

**APPENDIX K**  
**REVIEW OF DESIGNATED USES AND WATER QUALITY STANDARDS**  
**IN WESTERN STATES**

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## APPENDIX K

### 1.0 REVIEW OF DESIGNATED USES AND WATER QUALITY STANDARDS IN WESTERN STATES

#### 1.1 VARIABILITY OF STATE WATER QUALITY STANDARDS

The Clean Water Act of 1972 (CWA) authorized a nationwide strategy for surface water quality management. The three major elements of the strategy are as follows:

- designate the use of each water body (for example, drinking water, recreation, fish and wildlife, agriculture, or industrial water supply)
- establish criteria to protect the designated uses
- maintain a commitment to antidegradation when designating uses and establishing criteria

The national water quality management strategy authorized by the CWA was only a framework and, even though further federal requirements and guidelines have been added since, implementation remains the responsibility of the states. Because of the central role of the states, details of implementation have evolved differently from one region of the country to another and from one state to another. This section describes the differences and similarities of the designated uses for aquatic life and water quality standards to protect these uses for 17 western states. This review is limited to aquatic life uses because the main goal of this study is to characterize aquatic habitats in the West and the outcomes of this study may impact these aquatic life designated uses.

##### 1.1.1 Aquatic Life Designated Uses

Designated use is a term specified in water quality standards for a waterbody or a segment of a water body. Typical designated uses include recreation, agriculture, industry, and navigation. Designated uses may or may not be attained. A designated use of a water body specifies the water quality goals for the water body.

The desirable water uses that must be protected wherever attainable include water quality for the protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water (“fishable/swimmable”). The aquatic life use designation (“fishable”) is often divided into

several more specific subcategories, such as cold water fish habitat protection, warm water fish habitat protection, and shellfish. Some states differentiate between self-supporting fish populations and stocked fisheries. Wildlife use protection typically includes references to waterfowl, shore birds, and other water-oriented wildlife.

**Table K-1** provides a listing of all of the aquatic life uses for the 17 western states. Arizona is the only state that has a use designation for effluent-dependent waters. All of the states have subcategories of designated aquatic life uses ranging from cold water habitats to warm water habitats. The majority of the states have some sort of wildlife habitat use within their designated aquatic use categories or as a separate designated use.

Although Arizona is the only state with an effluent-dependent use classification, 11 of the 17 states have an aquatic use designation that is based on habitats that could limit aquatic life. These states include the following:

- California
- Idaho
- Kansas
- Nebraska
- New Mexico
- North Dakota
- Oklahoma
- South Dakota
- Texas
- Utah
- Wyoming

Examples of these use designations definitions are as follows:

1. California's limited warm freshwater habitat is defined as waters that support warm water ecosystems that are severely limited in diversity and abundance as the result of concrete-lined watercourses and low, shallow, dry weather flows that result in extreme temperature, pH, and/or dissolved oxygen (DO) conditions.
2. The Kansas restricted aquatic life use is defined as surface water containing indigenous biota limited in abundance or diversity by the physical quality or availability of habitat,

**Table K-1  
Designated Aquatic Life Uses of the 17 Western States**

State	Uses	State	Uses	State	Uses
Arizona	Aquatic and wildlife (cold water fishery) Aquatic and wildlife (effluent-dependent water) Aquatic and wildlife (ephemeral) Aquatic and wildlife (warm water fishery)	Nebraska	Aquatic Life, Coldwater Aquatic Life, Coldwater Class A Aquatic Life, Coldwater Class B Aquatic Life, Warmwater Aquatic Life, Warmwater Class A Aquatic Life, Warmwater Class B	South Dakota	Coldwater marginal fish life propagation Coldwater permanent fish life propagation Warmwater marginal fish life propagation Warmwater permanent fish life propagation Warmwater semipermanent fish life propagation waters Fish and wildlife propagation, recreation, and stock watering
California	Warm Freshwater Habitat Limited Warm Freshwater Habitat Cold Freshwater Habitat Preservation of Biological Habitats of Special Significance Wildlife Habitat Rare, Threatened or Endangered Species Spawning, Reproduction, and Development	Nevada	Aquatic Life, Coldwater, Propagation Aquatic Life, Coldwater, Put & Take Aquatic Life, Warmwater, Propagation Aquatic Life, Warmwater, Put & Take Propagation of Wildlife	Texas	Aquatic Life, Exceptional Aquatic Life, High Aquatic Life, Intermediate Aquatic Life, Limited
Colorado	Aquatic Life, Class I – Cold Water Aquatic Life Aquatic Life, Class 1 – Warm Water Aquatic Life Aquatic Life, Class 2 – Cold and Warm Water Aquatic Life	New Mexico	Coldwater Fishery High Quality Coldwater Fishery Marginal Coldwater Fishery Warmwater Fishery Limited Warmwater Fishery Wildlife Habitat	Utah	Waters designated as Class 3 all contain some type of aquatic use designation
Idaho	Aquatic Life, Cold Water Aquatic Life, Salmonid Spawning Aquatic Life, Seasonal cold water Aquatic Life, Warm water Aquatic Life, Modified Wildlife Habitats	North Dakota	Recreation, fishing, and wildlife uses are included in all use classifications (I, IA, II, and III)	Washington	All classifications of water bodies include an aquatic life use designation
Kansas	Special aquatic life use waters Expected aquatic life use waters Restricted aquatic life use waters	Oklahoma	Fish and Wildlife Propagation, Habitat Limited Aquatic Community subcategory Fish and Wildlife Propagation, Cool Water Aquatic Community subcategory Fish and Wildlife Propagation, Warm Water Aquatic Community subcategory Fish and Wildlife Propagation, Trout Fishery (put and take) subcategory	Wyoming	All classifications of water bodies include an aquatic life designation except potentially Class 4 waters.
Montana	All classifications of water bodies include an aquatic life use designation	Oregon	Cold-Water Aquatic Life Cool-Water Aquatic Life Warm-Water Aquatic Life		

due to natural deficiencies or artificial modification, compared to more suitable habitats in adjacent waters.

3. Texas' limited aquatic life use is for surface waters that exhibit uniform habitat characteristics; contain a species assemblage that is absent of most regionally expected species; and have an absence of sensitive species, low diversity, and species richness, and a severely imbalanced trophic structure.

The percentage of streams within each state that are designated with the limited aquatic life use type designation has not been quantified.

