

# REGULATION #34 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Animas and Florida River Basins

3a. Mainstem of the Animas River, including wetlands, from a point immediately below the confluence with Maggie Gulch to immediately above the confluence with Cement Creek.						
COSJAF03A	Classifications	Physical and Biological			Metals (ug/L)	
Designation	Agriculture	DM	MWAT	acute	chronic	
Reviewable	Aq Life Cold 1* Recreation E	Temperature °C	CS-I	CS-I	Aluminum	750(T) 750(T)
			<b>acute</b>	<b>chronic</b>	Arsenic	340 100(T)
<b>Qualifiers:</b>		D.O. (mg/L)	---	6.0	Beryllium	---
<b>Other:</b>		D.O. (spawning)	---	7.0	Cadmium	<b>SSE*</b> <b>SSE*</b>
		pH	6.5 - 9.0	---		<b>TVS(tr)</b> <b>varies*</b>
		chlorophyll a (mg/m2)	---	---	Chromium III	TVS TVS
		E. Coli (per 100 mL)	---	126	Chromium III	---
					Chromium VI	TVS TVS
					<b>Inorganic (mg/L)</b>	
			<b>acute</b>	<b>chronic</b>	Copper	TVS TVS
		Ammonia	TVS	TVS	Iron	---
		Boron	---	0.75	Lead	TVS TVS
		Chloride	---	---	Manganese	---
		Chlorine	0.019	0.011	Mercury	---
		Cyanide	0.005	---	Molybdenum	---
		Nitrate	100	---	Nickel	TVS TVS
		Nitrite	---	---	Selenium	TVS TVS
		Phosphorus	---	---	Silver	TVS TVS(tr)
		Sulfate	---	---	Uranium	---
		Sulfide	---	0.002	Zinc	varies* varies*

\*Classification: Aquatic life indicator goal: Brook Trout  
 $*\text{Cadmium}(\text{acute}) = (1.136672 - \ln(\text{hardness}) * 0.041838) * e^{(0.9789 * \ln(\text{hardness}) - 3.866)}$   
 $*\text{Cadmium}(\text{chronic}) = (1.101672 - \ln(\text{hardness}) * 0.041838) * e^{(0.7977 * \ln(\text{hardness}) - 3.909)}$  – except for April where Cadmium (chronic) = 3.5 and May where Cadmium (chronic) = 2.2.  
 Cadmium(chronic) – Standards are listed on Table 4-  
 \*Manganese(chronic) = Standards are listed on Table 1.  
 \*Zinc(acute) = Standards are listed on Table 1.  
 \*Zinc(chronic) = Standards are listed on Table 1.

3c. Arrastra Gulch including all tributaries and wetlands from the source to the confluence with the Animas River.						
COSJAF03C	Classifications	Physical and Biological			Metals (ug/L)	
Designation	Agriculture	DM	MWAT	acute	chronic	
UP	Aq Life Cold 2 Recreation E	Temperature °C	CS-I	CS-I	Aluminum	---
			<b>acute</b>	<b>chronic</b>	Arsenic	340 100(T)
<b>Qualifiers:</b>		D.O. (mg/L)	---	6.0	Beryllium	---
<b>Other:</b>		D.O. (spawning)	---	7.0	Cadmium	<b>SSE*</b> <b>SSE*</b>
		pH	6.5 - 9.0	---		<b>TVS(tr)</b> <b>TVS</b>
		chlorophyll a (mg/m2)	---	---	Chromium III	TVS TVS
		E. Coli (per 100 mL)	---	126	Chromium III	---
					Chromium VI	TVS TVS
					<b>Inorganic (mg/L)</b>	
			<b>acute</b>	<b>chronic</b>	Copper	TVS TVS
		Ammonia	TVS	TVS	Iron	---
		Boron	---	0.75	Lead	TVS TVS
		Chloride	---	---	Manganese	TVS TVS
		Chlorine	0.019	0.011	Mercury	---
		Cyanide	0.005	---	Molybdenum	---
		Nitrate	100	---	Nickel	TVS TVS
		Nitrite	---	0.05	Selenium	TVS TVS
		Phosphorus	---	---	Silver	TVS TVS(tr)
		Sulfate	---	---	Uranium	---
		Sulfide	---	0.002	Zinc	TVS TVS

