5(3) for details.		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.025*	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	TVS
9. North Catamount Reservoir, South Catamount Reservoir, and Crystal Creek Reservoir.							
COARFO09	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Cold 1	Temperature °C	CLL	CLL	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02	
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS	TVS
	DUWS*	D.O. (spawning)	---	7.0	Cadmium(T)	5.0	---
Qualifiers:		pH	6.5 - 9.0	---	Chromium III	---	TVS
Other:		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50	---
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area.					Copper	TVS	TVS
*Classification: All reservoirs=DUWS		Inorganic (mg/L)			Iron	---	WS
*Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area.		acute	chronic	Iron(T)	---	1000	
*Uranium(acute) = See 32.5(3) for details.		Ammonia	TVS	TVS	Lead	TVS	TVS
*Uranium(chronic) = See 32.5(3) for details.		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.025*	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Fountain Creek Basin

10. All lakes and reservoirs tributary to Fountain Creek which are within the boundaries of National Forest or Air Force Academy lands from a point immediately above the confluence with Monument Creek to the confluence with the Arkansas River, except for specific listings in Segment 11. This segment includes Rampart Reservoir.

COARFO10	Classifications	Physical and Biological		Metals (ug/L)	
Designation	Agriculture	DM	MWAT	acute	chronic
Reviewable	Aq Life Cold 1	Temperature °C	CL,CLL CL,CLL	Arsenic	340 ---
	Recreation E	acute	chronic	Arsenic(T)	--- 0.02
	Water Supply	D.O. (mg/L)	--- 6.0	Cadmium	TVS TVS
	DUWS*	D.O. (spawning)	--- 7.0	Cadmium(T)	5.0 ---
Qualifiers:		pH	6.5 - 9.0 ---	Chromium III	--- TVS
Other:		chlorophyll a (ug/L)	--- 8*	Chromium III(T)	50 ---
		E. Coli (per 100 mL)	--- 126	Chromium VI	TVS TVS
		Inorganic (mg/L)		Copper	TVS TVS
		acute	chronic	Iron	--- WS
		Ammonia	TVS TVS	Iron(T)	--- 1000
		Boron	--- 0.75	Lead	TVS TVS
		Chloride	--- 250	Lead(T)	50 ---
		Chlorine	0.019 0.011	Manganese	TVS TVS/WS
		Cyanide	0.005 ---	Mercury(T)	--- 0.01
		Nitrate	10 ---	Molybdenum(T)	--- 150
		Nitrite	0.05 ---	Nickel	TVS TVS
		Phosphorus	--- 0.025*	Nickel(T)	--- 100
		Sulfate	--- WS	Selenium	TVS TVS
		Sulfide	--- 0.002	Silver	TVS TVS(tr)
				Uranium	varies* varies*
				Zinc	TVS TVS

11. AFA Non Potable Reservoir #1 (38.70939, -104.82928) and all lakes and reservoirs tributary to Fountain Creek from a point immediately above the confluence with Monument Creek to the confluence with the Arkansas River, excluding lakes and reservoirs within the boundaries of the National Forest and other lakes on Air Force Academy lands and the specific listings in segments 7a and 7b.

COARFO11	Classifications	Physical and Biological		Metals (ug/L)	
Designation	Agriculture	DM	MWAT	acute	chronic
UP	Aq Life Warm 2	Temperature °C	WL WL	Arsenic	340 ---
	Recreation E	acute	chronic	Arsenic(T)	--- 0.02-10 <sup>A</sup>
	Water Supply	D.O. (mg/L)	--- 5.0	Cadmium	TVS TVS
	DUWS*	pH	6.5 - 9.0 ---	Cadmium(T)	5.0 ---
Qualifiers:		chlorophyll a (ug/L)	--- 20*	Chromium III	--- TVS
Other:		E. Coli (per 100 mL)	--- 126	Chromium III(T)	50 ---
		Inorganic (mg/L)		Chromium VI	TVS TVS
		acute	chronic	Copper	TVS TVS
		Ammonia	TVS TVS	Iron	--- WS
		Boron	--- 0.75	Iron(T)	--- 1000
		Chloride	--- 250	Lead	TVS TVS
		Chlorine	0.019 0.011	Lead(T)	50 ---
		Cyanide	0.005 ---	Manganese	TVS TVS/WS
		Nitrate	10 ---	Mercury(T)	--- 0.01
		Nitrite	0.5 ---	Molybdenum(T)	--- 150
		Phosphorus	--- 0.083*	Nickel	TVS TVS
		Sulfate	--- WS	Nickel(T)	--- 100
		Sulfide	--- ---	Selenium	TVS TVS
				Silver	TVS TVS
				Uranium	varies* varies*
				Zinc	TVS 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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Lower Arkansas River Basin

1a. Mainstem of the Arkansas River from a point immediately above the confluence with Fountain Creek to immediately above the Colorado Canal headgate near Avondale.						
COARLA01A	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
UP	Aq Life Warm 2	Temperature °C	varies*	varies*	Arsenic	340
	Recreation E				Arsenic(T)	---
	Water Supply					0.02-10 <sup>A</sup>
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium	TVS
Other:		pH	6.5 - 9.0	---	Cadmium(T)	5.0
Discharger Specific Variance(s): Selenium(acute) = 19.1 µg/L: narrative Selenium(chronic) = 14.1 µg/L: narrative Sulfate(chronic) = 329 mg/L: narrative Expiration Date of 12/31/2028  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details. *Temperature = DM=WS-II and MWAT=WS-II from 1/1-11/30 DM= 21.5 and MWAT=20.7 from 12/1-12/31 *Variance: Selenium = see 32.6(6)(c) for details on variance for City of Pueblo. *Variance: Sulfate = see 32.6(6)(c) for details on variance for City of Pueblo.		chlorophyll a (mg/m <sup>2</sup> )	---	---	Chromium III	---
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50
		Inorganic (mg/L)			Chromium VI	TVS
					Copper	TVS
					Iron	---
		Ammonia	TVS	TVS	Iron(T)	---
		Boron	---	0.75	Lead	TVS
		Chloride	---	250	Lead(T)	50
		Chlorine	0.019	0.011	Manganese	TVS
		Cyanide	0.005	---	Mercury(T)	---
		Nitrate	10	---	Molybdenum(T)	---
		Nitrite	0.5	---	Nickel	TVS
		Phosphorus	---	---	Nickel(T)	---
		Sulfate	---	329	Selenium	19.1
		Sulfide	---	0.002	Silver	TVS
					Uranium	varies*
					Zinc	TVS
1b. Mainstem of the Arkansas River from the Colorado Canal headgate to the inlet to John Martin Reservoir.						
COARLA01B	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340
	Recreation E				Arsenic(T)	---
	Water Supply					0.02
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium	TVS
Water + Fish Standards Apply		pH	6.5 - 9.0	---	Cadmium(T)	5.0
Other:		chlorophyll a (mg/m <sup>2</sup> )	---	---	Chromium III	---
Temporary Modification(s): Arsenic(chronic) = hybrid Expiration Date of 12/31/2024  Discharger Specific Variance(s): Selenium(chronic) = See Section 32.6(6)(d)(ii) for details on variance for the City of Las Animas. Expiration Date of 12/31/2025  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		E. Coli (per 100 mL)	---	126	Chromium III(T)	50
		Inorganic (mg/L)			Chromium VI	TVS
					Copper	TVS
					Iron	---
		Ammonia	TVS	TVS	Iron(T)	---
		Boron	---	0.75	Lead	TVS
		Chloride	---	250	Lead(T)	50
		Chlorine	0.019	0.011	Manganese	TVS
		Cyanide	0.005	---	Mercury(T)	---
		Nitrate	10	---	Molybdenum(T)	---
		Nitrite	0.5	---	Nickel	TVS
		Phosphorus	---	---	Nickel(T)	---
		Sulfate	---	902	Selenium	TVS
		Sulfide	---	0.002	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Lower Arkansas River Basin