### 1.1.2 Numeric Criteria

Numeric criteria are developed to protect designated uses. Short-term (acute) and long-term (chronic) criteria are developed to protect aquatic life uses. States also adopt numeric criteria for toxicants with potential human health impacts (e.g., those with high bioaccumulation potential). **Table K-2** presents the numeric criteria for protection of aquatic life for the 17 western states. The constituents summarized were chosen because they represent the chemicals that will be analyzed as part of the Arid West Water Quality Research Project Extant Criteria Study.

For the criteria pertaining to metals, the acute and chronic values are fairly consistent from state to state. The major difference is that some states report criteria values as the total recoverable metal concentration and some as dissolved metal concentration. For chlorine residual criteria, the acute and chronic concentrations are similar from state to state. Application of ammonia criteria varies greatly across the 17 states. Some states report the criteria as total ammonia and others as unionized ammonia concentration. In some cases, ammonia criteria are applied differently based on the subcategory of the aquatic life use. DO criteria are similar for the states analyzed. Some states have seasonal requirements for DO based on the presence or absence of early life stages of fish.

### 1.1.3 Narrative Criteria

To supplement numeric criteria for toxicants, all states have adopted narrative criteria for toxicants. EPA considers that the narrative criteria set by states apply to all designated uses. Narrative toxic criteria are cited as a basis for establishing whole-effluent toxicity controls in EPA permitting regulations. **Table K-3** shows a description of the narrative criteria for the 17

Table K-2 Numeric Water Quality Criteria for the 17 Western States

	Arsenic	Arsenic	Mercury	Mercury	Silver	Silver	Selenium	Selenium	Cadmium	Cadmium	Copper	Copper	Lead	Lead	Nickel	Nickel
	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
<b>Arizona (a)</b>																
A&Wc	360 D	190 D	2.4 D	0.01 D	4.06 D	NNS	20 T	2.0 T (NNS for A&We)	3.92 D	1.13 D (NNS for A&We)	17.73 D	11.82 D	81.65 D	3.18 D	1418.10 D	157.65 D
A&Ww			2.6 D	50 T			24.04 D									
A&Wedw			5.0 D	33 T			68.41 D									
A&We			2.7 D (NNS)	24.23 D			16.29 D (NNS)		172.31 D							
<b>California - Santa Ana River Basin (b)</b>																
WARM	340 D	150 D	Reserved	Reserved	3.4 D	NNS	Reserved	5.0 T	4.3 D	2.2 D	13 D	9.0 D	65 D	2.5 D	470 D	52 D
LWRM																
COLD																
BIOL																
WILD																
RARE																
SPWN																
<b>Colorado</b>																
Aquatic Life - Cold	340 D	150 D	1.4 D	0.77 D & NARR	2.03 D	Chronic Trout=0.08 D; Chronic=0.32 D	18.4 D	4.6 D	Acute Trout = 3.7 D; Acute = 4.26 D	2.24 D	13.44 D	8.96 D	64.58 D	2.52 D	468 D	52 D
Aquatic Life - Warm																
Aquatic Life - Cold and Warm																
<b>Idaho</b>																
Aquatic - COLD	360	190	2.1	0.012 T	3.4	NNS	20 T	5 T	3.7	1	17	11	65	2.5	1400	160
Aquatic - SS																
Aquatic - SC																
Aquatic - WARM																
Aquatic - MOD																
Wildlife Habitats																
<b>Kansas</b>																
Special aquatic life use	360 T	50 T	2.1	0.012	4.06	NNS	20 T	5 T	4.52	2.46	14.00	9.33	81.65	3.18	469.17	52.16
Expected aquatic life use																
Restricted aquatic life use																
<b>Montana</b>																
A-Closed	340	150	1.7	0.91			20	5					82	3.2		
A-1																
B-1																
B-2																
B-3																
C-1																
C-2																
I																
C-3																
<b>Nebraska</b>																
Aquatic Life, Cold Class A	340	16.7	3.74	0.012	3.45	NNS	20 T	5 T	3.70	1.03	27.29	0.53	64.58	2.52	3814.91	423.68
Aquatic Life, Cold Class B			8.76						31.47	9.26	39.22	0.76			2954.17	328.08
Aquatic Life, Warm Class A																
Aquatic Life, Warm Class B																

**Table K-2 Numeric Water Quality Criteria for the 17 Western States**

	Arsenic	Arsenic	Mercury	Mercury	Silver	Silver	Selenium	Selenium	Cadmium	Cadmium	Copper	Copper	Lead	Lead	Nickel	Nickel
	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
<b>Nevada</b>																
Aquatic Life, Cold Prop.	NARR	NARR	NNS	NNS	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NNS	NNS
Aquatic Life, Cold Put & Take																
Aquatic Life, Warm Prop.																
Aquatic Life, Warm Put & Take																
Propagation of Wildlife																
<b>New Mexico</b>																
Coldwater Fishery	340 D	150 D	2.4 TOTAL	0.012 TOTAL	3.45 D	NNS	20.0 T	5.0 T	4.26 D	2.24 D	13.44 D	8.96 D	64.58 D	2.52 D	468.24 D	52.01 D
High Quality Coldwater Fishery																
Marginal Coldwater Fishery																
Warmwater Fishery																
Limited Warmwater Fishery																
Wildlife Habitat	NNS	NNS	NNS	0.77 TOTAL, NARR	NNS	NNS	NNS	5.0 T, NARR	NNS	NNS						
<b>North Dakota</b>																
R, F & W, Class I	360	190	2.4	0.012	4.1	NNS	20	5	3.9	1.1	NNS	18	82	3.2	1400	160
R, F & W, Class IA																
R, F & W, Class II																
R, F & W, Class III																
<b>Oklahoma</b>																
F&W Prop. - WWAC	360 T	190 T	2.4 T	1.302 T	4.06 T	NNS	20.0 T	5 T	6.95 T	5.50 T	19.19 T	12.80 T	81.65 T	3.18 T	1418.24 T	157.67 T
F&W Prop. - HLAC																
F&W Prop. - CWAC																
F&W Prop. - Trout									3.92 T	1.13 T						
<b>Oregon</b>																
Cold-Water Aquatic Life	360	190	2.4	0.012	4.1	0.12	260	35	3.9	1.1	18	12	82	3.2	1400	160
Cool-Water Aquatic Life																
Warm-Water Aquatic Life																
<b>South Dakota</b>																
Coldwater Permanent	360 D	190 D	2.1 T	0.012 T	3.4 D	NNS	20 D	5 D	3.7 D	1.0 D	17 D	11 D	65 D	2.5 D	1400 D	160 D
Coldwater Marginal																
Warmwater Permanent																
Warmwater Semipermanent																
Warmwater Marginal																
Fish & Wildlife, rec., stock																
<b>Texas</b>																
Aquatic Life, Exceptional	360 D	190 D	2.4 T	1.3 T	0.8 T	NNS	20 T	5 T	32.78 D	1.03 D	18.43 D	12.28 D	72.58 D	2.52 D	1401.22 D	157.19 D
Aquatic Life, High																
Aquatic Life, Intermediate																
Aquatic Life, Limited																