# REGULATION #34 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

## Animas and Florida River Basins

4a. Mainstem of the Animas River, including wetlands, from a point immediately above the confluence with Mineral Creek to a point immediately above the confluence with Deer Park Creek.							
COSJAF04A	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
UP	Aq Life Cold 2*	Temperature °C	CS-I	CS-I	Aluminum	varies*	varies*
	Recreation E		acute	chronic	Arsenic	340	100(T)
<b>Qualifiers:</b>		D.O. (mg/L)	---	6.0	Beryllium	---	---
<b>Other:</b>		D.O. (spawning)	---	7.0	Cadmium	<b>SSE*</b>	<b>SSE*</b>
		pH	varies*	---		<b>TVS(†)</b>	<b>TVS</b>
		chlorophyll a (mg/m2)	---	---	Chromium III	TVS	TVS
		E. Coli (per 100 mL)	---	126	Chromium III	---	100(T)
					Chromium VI	TVS	TVS
					Copper	TVS	TVS
					<b>Inorganic (mg/L)</b>		
						acute	chronic
		Ammonia	TVS	TVS	Iron	---	varies*
		Boron	---	0.75	Lead	TVS	TVS
		Chloride	---	---	Manganese	TVS	TVS
		Chlorine	0.019	0.011	Mercury	---	0.01(t)
		Cyanide	0.005	---	Molybdenum	---	160(T)
		Nitrate	100	---	Nickel	TVS	TVS
		Nitrite	---	---	Selenium	TVS	TVS
		Phosphorus	---	---	Silver	TVS	TVS(tr)
		Sulfate	---	---	Uranium	---	---
		Sulfide	---	0.002	Zinc	varies*	varies*

4b. Mainstem of the Animas River, including wetlands, from a point immediately above the confluence with Deer Park Creek to Bakers Bridge.							
COSJAF04B	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	TVS(T)	TVS(T)
	Recreation E		acute	chronic	Arsenic	340	0.02(T)
	Water Supply	D.O. (mg/L)	---	6.0	Beryllium	---	---
<b>Qualifiers:</b>		D.O. (spawning)	---	7.0	Cadmium	<b>SSE*</b>	<b>SSE*</b>
<b>Other:</b>		pH	6.5 - 9.0	---		<b>TVS(†)</b>	<b>TVS</b>
		chlorophyll a (mg/m2)	---	---	Chromium III	50(T)	TVS
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
					Copper	TVS	TVS
					<b>Inorganic (mg/L)</b>		
						acute	chronic
		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron	---	1000(T)
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Manganese	TVS	TVS
		Cyanide	0.005	---	Manganese	---	WS
		Nitrate	10	---	Mercury	---	0.01(t)
		Nitrite	---	0.05	Molybdenum	---	160(T)
		Phosphorus	---	---	Nickel	TVS	TVS
		Sulfate	---	WS	Selenium	TVS	TVS
		Sulfide	---	0.002	Silver	TVS	TVS(tr)
					Uranium	---	---
					Zinc	TVS	TVS

Temporary Modification(s):  
 Arsenic(chronic) = hybrid  
 Expiration Date of 12/31/2021

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6. Mainstem of the Animas River from the source to the outlet of Denver Lake. Mainstem, including all tributaries and wetlands of Cinnamon Creek, Grouse Creek, Picayne Gulch, and Minnie Gulch. All tributaries and wetlands to the Animas River from immediately above Maggie Gulch to Elk Park (including tributaries and wetlands of Mineral Creek) except for those listed under segments 3c, 7, 8, and 9.