1c. Mainstem of the Arkansas River from the outlet of John Martin Reservoir to the Colorado/Kansas border.							
COARLA01C	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02	
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
Water + Fish Standards Apply		chlorophyll a (mg/m²)	---	---	Chromium III	---	TVS
Other:		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
Temporary Modification(s): Arsenic(chronic) = hybrid Expiration Date of 12/31/2024  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		Inorganic (mg/L)		Chromium VI	TVS	TVS	
		acute	chronic	Copper	TVS	TVS	
		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/190
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	---	Nickel	TVS	TVS
		Sulfate	---	1900	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	TVS
2a. All tributaries to the Arkansas River, including wetlands, from the Colorado Canal headgate to the Colorado/Kansas border except for specific listings in segments 2b, 2c, 2d, 3a, through 9b, and Middle Arkansas Basin listings.							
COARLA02A	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
UP	Aq Life Warm 2	Temperature °C	WS-III	WS-III	Arsenic	340	---
	Recreation N	acute	chronic	Arsenic(T)	---	0.02-10 <sup>A</sup>	
	Water Supply	D.O. (mg/L)	---	5.0	Beryllium(T)	---	4.0
Qualifiers:		pH	6.5 - 9.0	---	Cadmium	TVS	TVS
Other:		chlorophyll a (mg/m²)	---	---	Cadmium(T)	5.0	---
*Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		E. Coli (per 100 mL)	---	630	Chromium III	---	TVS
		Inorganic (mg/L)		Chromium III(T)	50	---	
		acute	chronic	Chromium VI	TVS	TVS	
		Ammonia	TVS	TVS	Copper	TVS	TVS
		Boron	---	0.75	Iron	---	WS
		Chloride	---	250	Iron(T)	---	1000
		Chlorine	0.019	0.011	Lead	TVS	TVS
		Cyanide	0.005	---	Lead(T)	50	---
		Nitrate	10	---	Manganese	TVS	TVS/WS
		Nitrite	0.5	---	Mercury(T)	---	0.01
		Phosphorus	---	0.17*	Molybdenum(T)	---	150
		Sulfate	---	WS	Nickel	TVS	TVS
		Sulfide	---	0.002	Nickel(T)	---	100
					Selenium	TVS	TVS
					Silver	TVS	TVS
			Uranium	varies*	varies*		
			Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Lower Arkansas River Basin

2b. King Arroyo.							
COARLA02B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
UP	Aq Life Warm 2	Temperature °C	WS-III	WS-III	Arsenic(T)	---	200
	Recreation E	acute	chronic	Cadmium(T)	---	50	
Qualifiers:		D.O. (mg/L)	---	5.0	Chromium III	TVS	TVS
Livestock Watering Only		pH	6.5 - 9.0	---	Chromium III(T)	---	1000
Other:  *chlorophyll a (mg/m²)(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	150*	Chromium VI(T)	---	1000
		E. Coli (per 100 mL)	---	126	Copper(T)	---	500
		Inorganic (mg/L)			Iron	---	---
		acute	chronic	Lead(T)	---	100	
		Ammonia	---	---	Manganese	---	---
		Boron	---	5.0	Mercury(T)	---	10
		Chloride	---	---	Molybdenum(T)	---	150
		Chlorine	---	---	Nickel	---	---
		Cyanide	0.2	---	Selenium(T)	---	50
		Nitrate	100	---	Silver	---	---
		Nitrite	10	---	Uranium	varies*	varies*
		Phosphorus	---	0.17*	Zinc(T)	---	25000
		Sulfate	---	---			
		Sulfide	---	---			
2c. Mainstem of Wildhorse Creek, including all tributaries, from a point immediately below US Highway 287 in Kit Carson to the confluence with Big Sandy Creek.							
COARLA02C	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
UP	Aq Life Warm 2	Temperature °C	WS-III	WS-III	Arsenic(T)	---	100
	Recreation N	acute	chronic	Beryllium(T)	---	100	
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium(T)	---	50
Other:  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	TVS	TVS
		chlorophyll a (mg/m²)	---	---	Chromium III(T)	---	100
		E. Coli (per 100 mL)	---	630	Chromium VI(T)	---	100
		Inorganic (mg/L)			Copper(T)	---	200
		acute	chronic	Iron	---	---	
		Ammonia	---	---	Lead(T)	---	100
		Boron	---	0.75	Manganese	---	---
		Chloride	---	---	Mercury(T)	---	---
		Chlorine	---	---	Molybdenum(T)	---	150
		Cyanide	0.2	---	Nickel(T)	---	200
		Nitrate	100	---	Selenium(T)	---	50
		Nitrite	10	---	Silver	---	---
		Phosphorus	---	0.17	Uranium	varies*	varies*
		Sulfate	---	---	Zinc(T)	---	2000
		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 32.6 for further details on applied standards.



# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Lower Arkansas River Basin

2d. Unnamed tributary from the source north of county road 350 (37.304487, -104.29068) to the confluence with the Purgatoire.							
COARLA02D	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT		acute	chronic	
UP	Aq Life Warm 2	Temperature °C	WS-III	WS-III	Arsenic	340	---
	Recreation N	acute	chronic		Arsenic(T)	---	100
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Other:  *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	TVS	TVS
		chlorophyll a (mg/m²)	---	---	Chromium III(T)	---	100
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
		Inorganic (mg/L)			Copper	TVS	TVS
			acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Manganese	TVS	TVS
		Chloride	---	250	Mercury(T)	---	0.01
		Chlorine	0.019	0.011	Molybdenum(T)	---	150
		Cyanide	0.005	---	Nickel	TVS	TVS
		Nitrate	100	---	Selenium	TVS	TVS
		Nitrite	0.5	---	Silver	TVS	TVS
		Phosphorus	---	0.17*	Uranium	varies*	varies*
		Sulfate	---	---	Zinc	TVS	TVS
		Sulfide	---	0.002			
3a. Mainstem of the Apishapa River, including all tributaries and wetlands, from the source to I-25, except for specific listings in Middle Arkansas segment 1 and Lower Arkansas segments 3b and 3c.							
COARLA03A	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT		acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	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:  Temporary Modification(s): Arsenic(chronic) = hybrid Expiration Date of 12/31/2024  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	---	TVS
		chlorophyll a (mg/m²)	---	150	Chromium III(T)	50	---
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
		Inorganic (mg/L)			Copper	TVS	TVS
			acute	chronic	Iron	---	WS
		Ammonia	TVS	TVS	Iron(T)	---	1000
		Boron	---	0.75	Lead	TVS	TVS
		Chloride	---	250	Lead(T)	50	---
		Chlorine	0.019	0.011	Manganese	TVS	TVS/WS
		Cyanide	0.005	---	Mercury(T)	---	0.01
		Nitrate	10	---	Molybdenum(T)	---	150
		Nitrite	0.05	---	Nickel	TVS	TVS
		Phosphorus	---	0.11	Nickel(T)	---	100
		Sulfate	---	WS	Selenium	TVS	TVS
		Sulfide	---	0.002	Silver	TVS	TVS(tr)
					Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# **REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS** **Lower Arkansas River Basin**

3b. Mainstem of West Torino Canyon Creek, North Fork, Middle Fork and mainstem of Trujillo Creek, Mitotes Canyon Creek, Luis Canyon Creek, Wheeler Canyon Creek, Mauricio Canyon Creek, Daisy Canyon Creek, Adobe Canyon Creek, Gonzales Canyon Creek, Frio Canyon Creek, Borrego Canyon Creek, Munoz Canyon Creek, William Canyon Creek and Castro Canyon Creek, including all tributaries, from their sources to their confluences with the Apishapa River, except for the specific listings in Middle Arkansas segment 1.

COARLA03B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute		chronic	
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation N	acute	chronic	Arsenic(T)	---	0.02-10	<sup>A</sup>
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium(T)	5.0	---
Qualifiers:		pH	6.5 - 9.0	---	Chromium III	---	TVS
Other:  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	---	Chromium III(T)	50	---
		E. Coli (per 100 mL)	---	630	Chromium VI(T)	50	---
		Inorganic (mg/L)		Copper(T)	200	---	
		acute		chronic	Iron	---	WS
		Ammonia	---	0.5	Lead(T)	50	---
		Boron	---	0.75	Manganese	---	WS
		Chloride	---	250	Mercury(T)	2.0	---
		Chlorine	---	---	Molybdenum(T)	---	150
		Cyanide	0.2	---	Nickel(T)	---	100
		Nitrate	10	---	Selenium(T)	---	20
		Nitrite	1.0	---	Silver(T)	100	---
		Phosphorus	---	0.17	Uranium	varies*	varies*
		Sulfate	---	WS	Zinc(T)	---	2000
		Sulfide	---	0.05			

3c. The mainstem of Jarosa Canyon Creek including all tributaries from the source to the confluence with the Apishapa River.

COARLA03C	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT		acute	chronic	
Reviewable	Aq Life Cold 2	Temperature °C	CS-II	CS-II	Arsenic	340	---
	Recreation E	acute	chronic		Arsenic(T)	---	0.02-10 <sup>A</sup>
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS	TVS
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0	---
Other:  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	---	TVS
		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III(T)	50	---
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
					Copper	TVS	TVS
		Inorganic (mg/L)			Iron	---	WS
			acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
Sulfide	---	0.002	Uranium	varies*	varies*		
			Zinc	TVS	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 32.6 for further details on applied standards.

## REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

### Lower Arkansas River Basin

4a. Mainstem of the Apishapa River from I-25 to the confluence with the Arkansas River. Mainstem of Timpas Creek from the source to the Arkansas River.							
COARLA04A	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
UP	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02	
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
Other:  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	150	Chromium III	---	TVS
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
		Inorganic (mg/L)		Chromium VI	TVS	TVS	
		acute	chronic	Copper	TVS	TVS	
		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron(T)	---	1805
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	0.17	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	TVS

4b. Mainstem of Lorencito Canyon, from the source to the confluence with the Purgatoire River.							
COARLA04B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	100	
		D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Chromium III	TVS	TVS
Other:  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	150	Chromium III(T)	---	100
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
		Inorganic (mg/L)		Copper	TVS	TVS	
		acute	chronic	Iron(T)	---	1000	
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	4.0	Manganese	TVS	TVS
		Chloride	---	---	Mercury(T)	---	0.01
		Chlorine	0.019	0.011	Molybdenum(T)	---	150
		Cyanide	0.005	---	Nickel	TVS	TVS
		Nitrate	100	---	Selenium	TVS	TVS
		Nitrite	0.5	---	Silver	TVS	TVS
		Phosphorus	---	0.17	Uranium	varies*	varies*
		Sulfate	---	---	Zinc	TVS	TVS
		Sulfide	---	0.002			

4b. Mainstem of Lorencito Canyon, from the source to the confluence with the Purgatoire River.							
COARLA04B Classifications		Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT		acute	chronic
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E		acute	chronic	Arsenic(T)	---	100
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Other:  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	TVS	TVS
		chlorophyll a (mg/m²)	---	150	Chromium III(T)	---	100
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
		Inorganic (mg/L)			Copper	TVS	TVS
			acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	4.0	Manganese	TVS	TVS
		Chloride	---	---	Mercury(T)	---	0.01
		Chlorine	0.019	0.011	Molybdenum(T)	---	150
		Cyanide	0.005	---	Nickel	TVS	TVS
		Nitrate	100	---	Selenium	TVS	TVS
		Nitrite	0.5	---	Silver	TVS	TVS
		Phosphorus	---	0.17	Uranium	varies*	varies*
		Sulfate	---	---	Zinc	TVS	TVS
		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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Lower Arkansas River Basin

5a. Mainstem of the North Fork of the Purgatoire River, including all tributaries and wetlands, from the source to a point immediately below the confluence with Guajatoyah Creek; mainstem of the Middle Fork of the Purgatoire River, including all tributaries and wetlands, from the source to the Bar Ni Ranch Road at Stonewall Gap; Mainstem of the South Fork of the Purgatoire River, including all tributaries and wetlands, from the source to Tercio.