**Table K-2 Numeric Water Quality Criteria for the 17 Western States**

	Arsenic	Arsenic	Mercury	Mercury	Silver	Silver	Selenium	Selenium	Cadmium	Cadmium	Copper	Copper	Lead	Lead	Nickel	Nickel
	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
<b>Utah</b>																
Class 3A (Aq. Cold)																
Class 3B (Aq. Warm)	360 D	190 D	2.4 D	0.012 D	4.1 D	NNS	20 D	5.0 D	3.9 D	1.1 D	18 D	12 D	82 D	3.2 D	1400 D	160 D
Class 3C (Aq. Nongame)																
Class 3D (Wildlife)												NNS				
Class 3E (Habitat Limited)	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR
<b>Washington</b>																
Class AA																
Class A	360.0 D	190.0 D	2.1 D	0.012 T	3.45	NNS	20.0 T	5.0 T	3.70 D	1.03 D	17.02 D	11.35 D	64.58 D	2.52 D	1415.41 D	157.19 D
Class B																
Class C																
<b>Wyoming (c)</b>																
F & W - Class 1 Cold																
F & W - Class 1 Warm	360 D (340 D)	190 D (150 D)	2.4 D (1.4 D)	0.012 D (0.77 D)	4.1 D (3.4 D)	NNS	20 D	5 D (5 TOTAL)	3.9 D (4.3 D)	1.1 D (2.2 D)	18 D (13.4 D)	12 D (9 D)	82 D (64.6 D)	3.2 D (2.5 D)	1400 D (468.2 D)	160 D (52.0 D)
F & W - Class 2 Cold																
F & W - Class 2 Warm																
F & W - Class 3																
F & W - Class 4	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS

1. For metals use hardness of 100 mg/L as CaCO<sub>3</sub>
2. Ammonia - pH = 7.0; Temp = 25 C
3. NARR = narrative; NNS = no numeric standard
4. D = dissolved; T = total recoverable; TOTAL = Total metal

- (a) State triennial review to be completed by Jan. 2001 (values in parentheses are proposed revisions known at this time)
- (b) Numeric criteria for metals from federally promulgated California Toxics Rule
- (c) Revised rules proposed August, 2000 (values in parentheses are proposed revisions)

	Zinc	Zinc	Chlorine	Chlorine	Ammonia	Ammonia	Cyanide	Cyanide	Other Nutrients	Diazinon	Nonylphenol	Temperature	Dissolved Oxygen	pH	TDS/Salinity	TSS/Turbidity					
	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic													
	ug/L	ug/L	(ug/L) Total Residual	(ug/L) Total Residual	(mg/L) Unionized Ammonia (UIA); Total Ammonia (TA)	(mg/L) Unionized Ammonia (UIA); Total Ammonia (TA)	(WAD) ug/L	(WAD) ug/L				C	mg/L	standard units	mg/L	NTU					
<b>Arizona (a)</b>																					
A&Wc	116.98 D	105.95 D	11	5.0	13.4 TA	NNS	22 T	5.2 T	Stream specific, typically total phosphorus and total nitrogen	NNS	NNS	C	single samp. Min=7.0	Max = 9.0; Min=6.5; Max change due to discharge = 0.5	flow-weighted ave. annual salinity, lower main stem Colorado River: 723 - 879	streams=10.0, lakes=10.0 (NNS)					
A&Ww					19 TA	NNS	41 T	9.7 T					max increase due to discharge=3.0			3 hrs after sunrise to sunset= 3.0, Sunset to 3 hours after sunrise = 1.0	N/A	streams=50.0, lakes=25.0 (NNS)			
A&Wedw					NNS	NNS							NNS			NNS			N/A	NNS	
A&We					1137.01 D	1043.53 D (NNS)	NNS	NNS									NNS	NNS			NNS
<b>California - Santa Ana River Basin (b)</b>																					
WARM	120 D	120 D	Discharge to surface waters =100		0.18 UIA	0.0074 (UIA, 4-day avg); 1.32 (TA, 4-day avg) (Site-specific for study area = discharge to not cause exceedance of UIA 0.098 mg/L, 4-day avg)	22 T	5.2 T	Site specific, Total Inorganic Nitrogen	Analyzed in Toxicity/Mussel Monitoring Program (Estuarine and Coastal Waters)	NNS	C	Jun-Oct Max temp=32.2; Nov-May Max Temp=25.6	6.5-8.5	Basin Specific (Study reach = 650 mg/L TDS, 5-yr moving avg)	If Natural=0-50 NTU, then Max Inc=20%; If Natural=50-100 NTU, then Max Inc=10 NTU; If Natural >100 NTU, then Max Inc=10%					
LWRM					NNS	Site Specific							NARR				NARR				
COLD					0.076 UIA	0.0031 (UIA, 4-day avg); 0.558 (TA, 4-day avg)							Max increase due to discharge=2.78				6 & NARR				
BIOL					NNS	Site Specific							NARR				NARR				
WILD																					
RARE																					
SPWN																					
<b>Colorado</b>																					
Aquatic Life - Cold	117.19 D	118.14 D	19 (1-day)	11 (30-day)	0.08 UIA	0.02 UIA	0.005	0.005	Site specific for nitrite	NNS	NNS	C	Max 20, with 3 Increase	6.5-9.0	Colorado River Basin	NNS					
Aquatic Life - Warm					0.16 UIA	0.06 UIA							Max 30, with 3 Increase				5				
Aquatic Life - Cold and Warm					0.08-0.16 UIA	cold=0.02 UIA, warm=0.06-0.10 UIA							NNS				NNS				
<b>Idaho</b>																					
Aquatic - COLD	110	100	19	11	0.08	0.005	22	5.2	NARR	NNS	NNS	C	<22, Max Daily Average=19	6.5-9.5	N/A	50 above background instantaneously, or 25 for more than ten (10) consecutive days					
Aquatic - SS													<13, Max Daily Average=9; Special criteria for bull trout, and Kootenai River sturgeon.				Intergravel: 5.0 (1 day min); 6.0 (seven (7) day average mean). Water-column: 6.0 or 90% saturation, whichever is greater.				
Aquatic - SC													<27, Max Daily Average=24				6.0; special criteria applies to lakes and reservoirs				
Aquatic - WARM													<33, Max Daily Average=29				5.0; special criteria applies to lakes and reservoirs				
Aquatic - MOD													case-by-case				case-by-case				
Wildlife Habitats													NNS				NNS				
<b>Kansas</b>																					
Special aquatic life use	119.82	119.82	19 T	11 T	36.1	3.08	22	5.2	elemental phosphorus=0.1 ug/L (chronic)	chronic=0.08 ug/L	NNS	C	Max temp=32; Max increase due to discharge=3	6.5-8.5	NNS	NARR					
Expected aquatic life use																					
Restricted aquatic life use																					
<b>Montana</b>																					
A-Closed													No change allowed	No change allowed	No change allowed	No change allowed					
A-1													NARR	Not reduced below WQB 7 stand.	6.5-8.5; Max change due to discharge=0.5	No change except in 17.30.637					
B-1			19	11			22	5.2				6.5-9.0; Max change due to discharge=0.5				Max change =5 NTU, except in 17.30.637					
B-2										6.5-8.5; Max change due to discharge=0.5	Max change =5 NTU, except in 17.30.637										
B-3																					
C-1																				6.5-9.0; Max change due to discharge=0.5	Max change =10 NTU, except in 17.30.637
C-2																					
I																	No detrimental change allowed	3	6.5-9.5	No detrimental change allowed	
C-3												NARR	Not reduced below WQB 7 stand.	6.5-9.0; Max change due to discharge=0.5	Max change =10 NTU, except in 17.30.637						
<b>Nebraska</b>																					
Aquatic Life, Cold Class A	271.62	248.03	35	21	24.118	6.162	22	5.2	NARR	NNS	NNS	C	22 Max, 3 Max increase outside the mixing zone.	6.5-9.0, unless pH values outside this range are due to natural conditions.	NNS	NARR					
Aquatic Life, Cold Class B					Oct 1 - May 31: 1-day Min=8.0; 7-day Mean=9.5. Jun 1-Sep 30: 1-day Min=4.0; 7-day Mean Min=5.0; 30-day mean=6.5																
Aquatic Life, Warm Class A	1098.19	1002.81	36	22	37.777	51.898	41	10	NARR	NNS	NNS	C	32 Max, 3 Max increase outside the mixing zone.	6.5-9.0, unless pH values outside this range are due to natural conditions.	NNS	NARR					
Aquatic Life, Warm Class B					Apr 1-Jun 30: 1-day Min=5.0; 7-day Mean=6.5. Jul 1-Mar 31: 1-day Min=4.0; 7-day Mean Min=5.0; 30-day mean=6.5																

