

IDAPA 58 – DEPARTMENT OF ENVIRONMENTAL QUALITY

58.01.02 – WATER QUALITY STANDARDS

DOCKET NO. 58-0102-1701

NOTICE OF RULEMAKING – ADOPTION OF PENDING RULE

EFFECTIVE DATE: This rule has been adopted by the Board of Environmental Quality (Board) and is now pending review by the 2018 Idaho State Legislature for final approval. The pending rule will become final and effective immediately upon the adjournment sine die of the Second Regular Session of the Sixty-fourth Idaho Legislature unless prior to that date the rule is rejected in whole or in part by concurrent resolution in accordance with Idaho Code Sections 67-5224 and 67-5291.

AUTHORITY: In compliance with Section 67-5224, Idaho Code, notice is hereby given that the Board has adopted a pending rule. This action is authorized by Sections 39-105, 39-107, and 39-3601 et seq., Idaho Code.

DESCRIPTIVE SUMMARY: A detailed summary of the reason for adopting the rule is set forth in the initial proposal published in the Idaho Administrative Bulletin, September 6, 2017, [Vol. 17-9, pages 311 through 331](#). After consideration of public comments, Subsection 210.01., table footnote r, and Section 287 have been revised. The remainder of the rule has been adopted as initially proposed. The Rulemaking and Public Comment Summary can be obtained at www.deq.idaho.gov/58-0102-1701 or by contacting the undersigned.

IDAHO CODE SECTION 39-107D STATEMENT: This rule does not regulate an activity not regulated by the federal government, nor is it broader in scope or more stringent than federal regulations.

FISCAL IMPACT STATEMENT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars (\$10,000) during the fiscal year when the pending rule will become effective: Not applicable.

ASSISTANCE ON TECHNICAL QUESTIONS: For assistance on technical questions concerning this rulemaking, contact Stephanie Jenkins at stephanie.jenkins@deq.idaho.gov or (208) 373-0407.

DATED this 3rd day of January, 2018.

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DOCKET NO. 58-0102-1701 - ADOPTION OF PENDING RULE

Substantive changes have been made to the pending rule.
Italicized red text that is double underscored is new text that has been added to the pending rule.

The text of the proposed rule was published in the Idaho Administrative Bulletin,
Volume 17-9, September 6, 2017, pages 311 through 331.

This rule has been adopted as a pending rule by the Agency and is now awaiting
review and final approval by the 2018 Idaho State Legislature.

THE FOLLOWING IS THE TEXT OF THE AMENDED PENDING RULE FOR
DOCKET NO. 58-0102-1701

(Only those sections or subsections that have changed from the original proposed
text are printed in this Bulletin following this notice.)

210. NUMERIC CRITERIA FOR TOXIC SUBSTANCES FOR WATERS DESIGNATED FOR
AQUATIC LIFE, RECREATION, OR DOMESTIC WATER SUPPLY USE.

01. Criteria for Toxic Substances. The criteria of Section 210 apply to surface waters of the state as
follows. (5-3-03)

[Subsection 210.01.c. (Table line "r." numbers 1. through 4.)]

c. Column C1 of the following table applies to waters designated for domestic water supply use.

A		B Aquatic life			C Human health for consumption of:			
(Number) Compound	a CAS Number	b CMC (µg/L)	b CCC (µg/L)	Carcinogen?	Water & fish (µg/L)		Fish only (µg/L)	
		B1	B2		C1		C2	
1 Antimony	7440360				5.2	c	190	c
2 Arsenic	7440382	340 e	150 e	Y	10	dfq	10	dfq