COSJAF06	Classifications	Physical and Biological			Metals (ug/L)		
		DM	MWAT	acute	chronic		
Designation	Agriculture						
Reviewable	Aq Life Cold 1	Temperature °C	CS-I	CS-I	Aluminum	---	---
	Recreation E		acute	chronic	Arsenic	340	0.02(T)
	Water Supply	D.O. (mg/L)	---	6.0	Beryllium	---	---
Qualifiers:		D.O. (spawning)	---	7.0	Cadmium	<u>SSE*</u>	<u>SSE*</u>
Other:	<p>*Cadmium(acute) = (1.136672*ln(hardness)                      *0.041838)*e^(0.9789*ln(hardness)-3.866)</p> <p>*Cadmium(chronic) = (1.101672*ln(hardness)                      *0.041838)* e^(0.7977*ln(hardness)-3.909)</p>	pH	6.5 - 9.0	---		<u>TVS(tr)</u>	<u>TVS</u>
		chlorophyll a (mg/m2)	---	---	Chromium III	50(T)	TVS
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
					Copper	TVS	TVS
Temporary Modification(s):					<b>Inorganic (mg/L)</b>		
Arsenic(chronic) = hybrid						acute	chronic
Expiration Date of 12/31/2021		Ammonia	TVS	TVS	Iron	---	WS
		Boron	---	0.75	Iron	---	1000(T)
		Chloride	---	250	Lead	TVS	TVS
		Chlorine	0.019	0.011	Manganese	TVS	TVS
		Cyanide	0.005	---	Manganese	---	WS
		Nitrate	10	---	Mercury	---	0.01(t)
		Nitrite	---	0.05	Molybdenum	---	160(T)
		Phosphorus	---	---	Nickel	TVS	TVS
		Sulfate	---	WS	Selenium	TVS	TVS
		Sulfide	---	0.002	Silver	TVS	TVS(tr)
					Uranium	---	---
					Zinc	TVS	TVS

7. Mainstem of Cement Creek, including all tributaries, and wetlands, from the source to the confluence with the Animas River.

COSJAF07	Classifications	Physical and Biological			Metals (ug/L)		
		DM	MWAT	acute	chronic		
Designation	Agriculture						
UP	Recreation E				Aluminum	---	---
Qualifiers:						acute	chronic
Other:	<p>*The concentration of dissolved aluminum, cadmium, copper, iron, lead, manganese, and zinc that is directed toward maintaining and achieving water quality standards established for segments 4a and 4b.</p>	D.O. (mg/L)	---	3.0	Arsenic	---	100(T)
		pH	3.7-9.0	---	Beryllium	---	100(T)
		chlorophyll a (mg/m2)	---	---	Cadmium	---	10(T)
		E. Coli (per 100 mL)	---	126	Chromium III	---	100(T)
					Chromium VI	---	100(T)
					<b>Inorganic (mg/L)</b>		
						acute	chronic
		Ammonia	---	---	Copper	---	200(T)
		Boron	---	0.75	Iron	---	---
		Chloride	---	---	Lead	---	100(T)
		Chlorine	---	---	Manganese	---	---
		Cyanide	0.2	---	Mercury	---	---
		Nitrate	100	---	Molybdenum	---	160(T)
		Nitrite	---	10	Nickel	---	200(T)
		Phosphorus	---	---	Selenium	---	20(T)
		Sulfate	---	---	Silver	---	---
		Sulfide	---	---	Uranium	---	---
					Zinc	---	2000(T)

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8. Mainstem of Mineral Creek, including wetlands, from the source to a point immediately above the confluence with South Mineral Creek. All tributaries on the east side of this segment of Mineral Creek including wetlands, except for Big Horn Creek. Mainstem of the Middle Fork of Mineral Creek including all tributaries and wetlands from the source to the confluence with Mineral Creek except for Crystal Lake and its exiting tributary to confluence with Middle Fork of Mineral Creek.

COSJAF08	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
UP	Recreation E			Aluminum	---	
Qualifiers:		acute	chronic	Arsenic	---	
Other:	D.O. (mg/L)	---	3.0	Beryllium	---	
*The concentration of dissolved aluminum, cadmium, copper, iron, lead, manganese, and zinc that is directed toward maintaining and achieving water quality standards established for segments 4a and 4b.	pH	4.5-9.0	---	Cadmium	---	
	chlorophyll a (mg/m2)	---	---	Chromium III	---	
	E. Coli (per 100 mL)	---	126	Chromium VI	---	
	Inorganic (mg/L)				Copper	---
		acute	chronic	Iron	---	
	Ammonia	---	---	Lead	---	
	Boron	---	0.75	Manganese	---	
	Chloride	---	---	Mercury	---	
	Chlorine	---	---	Molybdenum	---	
	Cyanide	0.2	---	Nickel	---	
	Nitrate	100	---	Selenium	---	
	Nitrite	---	10	Silver	---	
	Phosphorus	---	---	Uranium	---	
	Sulfate	---	---	Zinc	---	
	Sulfide	---	---		2000(T)	

9. Mainstem of Mineral Creek, including wetlands, from immediately above the confluence with South Mineral Creek to the confluence with the Animas River.