	Zinc	Zinc	Chlorine	Chlorine	Ammonia	Ammonia	Cyanide	Cyanide	Other Nutrients	Diazinon	Nonylphenol	Temperature	Dissolved Oxygen	pH	TDS/Salinity	TSS/Turbidity	
	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic									
	ug/L	ug/L	(ug/L) Total Residual	(ug/L) Total Residual	(mg/L) Unionized Ammonia (UIA); Total Ammonia (TA)	(mg/L) Unionized Ammonia (UIA); Total Ammonia (TA)	(WAD) ug/L	(WAD) ug/L				C	mg/L	standard units	mg/L	NTU	
<b>Nevada</b>																	
Aquatic Life, Cold Prop.	NARR	NNS			0.02 (UIA, single sample)	site-specific	NARR		Nitrites=0.06, Total Nitrogen = site-specific	NNS	NNS	Site-specific	5.0 (single sample minimum)	6.5-9.0	Lower main stem Colorado River: 723 - 879 mg/L	TSS=25-80 mg/L, Turbidity=10 NTU	
Aquatic Life, Cold Put & Take					phosphates & total nitrogen= site-specific				TSS=25-80 mg/L, Turbidity=50 NTU								
Aquatic Life, Warm Prop.					phosphates & total nitrogen= site-specific; nitrates=90 mg/L				NNS								
Aquatic Life, Warm Put & Take					Nitrates=100 mg/L; Nitrites=10 mg/L				NNS								
Propagation of Wildlife																	
<b>New Mexico</b>																	
Coldwater Fishery	117.19 D	118.14 D	19	11	13 TA	1 TA	22	5.2	NARR	NNS	NNS	NNS	6	6.6-8.8	NARR & Adopted salinity policy outlined in the report "1996 Review, Water Quality Standards for Salinity, Colorado River System"	NARR	
High Quality Coldwater Fishery																10; 25 if natural background prevents attainment of lower turbidity	
Marginal Coldwater Fishery																6.6-9.0	NARR
Warmwater Fishery																5	NNS
Limited Warmwater Fishery																5	NNS
Wildlife Habitat	NNS	NNS	NNS	11, NARR	NNS	NNS	NNS	5.2, NARR				NNS	NNS	NNS		NNS	
<b>North Dakota</b>																	
R, F & W, Class I	120	110	19	11	Salmonids present=0.076; Absent=0.107	Salmonids present=0.0048; Absent=0.00684	22 T	5.2 T	Nitrates (N)=1000 D; Phosphorus (P)=100 T	NNS	NNS	NNS	5	7.0-9.0	NNS	NNS	
R, F & W, Class IA																	
R, F & W, Class II																	
R, F & W, Class III																	
<b>Oklahoma</b>																	
F&W Prop. - WWAC	117.02 T	105.99 T	NNS	NNS	NNS	NNS	45.93 T	10.72 T	NARR	NNS	NNS	NNS	6.5-9.0, unless caused by natural conditions	NNS	NARR		
F&W Prop. - HLAC																	
F&W Prop. - CWAC																	
F&W Prop. - Trout																	
<b>Oregon</b>																	
Cold-Water Aquatic Life	120	110	19	11	adopted from "Document USEPA, Jan 85 (Fresh Water)	adopted from "Document USEPA, Jan 85 (Fresh Water)	22	5.2	NNS	NNS	NNS	NARR & Basin Specific	Salmonid Spawning: Min=9.0, Intergravel Min=8.0; Cold Water: Min=6.0, 7-day Min=6.5; Cool Water: Min=4.0, 7-day min=5.0; Warm Water: Min=4.0	Basin specific but Generally: 6.5-8.5	Basin Specific but Generally: Columbia River=500.0 mg/L; All other freshwater streams=100.0 mg/L	Basin Specific but Generally: Max Increase=10% above natural	
Cool-Water Aquatic Life																	
Warm-Water Aquatic Life																	
<b>South Dakota</b>																	
Coldwater Permanent	110 D	100 D	19 D	11 D	0.035 (UIA, daily max)	0.02 (UIA, 30-day avg)	22	5.2	NARR	NNS	NNS	NNS	6.0; in spawning=7.0	6.6-8.6; Max change due to discharge =0.5	NNS	30-day ave TSS=30 mg/L; daily max=53 mg/L	
Coldwater Marginal																6.5-8.8; Max change due to discharge=0.5	
Warmwater Permanent																6.5-9.0; Max change due to discharge=0.5	
Warmwater Semipermanent																6.0-9.0; Max change due to discharge=0.5	
Warmwater Marginal																6.0-9.0; Max change due to discharge=0.5	
Fish & Wildlife, rec., stock																NNS	NNS
<b>Texas</b>																	
Aquatic Life, Exceptional	114.45 D	104.51 D	WET biomonitoring	WET biomonitoring	WET biomonitoring	WET biomonitoring	45.8 T	10.7 T	NARR	NNS	NNS	site-specific	24 hour avg (mean)/minimum per 8 hours/day(min)=6.0/4.0; spring mean/min=6.0/5.0	site-specific	site-specific & NARR	NARR	
Aquatic Life, High																	mean/min=5.0/3.0; spring mean/min=5.5/4.5
Aquatic Life, Intermediate																	mean/min=4.0/3.0; spring mean/min=5.0/4.0
Aquatic Life, Limited																	mean/min=3.0/2.0; spring mean/min=4.0/3.0