A		B Aquatic life				C Human health for consumption of:	
(Number) Compound	a CAS Number	b CMC (µg/L)	b CCC (µg/L)	Carcinogen?	Water & fish (µg/L)	Fish only (µg/L)	
		B1	B2		C1	C2	
<p>Note: In 2008, Idaho adopted 10 µg/L as its CWA arsenic criterion for both exposure through fish consumption only and exposure through drinking water+fish consumption, choosing the SDWA MCL due to concerns about background levels that exceed EPA's 304(a) criteria (docket 58-0102-0801). EPA approved this action in 2010. In June 2016, Northwest Environmental Advocates challenged EPA's 2010 approval. Court remanded action back to EPA. On September 15, 2016 EPA disapproved Idaho's adoption of 10 µg/L. Until new criteria are adopted, EPA will use criteria of 6.2 µg/L for exposure through fish consumption only and 0.02 µg/L for exposure through both drinking water + consumption of fish in its NPDES permitting actions. These criteria are published in 1996 Idaho Administrative Code (Subsections 250.01.c, 250.02.a.iv, 250.03.a.i). For more information, go to http://www.deq.idaho.gov/epa-actions-on-proposed-standards.</p>							
3	Beryllium	7440417				h	h
4	Cadmium	7440439	1.3 i	0.6 i		h	h
5a	Chromium III	16065831	570 i	74 i		h	h
5b	Chromium VI	18540299	16 e	11 e		h	h
6	Copper	7440508	17 i	11 i		1,300 q	
7	Lead	7439921	65 i	2.5 i		h	h
8a	Mercury	7439976		g			
<p>Note: In 2005, Idaho adopted EPA's recommended methylmercury fish tissue criterion for protection of human health (docket 58-0102-0302). The decision was made to remove the old tissue-based aquatic life criteria and rely on the fish tissue criterion to provide protection for aquatic life as well as human health. Thus, current Idaho water quality standards do not have mercury water column criteria for the protection of aquatic life. While EPA approved Idaho's adoption of the fish tissue criterion in September 2005, it had withheld judgment on Idaho's removal of aquatic life criteria. On December 12, 2008, EPA disapproved Idaho's removal of the old aquatic life criteria. The water column criteria for total recoverable mercury published in 2004 Idaho Administrative Code continue to apply and are effective for CWA purposes. For more information go to http://www.deq.idaho.gov/epa-actions-on-proposed-standards.</p>							
8b	Methylmercury	22967926					0.3 mg/kg p
9	Nickel	7440020	470 i	52 i		58 c	100 c
10	Selenium ¹	7782492	20 f	5 f		29 c	250 c
<p>¹Effective for CWA purposes. The CMC value and footnote and the CCC value are effective for CWA purposes until the date EPA issues written notification that the revisions adopted under Rule Docket No. 58-0102-1701 have been approved.</p>							
10	Selenium ²	7782492	20 s f	5 r f		29 c	250 c
<p>²Not yet effective for CWA purposes. CMC footnote s, and CCC footnote r, are not effective for CWA purposes until the date EPA issues written notification that the revisions adopted under Rule Docket No. 58-0102-1701 have been approved.</p>							
11	Silver	7440224	3.4 i				
12	Thallium	7440280				0.017 c	0.023 c