COARLA05A	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 <sup>2</sup> )	---	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
*Uranium(acute) = See 32.5(3) for details.		Inorganic (mg/L)			Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		acute		chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	4.0	Lead(T)	50	---
		Chloride	---	250	Manganese	TVS	TVS/WS
		Chlorine	0.019	0.011	Mercury(T)	---	0.01
		Cyanide	0.005	---	Molybdenum(T)	---	150
		Nitrate	10	---	Nickel	TVS	TVS
		Nitrite	0.05	---	Nickel(T)	---	100
		Phosphorus	---	0.11	Selenium	TVS	TVS
		Sulfate	---	WS	Silver	TVS	TVS(tr)
		Sulfide	---	0.002	Uranium	varies*	varies*
					Zinc	TVS	TVS

5b. Mainstem of the North Fork of the Purgatoire River, including all tributaries and wetlands, from a point immediately below the confluence with Guajatoyah Creek to the confluence with the Purgatoire River. Mainstem of the Middle Fork of the Purgatoire River from the Bar Ni Ranch Road at Stonewall Gap to the confluence with the North Fork of the Purgatoire River. Mainstem of the South Fork of the Purgatoire River from Tercio to the confluence with the Purgatoire River. Mainstem of the Purgatoire River to Trinidad Lake. Mainstem of Long Canyon Creek from the source to Trinidad Reservoir.

COARLA05B		Classifications			Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM		MWAT				acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	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 <sup>2</sup> )	---	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	
*chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		Inorganic (mg/L)			Iron			---	WS	
		acute		chronic	Iron(T)			---	1000	
		Ammonia	TVS	TVS	Lead			TVS	TVS	
		Boron	---	4.0	Lead(T)			50	---	
		Chloride	---	250	Manganese			TVS	TVS/WS	
		Chlorine	0.019	0.011	Mercury(T)			---	0.01	
		Cyanide	0.005	---	Molybdenum(T)			---	150	
		Nitrate	10	---	Nickel			TVS	TVS	
		Nitrite	0.05	---	Nickel(T)			---	100	
		Phosphorus	---	0.11*	Selenium			TVS	TVS	
		Sulfate	---	WS	Silver			TVS	TVS(tr)	
		Sulfide	---	0.002	Uranium			varies*	varies*	
					Zinc			TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Lower Arkansas River Basin

5c. Purgatoire mainstem from Trinidad Lake outlet works to I-25. Mainstem of Raton Creek from the source to the confluence of Purgatoire River.						
COARLA05C	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	CS-II	CS-II	Arsenic	340
	Recreation E	acute	chronic	Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
Other:		pH	6.5 - 9.0	---	Chromium III	---
Temporary Modification(s):		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Chromium III(T)	50
Arsenic(chronic) = hybrid		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
Expiration Date of 12/31/2024					Copper	TVS
*chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		Inorganic (mg/L)		Iron	---	WS
		acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS
		Boron	---	2.0	Lead(T)	50
		Chloride	---	250	Manganese	TVS
		Chlorine	0.019	0.011	Mercury(T)	---
		Cyanide	0.005	---	Molybdenum(T)	---
		Nitrate	10	---	Nickel	TVS
		Nitrite	0.05	---	Nickel(T)	---
		Phosphorus	---	0.11*	Selenium	TVS
		Sulfate	---	WS	Silver	TVS
		Sulfide	---	0.002	Uranium	varies*
					Zinc	TVS
						TVS
						TVS
						TVS
						TVS
						TVS
6a. All tributaries to the Purgatoire River, including all wetlands, from the source to Interstate 25, except for specific listings in segments 4b, 5a, 5b, 5c and 6b.						
COARLA06A	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
UP	Aq Life Cold 2	Temperature °C	CS-II	CS-II	Arsenic	340
	Recreation E	acute	chronic	Arsenic(T)	---	100
Qualifiers:		D.O. (mg/L)	---	6.0	Cadmium	TVS
Other:		D.O. (spawning)	---	7.0	Chromium III	TVS
*chlorophyll a (mg/m <sup>2</sup> )(chronic) = applies only above the facilities listed at 32.5(4). *Phosphorus(chronic) = applies only above the facilities listed at 32.5(4). *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III(T)	---
		chlorophyll a (mg/m <sup>2</sup> )	---	150*	Chromium VI	TVS
		E. Coli (per 100 mL)	---	126	Copper	TVS
					Iron(T)	---
		Inorganic (mg/L)		Lead	TVS	TVS
		acute	chronic	Manganese	TVS	TVS
		Ammonia	TVS	TVS	Mercury(T)	---
		Boron	---	4.0	Molybdenum(T)	---
		Chloride	---	---	Nickel	TVS
		Chlorine	0.019	0.011	Selenium	TVS
		Cyanide	0.005	---	Silver	TVS
		Nitrate	100	---	Uranium	varies*
		Nitrite	0.5	---	Zinc	TVS
		Phosphorus	---	0.11*		TVS
		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 32.6 for further details on applied standards.

6b. Wet Canyon and all tributaries, including wetlands, from the source to the confluence with the Purgatoire River.								
COARLA06B	Classifications	Physical and Biological			Metals (ug/L)			
Designation		DM	MWAT		acute	chronic		
UP	Agriculture							
	Aq Life Cold 2	Temperature °C	CS-II	CS-II	Arsenic(T)	---	0.02-10 <sup>A</sup>	
	Recreation E		acute	chronic	Beryllium(T)	---	4.0	
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS	TVS	
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium(T)	5.0	---	
<b>Other:</b>  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	---	TVS	
		chlorophyll a (mg/m <sup>2</sup> )	---	---	Chromium III(T)	50	---	
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS	
					Copper	TVS	TVS	
					Iron	---	WS	
					Iron(T)	---	1000	
					Lead	TVS	TVS	
					Lead(T)	50	---	
					Manganese	TVS	TVS/WS	
					Mercury(T)	---	0.01	
					Molybdenum(T)	---	150	
					Nickel	TVS	TVS	
					Nickel(T)	---	100	
					Selenium	TVS	TVS	
					Silver	TVS	TVS	
					Uranium	varies*	varies*	
					Zinc	TVS	TVS	
		7. Mainstem of the Purgatoire River from Interstate 25 to the confluence with the Arkansas River.						
		COARLA07	Classifications	Physical and Biological			Metals (ug/L)	
		Designation		DM	MWAT		acute	chronic
Reviewable	Agriculture							
	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Arsenic	340	---	
	Water Supply		acute	chronic	Arsenic(T)	---	0.02	
	Recreation E	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS	
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---	
<b>Other:</b>  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m <sup>2</sup> )	---	---	Chromium III	---	TVS	
		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---	
					Chromium VI	TVS	TVS	
					Copper	TVS	TVS	
					Iron	---	WS	
					Iron(T)	---	1000	
					Lead	TVS	TVS	
					Lead(T)	50	---	
					Manganese	TVS	TVS/WS	
					Mercury(T)	---	0.01	
					Molybdenum(T)	---	150	
					Nickel	TVS	TVS	
					Nickel(T)	---	100	
					Selenium	TVS	TVS	
					Silver	TVS	TVS	
					Uranium	varies*	varies*	
					Zinc	TVS	TVS	

D.O. = dissolved oxygen  
DM = daily maximum  
MWAT = maximum weekly average temperature  
See 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Lower Arkansas River Basin

8. Mainstem of Ricardo Creek, including all tributaries and wetlands, which are within Colorado (Costilla and Las Animas Counties), mainstem of the Canadian River, including all tributaries, wetlands, lakes and reservoirs.