	Zinc	Zinc	Chlorine	Chlorine	Ammonia	Ammonia	Cyanide	Cyanide	Other Nutrients	Diazinon	Nonylphenol	Temperature	Dissolved Oxygen	pH	TDS/Salinity	TSS/Turbidity							
	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic															
	ug/L	ug/L	(ug/L) Total Residual	(ug/L) Total Residual	(mg/L) Unionized Ammonia (UIA); Total Ammonia (TA)	(mg/L) Unionized Ammonia (UIA); Total Ammonia (TA)	(WAD) ug/L	(WAD) ug/L				C	mg/L	standard units	mg/L	NTU							
<b>Utah</b>																							
Class 3A (Aq. Cold)	120 D	110 D	19	11	13.4	1.03	22 D	5.2 D	total phosphorus (mg/L) = 0.05	NNS	NNS	Max change=2; Max temp=20	(early life stages/other life stages) 1-day ave=8.0/4.0; 7-day ave=9.5/5.0; 30-day ave=6.5	6.5-9.0	Colorado River specific: Adopted from CRS, June 1975	TSS (mg/L)=35; Max increase IN NTU=10							
Class 3B (Aq. Warm)					19	1.45										NNS	NNS	Max change=4; Max temp=27	(early life stages/other life stages) 1-day ave=5.0/3.0; 7-day ave=6.0/4.0; 30-day ave=5.5	TSS (mg/L)=90; Max increase IN NTU=10			
Class 3C (Aq. Nongame)																				NNS	NNS	1-day ave=3.0; 30-day ave=5.0	TSS (mg/L)=90; Max increase IN NTU=15
Class 3D (Wildlife)																							
Class 3E (Habitat Limited)	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR	NARR							
<b>Washington</b>																							
Class AA	114.45 D	104.51 D	19	11	Salmonids present=0.0925; Salmonids absent=0.1307	Salmonids present or absent=0.0139	22 T	5.2 T	NNS	NNS	NNS	Max temp=16; Max Inc=0.3; & NARR	9.5	6.5-8.5; Max Inc=0.2	NNS	If background <50 NTU, Max Inc=5 NTU; If bckgrd > 50 NTU, Max Inc=10%							
Class A													Max temp=18; Max Inc=0.3; & NARR				8	6.5-8.5; Max Inc=0.5					
Class B													Max temp=21; Max Inc=0.3; & NARR				6.5		If background <50 NTU, Max Inc=10 NTU; If bckgrd > 50 NTU, Max Inc=20%				
Class C													NNS				NNS			NNS			
<b>Wyoming (c)</b>																							
F & W - Class 1 Cold	120 D (117.2 D)	110 D (118.1 D)	19	11	Salmonids or Other Sensitive Coldwater Species Present=0.093 (UIA); Absent=0.131 (UIA); (Revised= salmonids present=24.1 (TA); absent = 36.1 (TA))	Salmonids or Other Sensitive Coldwater Species Present=0.0059; Absent=0.0083; (Revised = fish early life stages present or absent = 3.01 (TA))	22 T	5.2 T	NNS	NNS	NNS	NARR & Max Inc. due to discharge=1.1; Max temp=25.6	Various criteria to protect different life stages; minimum instantaneous stds to be achieved at all times = coldwater - 7-day mean min = 5.0; 1-day min = 8.0 (intergravel); warmwater, Class 3 = 7-day mean min = 4.0; 1-day min = 5.0 (early life stages present), 3.0 (other life stages)	6.5-9.0	Colorado River Basin, Adopted	Max increase due to discharge=10							
F & W - Class 1 Warm																NARR & Max Inc. due to discharge=2.2; Max temp=32.2	Max increase due to discharge=15						
F & W - Class 2 Cold																NARR & Max Inc. due to discharge=1.1; Max temp=25.6	Max increase due to discharge=10						
F & W - Class 2 Warm																NARR & Max Inc. due to discharge=2.2; Max temp=32.2	Max increase due to discharge=15						
F & W - Class 3																NNS	NNS	NNS					
F & W - Class 4	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS								

1. For metals use hardness of 100 mg/L as CaCO3
2. Ammonia - pH = 7.0; Temp = 25 C
3. NARR = narrative; NNS = no numeric standard
4. D = dissolved; T = total recoverable; TOTAL = Total metal

- (a) State triennial review to be completed by Jan. 2001 (values
- (b) Numeric criteria for metals from federally promulgated Calif
- (c) Revised rules proposed August, 2000 (values in parentheses