COSJAF09	Classifications	Physical and Biological		Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic	
UP	Aq Life Cold 2*	CS-I	CS-I	Aluminum	---	
	Recreation E			Arsenic	340	
	Water Supply			Beryllium	---	
Qualifiers:	D.O. (mg/L)	acute	chronic	Cadmium	---	
Other:	D.O. (spawning)	---	7.0		SSE*	
*Classification: Aquatic Life indicator goal: Macroinvertebrates; Brook Trout corridor *Aluminum(chronic) = Standards are listed on Table 1. <u>*Cadmium(acute) = (1.136672 - ln(hardness) * 0.041838) * e^(0.9789 * ln(hardness) - 3.866)</u> <u>*Cadmium(chronic) = (1.101672 - ln(hardness) * 0.041838) * e^(0.7977 * ln(hardness) - 3.909)</u> *Copper(chronic) = Standards are listed on Table 1. *Iron(chronic) = Standards are listed on Table 1. *Zinc(chronic) = Standards are listed on Table 1. *pH(acute) = Standards are listed on Table 1.	pH	varies*	---		TVS(##)	
	chlorophyll a (mg/m2)	---	---	Chromium III	TVS	
	E. Coli (per 100 mL)	---	126	Chromium III	50(T)	
	Inorganic (mg/L)				Chromium VI	TVS
		acute	chronic	Copper	TVS	
	Ammonia	TVS	TVS	Iron	---	
	Boron	---	0.75	Iron	---	
	Chloride	---	250	Lead	TVS	
	Chlorine	0.019	0.011	Manganese	TVS	
	Cyanide	0.005	---	Manganese	---	
	Nitrate	10	---	Mercury	---	
	Nitrite	---	0.05	Molybdenum	---	
	Phosphorus	---	---	Nickel	TVS	
	Sulfate	---	WS	Selenium	TVS	
	Sulfide	---	0.002	Silver	TVS	
			Uranium	---		
			Zinc	TVS		

## **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.

TABLE 1  
 ANIMAS RIVER BASIN  
 AQUATIC LIFE INDICATOR GOAL: BROOK TROUT

Segment 3a  
 Acute Standards

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
Zn	720	780	1060	1200	760	410	280	340	380	440	510	590

Chronic Standards

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
Cd	TVS	TVS	TVS	3.5	2.2	TVS	TVS	TVS	TVS	TVS	TVS	TVS
Mn	TVS	TVS	2571	2179	TVS	TVS	TVS	TVS	TVS	TVS	TVS	TVS
Zn	720	780	1060	1200	760	410	280	340	380	440	510	590

Segment 4a

Acute Standards

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
Al(Trec)	3100	3550	2800	2020	1010	740	700	1360	1490	1610	2280	2570
Zn	460	520	620	570	430	250	170	240	290	340	380	420

Chronic Standards

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
pH	5.9-9.0	5.7-9.0	6.2-9.0	6.5-9.0	6.5-9.0	6.5-9.0	6.5-9.0	6.5-9.0	6.5-9.0	6.5-9.0	6.5-9.0	5.9-9.0
Al(Trec)	3100	3550	2800	2020	1010	740	700	1360	1490	1610	2280	2570
Fe	3473	2961	3776	3404	2015	1220	1286	1830	1623	2258	2631	3511
Zn	460	520	620	570	430	250	170	240	290	340	380	420

Segment 9

Acute Standards

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
Al(Trec)	4680	4950	4560	3800	1390	1350	1290	2040	2570	2680	3450	4050

Chronic Standards

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
pH	4.9-9.0	4.8-9.0	4.9-9.0	5.9-9.0	6.5-9.0	6.5-9.0	6.5-9.0	6.5-9.0	6.5-9.0	6.5-9.0	6.2-9.0	5.4-9.0
Al(Trec)	4680	4950	4560	3800	1390	1350	1290	2040	2570	2680	3450	4050
Cu	TVS	TVS	TVS	18	20	TVS	TVS	TVS	TVS	TVS	TVS	TVS
Fe	3420	3800	4370	3370	3150	2210	2275	2280	3020	3580	3620	3490
Zn	TVS	TVS	TVS	TVS	230	TVS	TVS	TVS	TVS	TVS	TVS	TVS