COARLA08	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
<b>Qualifiers:</b>		D.O. (spawning)	---	7.0	Cadmium(T)	5.0	---
<b>Other:</b>		pH	6.5 - 9.0	---	Chromium III	---	TVS
*Uranium(acute) = See 32.5(3) for details.		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III(T)	50	---
*Uranium(chronic) = See 32.5(3) for details.		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
		Inorganic (mg/L)			Copper	TVS	TVS
		acute		chronic	Iron	---	WS
		Ammonia	TVS	TVS	Iron(T)	---	1000
		Boron	---	0.75	Lead	TVS	TVS
		Chloride	---	250	Lead(T)	50	---
		Chlorine	0.019	0.011	Manganese	TVS	TVS/WS
		Cyanide	0.005	---	Mercury(T)	---	0.01
		Nitrate	10	---	Molybdenum(T)	---	150
		Nitrite	0.05	---	Nickel	TVS	TVS
		Phosphorus	---	0.11	Nickel(T)	---	100
		Sulfate	---	WS	Selenium	TVS	TVS
		Sulfide	---	0.002	Silver	TVS	TVS(tr)
					Uranium	varies*	varies*
					Zinc	TVS	TVS

9a. Mainstems of Adobe, Buffalo, Cheyenne, Clay, Gageby, Horse, Two Butte, Wildhorse and Wolf Creeks from their sources to their confluences with the Arkansas River. Mainstems of Chacuacho Creek, San Francisco Creek, Trinchera Creek and Van Bremer Arroyo from their sources to their confluences with the Purgatoire River. Mainstem of Willow Creek from Highway 287 to the confluence with the Arkansas River. Mainstem of Big Sandy Creek from the source to the El Paso/Elbert county line. Mainstem of South Rush Creek from the source to the confluence with Rush Creek. Mainstem of Middle Rush Creek from the source to the confluence with North Rush Creek. North Rush Creek from the source to the confluence with South Rush Creek. Mainstem of Rush Creek to the Lincoln County Line. Mainstem of Antelope Creek from the source to the confluence with Rush Creek; the West May Valley drain from the Fort Lyon Canal to the confluence with the Arkansas River.

COARLA09A	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM		MWAT	acute		chronic
Reviewable	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute		chronic	Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
<b>Qualifiers:</b>		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
<b>Other:</b>		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III	---	TVS
Temporary Modification(s):		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
Arsenic(chronic) = hybrid		Inorganic (mg/L)			Chromium VI	TVS	TVS
Expiration Date of 12/31/2024		acute		chronic	Copper	TVS	TVS
*Uranium(acute) = See 32.5(3) for details.		Ammonia	TVS	TVS	Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	0.17	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Lower Arkansas River Basin

9b. Mainstem of Apache Creek from the source to the confluence with the North Rush Creek. Mainstem of Breckenridge Creek from the source to the confluence with Horse Creek. Mainstem of Little Horse Creek from the source to the confluence with Horse Creek. Mainstem of Bob Creek from the source to Meredith Reservoir. Mainstem of Big Sandy Creek within Prowers County. Mainstem of Rule Creek from the Bent/Las Animas county line to John Martin Reservoir. Mainstem of Muddy Creek from the south boundary of the Setchfield State Wildlife Area to the confluence with Rule Creek. Mainstem of Caddoa Creek from CC Road to the confluence with the Arkansas River. Mainstem of Cat Creek from the source to the confluence with Clay Creek. Mainstem of Mustang Creek from the source to the confluence with Apishapa River. Mainstem of Chicosa Creek from the source to the Arkansas River. Mainstem of Smith Canyon from the Otero/Las Animas county line to the confluence with the Purgatoire River. Mainstem of Mud Creek from V Road to the confluence with the Arkansas River. Mainstems of Frijole Creek and Luning Arroyo from their sources to their confluences with the Purgatoire River. Mainstem of Blackwell Arroyo from its source to the confluence with Luning Arroyo. Mainstem of San Isidro Creek from the source to the confluence with San Francisco Creek.

COARLA09B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT		acute	chronic	
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic	340	---
	Recreation E	acute	chronic		Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
<b>Qualifiers:</b>		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
<b>Water + Fish Standards Apply</b>		chlorophyll a (mg/m <sup>2</sup> )	---	150	Chromium III	---	TVS
<b>Other:</b>		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
Temporary Modification(s):		<b>Inorganic (mg/L)</b>			Chromium VI	TVS	TVS
Arsenic(chronic) = hybrid		acute	chronic		Copper	TVS	TVS
Expiration Date of 12/31/2024		Ammonia	TVS	TVS	Iron	---	WS
*Uranium(acute) = See 32.5(3) for details.		Boron	---	0.75	Iron(T)	---	1000
*Uranium(chronic) = See 32.5(3) for details.		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	0.17	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	TVS

10. Two Buttes Reservoir, Two Buttes Pond, Hasty Lake, Holbrook Reservoir, Burchfield Lake, Nee-Skah (Queens) Reservoir, Adobe Creek Reservoir, Neeso Pah Reservoir, Nee Noshe Reservoir; Nee Gronda Reservoir.

COARLA10	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT		acute	chronic	
Reviewable	Aq Life Warm 1	Temperature °C	WL	WL	Arsenic	340	---
	Recreation E	acute	chronic		Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
<b>Qualifiers:</b>		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
<b>Other:</b>		chlorophyll a (mg/m <sup>2</sup> )	---	---	Chromium III	---	TVS
*Uranium(acute) = See 32.5(3) for details.		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
*Uranium(chronic) = See 32.5(3) for details.		<b>Inorganic (mg/L)</b>			Chromium VI	TVS	TVS
		acute	chronic		Copper	TVS	TVS
		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.05	---	Molybdenum(T)	---	150
		Phosphorus	---	---	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.



# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Lower Arkansas River Basin

11. John Martin Reservoir.							
COARLA11	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT	acute	chronic	
Reviewable	Aq Life Warm 1	Temperature °C	WL	WL	Arsenic	340	---
	Recreation E		acute	chronic	Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
Other:		chlorophyll a (mg/m²)	---	---	Chromium III	---	TVS
Temporary Modification(s):		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
Arsenic(chronic) = hybrid		Inorganic (mg/L)			Chromium VI	TVS	TVS
Expiration Date of 12/31/2024			acute	chronic	Copper	TVS	TVS
*Uranium(acute) = See 32.5(3) for details.		Ammonia	TVS	TVS	Iron	---	WS
*Uranium(chronic) = See 32.5(3) for details.		Boron	---	0.75	Iron(T)	---	1000
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	---	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	TVS

12. Lake Henry, Lake Meredith.							
COARLA12	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT	acute	chronic	
Reviewable	Aq Life Warm 1	Temperature °C	WL	WL	Arsenic	340	---
	Recreation E		acute	chronic	Arsenic(T)	---	7.6
		D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Chromium III	TVS	TVS
Other:		chlorophyll a (mg/m²)	---	---	Chromium III(T)	---	100
*Uranium(acute) = See 32.5(3) for details.		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
*Uranium(chronic) = See 32.5(3) for details.		Inorganic (mg/L)			Copper	TVS	TVS
			acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Manganese	TVS	TVS
		Chloride	---	---	Mercury(T)	---	0.01
		Chlorine	0.019	0.011	Molybdenum(T)	---	150
		Cyanide	0.005	---	Nickel	TVS	TVS
		Nitrate	100	---	Selenium	TVS	TVS
		Nitrite	0.5	---	Silver	TVS	TVS
		Phosphorus	---	---	Uranium	varies*	varies*
		Sulfate	---	---	Zinc	TVS	TVS
		Sulfide	---	0.002			

12. Lake Henry, Lake Meredith.						
COARLA12	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
Reviewable	Aq Life Warm 1	Temperature °C	WL WL	Arsenic	340	---
	Recreation E		acute chronic	Arsenic(T)	---	7.6
Qualifiers:	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Other:	pH	6.5 - 9.0	---	Chromium III	TVS	TVS
	chlorophyll a (mg/m <sup>2</sup> )	---	---	Chromium III(T)	---	100
*Uranium(acute) = See 32.5(3) for details.	E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
*Uranium(chronic) = See 32.5(3) for details.		Inorganic (mg/L)		Copper	TVS	TVS
		acute	chronic	Iron(T)	---	1000
	Ammonia	TVS	TVS	Lead	TVS	TVS
	Boron	---	0.75	Manganese	TVS	TVS
	Chloride	---	---	Mercury(T)	---	0.01
	Chlorine	0.019	0.011	Molybdenum(T)	---	150
	Cyanide	0.005	---	Nickel	TVS	TVS
	Nitrate	100	---	Selenium	TVS	TVS
	Nitrite	0.5	---	Silver	TVS	TVS
	Phosphorus	---	---	Uranium	varies*	varies*
	Sulfate	---	---	Zinc	TVS	TVS
	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Lower Arkansas River Basin

13. American Crystal Reservoir, Chancellor Ponds, Horse Creek Reservoir, Hugo Ponds, Jim Davis Pond, John Robertson Ponds, Karval Lake, Kinney Lake, Kissel Pond, La Junta Kids Pond, Las Animas Kids Pond, Mayhem Pond, Merit Lake, Olney Springs Pond, Otero Pond, Pursley Ponds, Ranch Reservoir, Reynolds Gravel Pit, Pyan Ponds, Thurston Reservoir, Turks Pond, Ramah Reservoir.

COARLA13	Classifications	Physical and Biological		Metals (ug/L)			
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Warm 1	Temperature °C	WL	WL	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	7.6	
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Other:  *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		pH	6.5 - 9.0	---	Chromium III	TVS	TVS
		chlorophyll a (mg/m²)	---	---	Chromium III(T)	---	100
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
		Inorganic (mg/L)		Copper	TVS	TVS	
		acute	chronic	Iron(T)	---	1000	
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Manganese	TVS	TVS
		Chloride	---	---	Mercury(T)	---	0.01
		Chlorine	0.019	0.011	Molybdenum(T)	---	150
		Cyanide	0.005	---	Nickel	TVS	TVS
		Nitrate	100	---	Selenium	TVS	TVS
		Nitrite	0.5	---	Silver	TVS	TVS
		Phosphorus	---	---	Uranium	varies*	varies*
		Sulfate	---	---	Zinc	TVS	TVS
		Sulfide	---	0.002			

14. All lakes and reservoirs tributary to the Apishapa River from the source to I-25, except for specific listings in Middle Arkansas segment 19.

COARLA14	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute		chronic	
Reviewable	Aq Life Cold 1	Temperature °C	CL	CL	Arsenic	340	---
	Recreation E	acute		chronic	Arsenic(T)	---	0.02
	Water Supply	D.O. (mg/L)	---	6.0	Cadmium	TVS	TVS
		D.O. (spawning)	---	7.0	Cadmium(T)	5.0	---
Qualifiers:		pH	6.5 - 9.0	---	Chromium III	---	TVS
<b>Other:</b>  *chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50	---
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
		Inorganic (mg/L)			Copper	TVS	TVS
		acute		chronic	Iron	---	WS
		Ammonia	TVS	TVS	Iron(T)	---	1000
		Boron	---	0.75	Lead	TVS	TVS
		Chloride	---	250	Lead(T)	50	---
		Chlorine	0.019	0.011	Manganese	TVS	TVS/WS
		Cyanide	0.005	---	Mercury(T)	---	0.01
		Nitrate	10	---	Molybdenum(T)	---	150
		Nitrite	0.05	---	Nickel	TVS	TVS
		Phosphorus	---	0.025*	Nickel(T)	---	100
		Sulfate	---	WS	Selenium	TVS	TVS
		Sulfide	---	0.002	Silver	TVS	TVS(tr)
					Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Lower Arkansas River Basin