**Table K-3  
Narrative Water Quality Criteria for the 17 Western States**

	<b>Arizona</b>	<b>California</b>	<b>Colorado</b>	<b>Idaho</b>	<b>Kansas</b>	<b>Montana</b>
<b>Toxics</b>	A surface water shall be free from pollutants in amounts or combinations that are toxic to humans, animals, plants, or other organisms.	The concentrations of toxic pollutants in the water column, sediments or biota shall not adversely affect beneficial uses.	Except where authorized by permits, Best Management Practices (BMPs), 401 certifications, or plans of operation approved by the Division or other applicable agencies, state surface waters shall be free from substances attributable to human-caused point source or nonpoint source discharge in amounts, concentrations or combinations which (for all surface waters except wetlands) are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life.	Surface waters of the state shall be free from toxic substances in concentrations that impair designated beneficial uses. These substances do not include suspended sediment produced as a result of nonpoint source activities.	(l) Conditions of acute toxicity shall not occur in classified surface waters outside of zones of initial dilution, nor shall conditions of chronic toxicity occur in classified surface waters outside of mixing zones. (ii) Acute criteria for the aquatic life support use given in tables 1a, 1b and 1c of K.A.R. 28-16-28e(d) shall apply beyond the edge of the zone of initial dilution. Chronic criteria for the aquatic life support use given in tables 1a, 1b and 1c of K.A.R. 28-16-28e(d) shall apply beyond the edge of the mixing zone. (iii) When a discharge contains a toxic substance that lacks any published criteria for the aquatic life support use, or when a discharge contains a complex mixture of toxic substances capable of additive or synergistic interactions, bioassessment methods and procedures shall be used by the department to establish whole-effluent-toxicity limitations which are consistent with paragraph (2) (f) (i) of this subsection.	State surface waters must be free from substances attributable to municipal, industrial, agricultural practices or other discharges that will create concentrations or combinations of materials which are toxic or harmful to human, animal, plant or aquatic life.
<b>Nutrients</b>	A surface water shall be free from pollutants in amounts or combinations that cause the growth of algae or aquatic plants that inhibit or prohibit the habitation, growth, or propagation of other aquatic life or that impair recreational uses.	Waste discharges shall not contribute to excessive algal growth in inland surface receiving waters.	Except where authorized by permits, BMPs, 401 certifications, or plans of operation approved by the Division or other applicable agencies, state surface waters shall be free from substances attributable to human-caused point source or nonpoint source discharge in amounts, concentrations or combinations which (for all surface waters except wetlands) produce a predominance of undesirable aquatic life.	Surface waters of the state shall be free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses.	The introduction of plant nutrients into streams, lakes or wetlands from artificial sources shall be controlled to prevent the accelerated succession or replacement of aquatic biota or the production of undesirable quantities or kinds of aquatic life.	State surface waters must be free from substances attributable to municipal, industrial, agricultural practices or other discharges that will create conditions which produce undesirable aquatic life.
<b>Sediment</b>	A surface water shall be free from pollutants in amounts or combinations that settle to form bottom deposits that inhibit or prohibit the habitation, growth, or propagation of aquatic life or that impair recreational uses.	Inland surface waters shall not contain suspended or settleable solids in amounts which cause a nuisance or adversely affect beneficial uses as a result of controllable water quality factors.	Except where authorized by permits, BMPs, 401 certifications, or plans of operation approved by the Division or other applicable agencies, state surface waters shall be free from substances attributable to human-caused point source or nonpoint source discharge in amounts, concentrations or combinations which (for all surface waters except wetlands) can settle to form bottom deposits detrimental to the beneficial uses. Depositions are stream bottom buildup of materials which include but are not limited to anaerobic sludges, mine slurry or tailings, silt, or mud.	Sediment shall not exceed quantities specified in Sections 250 and 252, or, in the absence of specific sediment criteria, quantities which impair designated beneficial uses. Determinations of impairment shall be based on water quality monitoring and surveillance and the information utilized as described in Section 350.	Surface waters shall be free of deposits of sludge or fine solids attributable to artificial sources of pollution.	State surface waters must be free from substances attributable to municipal, industrial, agricultural practices or other discharges that will settle to form objectionable sludge deposits or emulsions beneath the surface of the water or upon adjoining shorelines.
<b>Other</b>				Surface waters of the state shall be free from oxygen-demanding materials in concentrations that would result in an anaerobic water condition.		

**Table K-3  
Narrative Water Quality Criteria for the 17 Western States**

	<b>Nebraska</b>	<b>Nevada</b>	<b>New Mexico</b>	<b>North Dakota</b>	<b>Oklahoma</b>	<b>Oregon</b>
<b>Toxics</b>	Surface waters shall be free from toxic substances, alone or in combination with other substances, in concentrations that result in acute or chronic toxicity to aquatic life, except as specified in Chapter 2. (sentence pertaining to bioaccumulation removed) (In implementing these criteria, the Department will follow procedures outlined in the State's Continuing Planning Process which comply with the federal water quality standards, 40 C.F.R. 131.11 (1987)).	(4) Water must be free from high temperature, biocides, organisms pathogenic to human beings, toxic, corrosive or other deleterious substances attributable to domestic or industrial waste or other controllable sources at levels or combinations sufficient to be toxic to human, animal, plant or aquatic life or in amounts sufficient to interfere with any beneficial use of the water. Compliance with the provisions of this subsection may be determined in accordance with methods of testing prescribed by the department. If used as an indicator, survival of test organisms must not be significantly less in test water than in control water. (5) If toxic materials are known or suspected by the department to be present in a water, testing for toxicity may be required to determine compliance with the provisions of this section and effluent limitations. The department may specify the method of testing to be used. The failure to determine the presence of toxic materials by testing does not preclude a determination by the department, on the basis of other criteria or methods, that excessive levels of toxic materials are present.	Surface waters of the State shall be free of toxic pollutants attributable to discharges in amounts, concentrations or combinations which affect the propagation of fish or which are toxic to fish or other aquatic organisms; wildlife using aquatic environments for habitation or aquatic organisms for food; or to livestock or other animals; except that the use of a piscicide registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. Section 136 et seq., and under the New Mexico Pesticide Control Act (NMPCA), NMSA 1978 Section 76-4-1 et seq. (1973), shall not be a violation of Section 1102.F when such use has been approved by the Commission. (Process for obtaining Commission approval goes here).	All waters of the state shall be free from substances attributable to municipal, industrial, or other discharges or agricultural practices in concentrations or combinations which are toxic or harmful to human, animal, plant, or resident aquatic biota. This standard will be enforced by use of the procedures referenced in subsection 3 of section 33-16-02-07.	(A) Surface waters of the state shall not exhibit acute toxicity and shall not exhibit chronic toxicity outside the mixing zone. Acute test failure and chronic test failure shall be used to determine discharger compliance with these narrative aquatic life toxics criteria. The narrative criterion specified in this subparagraph (A) which prohibits acute toxicity shall be maintained at all times and shall apply to all surface waters of the state. The narrative criterion specified in this subparagraph (A) which prohibits chronic toxicity shall apply at all times outside the mixing zone and within the zone of passage to all waters of the state except: (i) When a discharge into surface waters designated with the Fish and Wildlife Propagation beneficial use complies with and meets the discharge permit limitations but the flow immediately upstream from the discharge is less than one (1) cubic foot per second or when the flow falls below the seven-day, two-year low-flow, whichever is larger. For purposes of the permitting process, the regulatory low flow shall be the larger of one (1) cubic foot per second or the seven-day, two-year low flow; and (ii) To streams listed as ephemeral in Appendix A.	Toxic substances shall not be introduced above natural background levels in the waters of the state in amounts, concentrations, or combinations which may be harmful, may chemically change to harmful forms in the environment, or may accumulate in sediments or bioaccumulate in aquatic life or wildlife to levels that adversely affect public health, safety, or welfare; aquatic life; wildlife; or other designated beneficial uses.
<b>Nutrients</b>	To be aesthetically acceptable, waters shall be free from human-induced pollution which causes the occurrence of undesirable or nuisance aquatic life (e.g. algal blooms).	Waters must be free from materials attributable to domestic or industrial waste or other controllable sources in amounts sufficient to produce taste or odor in the water or detectable off-flavor in the flesh of fish or in amounts sufficient to change the existing color, turbidity, or other conditions in the receiving stream to such a degree as to create a public nuisance or in amounts sufficient to interfere with any beneficial use of the water.	Plant nutrients from other than natural causes shall not be present in concentrations which will produce undesirable aquatic life or result in a dominance of nuisance species in surface waters of the state.	(TABLE FOOTNOTE) The standards for nitrates (N) and phosphorus (P) are intended as interim guideline limits. Since each stream or lake has unique characteristics which determine the levels of these constituents that will cause excessive plant growth (eutrophication), the department reserves the right to review these standards after additional study and to set specific limitations on any waters of the state. However, in no case shall the standard for nitrates (N) exceed ten milligrams per liter for any waters used as a municipal or domestic drinking water supply.	Nutrients from point source discharges or other sources shall not cause excessive growth of periphyton, phytoplankton, or aquatic macrophyte communities which impairs any existing or designated beneficial use.	The development of fungi or other growths having a deleterious effect on stream bottoms, fish or other aquatic life, or which are injurious to health, recreation, or industry shall not be allowed.
<b>Sediment</b>	To be aesthetically acceptable, waters shall be free from human-induced pollution which causes floating, suspended, colloidal, or settleable materials that produce objectionable films, colors, turbidity, or deposits.	Waters must be free from substances attributable to domestic or industrial waste or other controllable sources that will settle to form sludge or bottom deposits in amounts sufficient to be unsightly, putrescent or odorous or in amounts sufficient to interfere with any beneficial use of the water.	Surface waters of the state shall be free of water contaminants from other than natural causes that will settle and damage or impair the normal growth, function, or reproduction of aquatic life or significantly alter the physical or chemical properties of the bottom.	All waters of the state shall be free from substances attributable to municipal, industrial, or other discharges or agricultural practices that will cause the formation of putrescent or otherwise objectionable sludge deposits.	The water must also be free from noxious odors and tastes, from materials that settle to form objectionable deposits, and discharges that produce undesirable effects or is a nuisance to aquatic life.	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry shall not be allowed.
<b>Other</b>	Any human activity causing water pollution which would significantly degrade the biological integrity of a body of water or significantly impact or displace an identified "key species" shall not be allowed except as specified in Chapter 2.	(Metals) Wastes from municipal, industrial, or other controllable sources containing arsenic, barium, boron, cadmium, chromium, cyanide, lead, selenium, silver, copper and zinc that are reasonably amenable to treatment or control must not be discharged untreated or uncontrolled into the waters of Nevada. In addition, the limits for concentrations of the chemical constituents must provide water quality consistent with the mandatory requirements of the 1962 Public Health Service Drinking Water Standards.	(Wildlife Habitat, toxic criteria) Wildlife habitat should be free from any substances at concentrations that are toxic to or will adversely affect plants and animals that use these environments for feeding, drinking, habitat or propagation, or can bioaccumulate and impair the community of animals in a watershed or the ecological integrity of surface water of the State.		[BIOLOGICAL] (A) Aquatic life in all waterbodies designated Fish and Wildlife Propagation (excluding waters designated "Trout, put-and-take") shall not exhibit degraded conditions as indicated by one or both of the following: (I) comparative regional reference data from a station of reasonable similar watershed size or flow, habitat type and Fish and Wildlife beneficial use subcategory designation or (ii) by comparison with historical data from the waterbody being evaluated. (B) Compliance with the requirements of 785:45-5-12(e)(5) shall be based upon measures including, but not limited to, diversity, similarity, community structure, species tolerance, trophic structure, dominant species, indices of biotic integrity (IBI's), indices of well being (IWB's), or other measures.	Waters of the state shall be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities.