15. All lakes and reservoirs tributary to the mainstem of the North Fork of the Purgatoire River from the source to a point immediately below the confluence with Guajatoyah Creek. All lakes and reservoirs tributary to the Middle Fork of the Purgatoire River from the source to the USGS gage at Stonewall. Mainstem of the South Fork of the Purgatoire River, from the source to Tercio. Monument Lake, North Lake, Trinidad Lake, Long Canyon Reservoir and Lake Dorothey.						
COARLA15	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
Reviewable	Aq Life Cold 1	Temperature °C	CL	CL	Arsenic	340
	Recreation E	Temperature °C	CLL*	CLL *	Arsenic(T)	---
	Water Supply				Cadmium	TVS
	DUWS*				Cadmium(T)	5.0
Qualifiers:		D.O. (mg/L)	---	6.0	Chromium III	---
Other:		D.O. (spawning)	---	7.0	Chromium III(T)	50
		pH	6.5 - 9.0	---	Chromium VI	TVS
		chlorophyll a (ug/L)	---	8*	Copper	TVS
		E. Coli (per 100 mL)	---	126	Iron	---
					Iron(T)	---
		Inorganic (mg/L)			Lead	TVS
					Lead(T)	50
		Ammonia	TVS	TVS	Manganese	TVS
		Boron	---	0.75	Mercury(T)	---
		Chloride	---	250	Molybdenum(T)	---
		Chlorine	0.019	0.011	Nickel	TVS
		Cyanide	0.005	---	Nickel(T)	---
		Nitrate	10	---	Selenium	TVS
		Nitrite	0.05	---	Silver	TVS
		Phosphorus	---	0.025*	Uranium	varies*
		Sulfate	---	WS	Zinc	TVS
		Sulfide	---	0.002		
16. All lakes and reservoirs tributary to the Purgatoire River from the source to I-25, except for the specific listings in segment 15 and 17.						
COARLA16	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
UP	Aq Life Cold 2	Temperature °C	CL	CL	Arsenic(T)	---
	Recreation E				Beryllium(T)	---
Qualifiers:		D.O. (mg/L)	---	6.0	Cadmium(T)	---
Other:		D.O. (spawning)	---	7.0	Chromium III	TVS
		pH	6.5 - 9.0	---	Chromium III(T)	---
		chlorophyll a (ug/L)	---	8*	Chromium VI(T)	---
		E. Coli (per 100 mL)	---	126	Copper(T)	---
					Iron	---
		Inorganic (mg/L)			Lead(T)	---
					Manganese	---
		Ammonia	---	---	Mercury(T)	---
		Boron	---	0.75	Molybdenum(T)	---
		Chloride	---	---	Nickel(T)	---
		Chlorine	---	---	Selenium(T)	---
		Cyanide	0.2	---	Silver	---
		Nitrate	100	---	Uranium	varies*
		Nitrite	10	---	Zinc(T)	---
		Phosphorus	---	0.025*		
		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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Lower Arkansas River Basin

17. All lakes and reservoirs tributary to Wet Canyon, from the source to the confluence with the Purgatoire River.						
COARLA17	Classifications	Physical and Biological			Metals (ug/L)	
Designation		DM	MWAT		acute	chronic
UP	Agriculture					
	Aq Life Cold 2	Temperature °C	CL	CL	Arsenic(T)	0.02-10 <sup>A</sup>
	Recreation E					
	Water Supply	acute	chronic			
Qualifiers:		D.O. (mg/L)	---	6.0	Beryllium(T)	4.0
		D.O. (spawning)	---	7.0	Cadmium(T)	5.0
					Chromium III	TVS
Other:		pH	6.5 - 9.0	---	Chromium III(T)	50
		chlorophyll a (ug/L)	---	8*	Chromium VI(T)	50
		E. Coli (per 100 mL)	---	126	Copper(T)	200
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		Inorganic (mg/L)			Iron	WS
		acute	chronic		Lead(T)	50
					Manganese	WS
	Ammonia	---	---		Mercury(T)	2.0
	Boron	---	0.75		Molybdenum(T)	150
	Chloride	---	250		Nickel(T)	100
	Chlorine	---	---		Nickel(T)	100
	Cyanide	0.2	---		Selenium(T)	20
	Nitrate	10	---		Silver(T)	100
	Nitrite	0.05	---		Uranium	varies*
	Phosphorus	---	0.025*		Zinc(T)	2000
	Sulfate	---	WS			
	Sulfide	---	0.05			

18. All lakes and reservoirs tributary to Ricardo Creek, which are within Colorado (Costilla and Las Animas Counties). All lakes and reservoirs tributary to the Canadian River.						
COARLA18	Classifications	Physical and Biological			Metals (ug/L)	
Designation		DM	MWAT		acute	chronic
Reviewable	Agriculture					
	Aq Life Cold 1	Temperature °C	CL	CL	Arsenic	340
	Recreation E					
	Water Supply	acute	chronic			
Qualifiers:		D.O. (mg/L)	---	6.0	Arsenic(T)	0.02
		D.O. (spawning)	---	7.0	Cadmium	TVS
					Cadmium(T)	TVS
Other:		pH	6.5 - 9.0	---	Chromium III	TVS
		chlorophyll a (ug/L)	---	8*	Chromium III(T)	50
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area. *Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		Inorganic (mg/L)			Copper	TVS
		acute	chronic		Iron	WS
					Iron(T)	1000
	Ammonia	TVS	TVS		Lead	TVS
	Boron	---	0.75		Lead(T)	50
	Chloride	---	250		Manganese	TVS
	Chlorine	0.019	0.011		Mercury(T)	0.01
	Cyanide	0.005	---		Molybdenum(T)	150
	Nitrate	10	---		Nickel	TVS
	Nitrite	0.05	---		Nickel(T)	100
	Phosphorus	---	0.025*		Selenium	TVS
	Sulfate	---	WS		Silver	TVS
	Sulfide	---	0.002		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 32.6 for further details on applied standards.

# REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Lower Arkansas River Basin

19. All lakes and reservoirs tributary to the Arkansas River, except for specific listings in segments 10-18 and Middle Arkansas Basin segments 19-28.							
COARLA19	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Warm 1	Temperature °C	WL	WL	Arsenic	340	---
	Recreation E	acute	chronic	Arsenic(T)	---	0.02	
	Water Supply	D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
Qualifiers:		pH	6.5 - 9.0	---	Cadmium(T)	5.0	---
Other:		chlorophyll a (ug/L)	---	20*	Chromium III	---	TVS
Temporary Modification(s):		E. Coli (per 100 mL)	---	126	Chromium III(T)	50	---
Arsenic(chronic) = hybrid		Inorganic (mg/L)			Chromium VI	TVS	TVS
Expiration Date of 12/31/2024		acute	chronic	Copper	TVS	TVS	
*chlorophyll a (ug/L)(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area.		Ammonia	TVS	TVS	Iron	---	WS
*Phosphorus(chronic) = applies only to lakes and reservoirs larger than 25 acres surface area.		Boron	---	0.75	Iron(T)	---	1000
*Uranium(acute) = See 32.5(3) for details.		Chloride	---	250	Lead	TVS	TVS
*Uranium(chronic) = See 32.5(3) for details.		Chlorine	0.019	0.011	Lead(T)	50	---
		Cyanide	0.005	---	Manganese	TVS	TVS/WS
		Nitrate	10	---	Mercury(T)	---	0.01
		Nitrite	0.5	---	Molybdenum(T)	---	150
		Phosphorus	---	0.083*	Nickel	TVS	TVS
		Sulfate	---	WS	Nickel(T)	---	100
		Sulfide	---	0.002	Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	varies*	varies*
					Zinc	TVS	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 32.6 for further details on applied standards.

## REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

### Cimarron River Basin

1. Mainstem of the Cimarron River, including all tributaries and wetlands, in Las Animas, Baca, and Prowers Counties, except for the specific listing in segment 2.								
COARCI01	Classifications	Physical and Biological			Metals (ug/L)			
Designation	Agriculture	DM	MWAT	acute	chronic			
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Arsenic(T)	---	100	
	Recreation N	acute	chronic	Beryllium(T)	---	100		
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium(T)	---	10	
Other:		pH	6.5 - 9.0	---	Chromium III	TVS	TVS	
*Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	---	Chromium III(T)	---	100	
		E. Coli (per 100 mL)	---	630	Chromium VI(T)	---	100	
		Inorganic (mg/L)			Copper(T)	---	200	
		acute			chronic	Iron	---	---
		Ammonia	---	---	Lead(T)	---	100	
		Boron	---	0.75	Manganese	---	---	
		Chloride	---	---	Mercury(T)	---	---	
		Chlorine	---	---	Molybdenum(T)	---	150	
		Cyanide	0.2	---	Nickel(T)	---	200	
		Nitrate	100	---	Selenium(T)	---	20	
		Nitrite	10	---	Silver	---	---	
		Phosphorus	---	0.17	Uranium	varies*	varies*	
		Sulfate	---	---	Zinc(T)	---	2000	
		Sulfide	---	---				

2. Mainstem of North Carrizo Creek from the source to the Colorado/Oklahoma state line; mainstems of East and West Carrizo Creek, to the confluence with North Carrizo Creek; mainstems of Cottonwood Creek and Tecolote Creek to the confluence with West Carrizo Creek, Fitzler Pond.								
COARCI02	Classifications	Physical and Biological			Metals (ug/L)			
Designation	Agriculture	DM	MWAT	acute	chronic			
UP	Aq Life Warm 1	Temperature °C	WS-II	WS-II	Arsenic	340	---	
	Recreation E	acute	chronic	Arsenic(T)	---	7.6		
Qualifiers:		D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS	
Other:		pH	6.5 - 9.0	---	Chromium III	TVS	TVS	
*Uranium(acute) = See 32.5(3) for details. *Uranium(chronic) = See 32.5(3) for details.		chlorophyll a (mg/m²)	---	150	Chromium III(T)	---	100	
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS	
		Inorganic (mg/L)			Copper	TVS	TVS	
		acute			chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS	
		Boron	---	0.75	Manganese	TVS	TVS	
		Chloride	---	---	Mercury(T)	---	0.01	
		Chlorine	0.019	0.011	Molybdenum(T)	---	150	
		Cyanide	0.005	---	Nickel	TVS	TVS	
		Nitrate	100	---	Selenium	TVS	TVS	
		Nitrite	0.5	---	Silver	TVS	TVS	
		Phosphorus	---	0.17	Uranium	varies*	varies*	
		Sulfate	---	---	Zinc	TVS	TVS	
		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 32.6 for further details on applied standards.

## REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

### Cimarron River Basin

3. All lakes and reservoirs tributary to the Cimarron River.							
COARCI03	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT		acute	chronic
UP	Aq Life Warm 2	Temperature °C	WL	WL	Arsenic	340	---
	Recreation E		acute	chronic	Arsenic(T)	---	7.6
<b>Qualifiers:</b>		D.O. (mg/L)	---	5.0	Cadmium	TVS	TVS
<b>Fish Ingestion Standards Apply</b>		pH	6.5 - 9.0	---	Chromium III	TVS	TVS
<b>Other:</b>		chlorophyll a (ug/L)	---	20*	Chromium III(T)	---	100
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
		<b>Inorganic (mg/L)</b>			Copper	TVS	TVS
			acute	chronic	Iron(T)	---	1000
		Ammonia	TVS	TVS	Lead	TVS	TVS
		Boron	---	0.75	Manganese	TVS	TVS
		Chloride	---	---	Mercury(T)	---	0.01
		Chlorine	0.019	0.011	Molybdenum(T)	---	150
		Cyanide	0.005	---	Nickel	TVS	TVS
		Nitrate	100	---	Selenium	TVS	TVS
		Nitrite	0.5	---	Silver	TVS	TVS
		Phosphorus	---	0.083*	Uranium	varies*	varies*
		Sulfate	---	---	Zinc	TVS	TVS
		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 32.6 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) *Reserved.*
- (C) *Reserved.*



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**Editor's Notes**

**History**

Rules 32.5, 32.10, 32.11, 32.24, 32.40, 32.41 eff. 07/01/2007.  
Entire rule eff. 09/01/2007.  
Rules 32.1-32.6, 32.40 eff. 12/31/2007.  
Rules 32.6(3), 32.6 (Table pg. 14), 32.41 eff. 08/30/2008.  
Rules 32.6(3), 32.42 eff. 01/01/2009.  
Rules 32.6(3), 32.6 (Tables pgs. 11-13), 32.43 eff. 03/30/2009.  
Rules 32.6 (Tables pgs. 1-17), 32.44 eff. 06/30/2010.  
Rules 32.6 (Tables pgs. 1-17), 32.45 eff. 11/30/2010.  
Rules 32.6 (Tables pgs. 1-17), 32.46 eff. 06/30/2011.  
Rules 32.6 (Tables pg. 13), 32.47 emer. rule eff. 06/30/2011.  
Rules 32.6 (Tables pgs. 7, 11, 12, 13, 15, 16), 32.48, 32.49 eff. 01/01/2012.  
Rules 32.6 (Tables pgs. 1, 7-10, 13-16), 32.50 eff. 06/30/2013.  
Rules 32.6(2)(d), 32.6 (Tables pgs. 1-5, 7-11, 13-14), 32.51 eff. 09/30/2013.  
Rules 32.1-32.6, 32.52 eff. 12/31/2013.  
Rules 32.6 Fountain Creek segment 11, 32.53 eff. 04/30/2014.  
Rule 32.54 eff. 06/30/2015.  
Rules 32.5, 32.6, Appendix 32-1, 32.55 eff. 03/01/2016.  
Appendix 32-1, Rule 32.56 eff. 06/30/2016.  
Rules 32.6(6), Appendix 32-1, 32.57 eff. 03/01/2017.  
Appendix 32-1, Rule 32.58 eff. 06/30/2017.  
Appendix 32-1 Lower Arkansas Segment 9b, Rule 32.59 eff. 01/31/2018.  
Rule 32.60 eff. 06/30/2018.  
Rules 32.2-32.3, 32.5-32.6, 32.61, Appendix 32-1 eff. 12/31/2018.  
Rule 32.62, Appendix 32-1 eff. 06/30/2019.  
Rules 32.6, 32.63, 32.64, Appendix 32-1 eff. 06/30/2020.  
Rule 32.65, Appendix 32-1 eff. 02/14/2021.  
Rules 32.66, 32.67, Appendix 32-1 eff. 06/30/2021.