**Table K-3  
Narrative Water Quality Criteria for the 17 Western States**

	<b>South Dakota</b>	<b>Texas</b>	<b>Utah</b>	<b>Washington</b>	<b>Wyoming</b>
<b>Toxics</b>	Toxic pollutants at levels which are or may become injurious to public health, safety, or welfare; plant, aquatic, and animal life; or the existing or designated uses of waters may not be present in the surface waters of the state. The toxic pollutants to which this section applies are the priority pollutants and chemicals in 40 C.F.R. Part 131 (July 1, 1995) and any other toxic pollutants or substances determined by the secretary to be of concern at a specific site. Appendix B at the end of this chapter lists the priority pollutants and chemicals for which specific numeric criteria have been adopted by the board.	(General) Surface waters will not be toxic to man from ingestion of water, consumption of aquatic organisms, or contact with the skin, or to terrestrial or aquatic life. Additional requirements and criteria for toxic substances are specified in 307.6 of this title (relating to Toxic Materials). Criteria to protect aquatic life from acute toxicity apply to all surface waters in the state except as specified in 307.8(a)(2) of this title. Criteria to protect aquatic life from chronic toxicity apply to surface waters with a significant aquatic life use of limited, intermediate, high, or exceptional as designated in 307.10 of this title (relating to Appendices A - E) or as determined on a case-by-case basis in accordance with subsection (1) of this section. Toxic criteria to protect human health for consumption of fish apply to waters with a sustainable or incidental fishery, as described in 307.6(d) of this title. Additional criteria apply to water in the state with a public drinking water supply use, as described in 307.6(d) of this title. The general provisions of this subsection do not change specific provisions in 307.8 of this title for applying toxic criteria. (Toxic Materials) (ones that repeat those statements found in the general narrative standards were not included in this summary) Water in the state shall be maintained to preclude adverse toxic effects on aquatic life, terrestrial wildlife, livestock, or domestic animals, resulting from contact, consumption of aquatic organisms, consumption of water, or any combination of the three. Enforced by WET biomonitoring.	It shall be unlawful, and a violation of these regulations, for any person to discharge or place any waste or other substance in such a way as will be or may become offensive such as: or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life.	Toxic substances shall not be introduced above natural background levels in waters of the state which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic toxicity to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the department.	Except for those substances referenced in Sections 21 (e) and (f), toxic materials attributable to or influenced by the activities of man shall not be present in any Wyoming surface water in concentrations or combinations which constitute "Pollution" as that term is defined in W.S. 35-11-103 (C) (i).
<b>Nutrients</b>	Materials which produce nuisance aquatic life may not be discharged or caused to be discharged into surface waters of the state in concentrations that impair a beneficial use or create a human health problem. (also see "Sediment" narrative, regarding algal blooms and fungus growths)	Nutrients from permitted discharges or other controllable sources shall not cause excessive growth of aquatic vegetation which impairs an existing, attainable, or designated use. Site-specific nutrient criteria, nutrient permit limitations, and/or separate rules to control nutrients in individual watersheds will be established where appropriate after notice and opportunity for public participation and proper hearing.	It shall be unlawful, and a violation of these regulations, for any person to discharge or place any waste or other substance in such a way as will be or may become offensive such as: or cause conditions which produce undesirable aquatic life.		All Wyoming surface waters shall be free from substances and conditions or combinations thereof which are attributable to municipal, industrial or other dischargers or agricultural practices, in concentrations which produce undesirable aquatic life.
<b>Sediment</b>	Raw or treated sewage, garbage, rubble, unpermitted fill materials, municipal wastes, industrial wastes, or agricultural wastes which produce floating solids, scum, oil slicks, material discoloration, visible gassing, sludge deposits, sediments, slimes, algal blooms, fungus growths, or other offensive effects may not be discharged or caused to be discharged into surface waters of the state.	Surface waters shall be essentially free of floating debris and suspended solids that are conducive to producing adverse responses in aquatic organisms or putrescible sludge deposits or sediment layers which adversely affect biota or any lawful uses.	It shall be unlawful, and a violation of these regulations, for any person to discharge or place any waste or other substance in such a way as will be or may become offensive such as: unnatural deposits.		In all Wyoming surface waters, substances attributable to or influenced by the activities of man that will settle to form sludge, bank or bottom deposits shall not be present in quantities which could result in significant aesthetic degradation, significant degradation of habitat for aquatic life or adversely affect public water supplies, agricultural or industrial water use, plant life or wildlife.
<b>Other</b>	All waters of the state must be free from substances, whether attributable to human-induced point source discharges or nonpoint source activities, in concentrations or combinations which will adversely impact the structure and function of indigenous or intentionally introduced aquatic communities.	Aquatic life uses and habitat. Vegetative and physical components of the aquatic environment will be maintained or mitigated to protect aquatic life uses. Procedures to protect habitat in permits for dredge and fill activities are specified in Federal Clean Water Act, 404 and in Chapter 279 of this title (relating to Water Quality Certification).			

western states. The majority of the states have narrative criteria for toxics, nutrients, and sediments.

#### **1.1.4 National Pollutant Discharge Elimination System Permits**

Water quality standards are used to derive National Pollutant Discharge Elimination System (NPDES) permits. **Table K-4** shows the constituents for which NPDES permit limits have been developed for the 10 study areas. This table is based on current permit requirements. Some of the study areas are in the process of negotiating new NPDES permits and therefore requirements for some of the areas may vary in the future. Of the 15 wastewater treatment plants (WWTPs) examined as part of the study, 8 have some permit limitations for metals. Nine of the 15 WWTPs have permit limitations for ammonia. WET testing is required for 13 of the WWTPs studied.

The constituents presented in **Table K-4** were selected because water quality criteria to protect aquatic life have been developed for these substances and they are further being studied as part of the Extant Criteria Study. Each of the 10 study areas has some type of aquatic life use associated with the stream segment where the WWTP discharges. This evaluation shows that based on current NPDES permits, differences occur in developing ammonia and metals limitations to protect aquatic life uses for the 10 study areas.

**Table K-4  
NDPES Permit Requirements for 10 Study Areas**

	<b>91<sup>st</sup> Ave WWTP Phoenix, AZ</b>	<b>NIWTP Nogales, AZ</b>	<b>Roger Road WWTP Tucson, AZ</b>	<b>Ina Road WWTP Tucson, AZ</b>	<b>RIX Facility Colton/San Bernardino, CA</b>	<b>Riverside WWTP Riverside, CA</b>	<b>Las Vegas Street WWTP Colorado Springs, CO</b>	<b>Central WWTP Denver, CO</b>	<b>Las Vegas WWTP Las Vegas, NV</b>	<b>Clark County WWTP Clark County, NV</b>	<b>Henderson WWTP Henderson, NV</b>	<b>Santa Fe WWTP Santa Fe, NM</b>	<b>Carrizo Springs WWTP Carrizo Springs, TX</b>	<b>Crow Creek WWTP Cheyenne, WY</b>	<b>Dry Creek WWTP Cheyenne, WY</b>
Arsenic		x			x			x							
Mercury		x			x		x	x							
Silver	x	x			x		x	x							
Selenium	x	x			x			x							
Cadmium	x	x			x			x							
Copper	x	x	x	x	x	x	x	x							
Lead	x	x			x			x							
Nickel					x			x							
Zinc	x	x			x		x	x							
Chlorine	x	x	x	x	x	x	x	x						x	x
Ammonia		x			x	x	x	x	x	x	x		x		
Cyanide	x	x					x	x		x	x				
Nutrients					x	x		x	x			x			
Diazanon										x	x				
Nonylphenol															
Temperature															
DO								x							
pH	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
TDS/Salinity						x									
TSS/Turbidity	x	x	x	x	x	x	x	x		x	x	x	x	x	x
WET	x	x	x	x	x	x	x	x	x	x	x			x	x