A		B Aquatic life				C Human health for consumption of:				
(Number) Compound	a CAS Number	b CMC (µg/L)		b CCC (µg/L)		Carcinogen?	Water & fish (µg/L)		Fish only (µg/L)	
		B1		B2			C1		C2	
13	Zinc	7440666	120 i	120 i			870 c		1,500 c	
14	Cyanide	57125	22 j	5.2 j			3.9 c		140 c	
15	Asbestos	1332214					7,000,000 fibers/L q			
16	2, 3, 7, 8-TCDD Dioxin	1746016				Y	1.8E-08 cl		1.9E-08 cl	
17	Acrolein	107028					3.2 c		120 c	
18	Acrylonitrile	107131				Y	0.60 cl		22 cl	
19	Benzene	71432					3.0 cl		28 c	
20	Bromoform	75252				Y	62 cl		380 cl	
21	Carbon Tetrachloride	56235				Y	3.6 cl		15 cl	
22	Chlorobenzene	108907					89 c		270 c	
23	Chlorodibromomethane	124481				Y	7.4 cl		67 cl	
24	Chloroethane	75003						h		h
25	2-Chloroethylvinyl Ether	110758						h		h
26	Chloroform	67663					61 c		730 c	
27	Dichlorobromomethane	75274				Y	8.8 cl		86 cl	
28	1,1-Dichloroethane	75343						h		h
29	1,2-Dichloroethane	107062				Y	96 cl		2,000 cl	
30	1,1-Dichloroethylene	75354					310 c		5,200 c	
31	1,2-Dichloropropane	78875				Y	8.5 cl		98 cl	
32	1,3-Dichloropropene	542756				Y	2.5 cl		38 cl	
33	Ethylbenzene	100414					32 c		41 c	
34	Methyl Bromide	74839					130 c		3,700 c	
35	Methyl Chloride	74873						h		h
36	Methylene Chloride	75092					38 c		960 c	
37	1,1,2,2-Tetrachloroethane	79345				Y	1.4 cl		8.6 cl	
38	Tetrachloroethylene	127184					15 c		23 c	
39	Toluene	108883					47 c		170 c	
40	1,2-Trans-Dichloroethylene	156605					120 c		1,200 c	

A		B Aquatic life			C Human health for consumption of:				
(Number) Compound	a CAS Number	b CMC (µg/L)	b CCC (µg/L)	Carcinogen?	Water & fish (µg/L)		Fish only (µg/L)		
		B1	B2		C1		C2		
41	1,1,1-Trichloroethane	71556				11,000	c	56,000	c
42	1,1,2-Trichloroethane	79005			Y	4.9	cl	29	cl
43	Trichloroethylene	79016				2.6	c	11	c
44	Vinyl Chloride	75014			Y	0.21	cl	5.0	cl
45	2-Chlorophenol	95578				30	c	260	c
46	2,4-Dichlorophenol	120832				9.6	c	19	c
47	2,4-Dimethylphenol	105679				110	c	820	c
48	2-Methyl-4,6-Dinitrophenol	534521				1.6	c	8.6	c
49	2,4-Dinitrophenol	51285				12	c	110	c
50	2-Nitrophenol	88755					h		h
51	4-Nitrophenol	100027					h		h
52	3-Methyl-4-Chlorophenol	59507				350	c	750	c
53	Pentachlorophenol	87865	20 m	13 m	Y	0.11	cl	0.12	cl
54	Phenol	108952				3,800	c	85,000	c
55	2,4,6-Trichlorophenol	88062				1.5	c	2.0	c
56	Acenaphthene	83329				26	c	28	c
57	Acenaphthylene	208968					h		h
58	Anthracene	120127				110	c	120	c
59	Benzidine	92875			Y	0.0014	cl	0.033	cl
60	Benzo(a)Anthracene	56553			Y	0.0042	cl	0.0042	cl
61	Benzo(a)Pyrene	50328			Y	0.00042	cl	0.00042	cl
62	Benzo(b)Fluoranthene	205992			Y	0.0042	cl	0.0042	cl
63	Benzo(ghi)Perylene	191242					h		h
64	Benzo(k)Fluoranthene	207089			Y	0.042	cl	0.042	cl
65	Bis(2-Chloroethoxy) Methane	111911					h		h
66	Bis(2-Chloroethyl)Ether	111444			Y	0.29	cl	6.8	cl
67	Bis(2-Chloroisopropyl) Ether	108601				220	c	1,200	c

A		B Aquatic life			C Human health for consumption of:				
(Number) Compound	a CAS Number	b CMC (µg/L)	b CCC (µg/L)	Carcinogen?	Water & fish (µg/L)		Fish only (µg/L)		
		B1	B2		C1		C2		
68	Bis(2-Ethylhexyl) Phthalate	117817			Y	1.2	cl	1.2	cl
69	4-Bromophenyl Phenyl Ether	101553					h		h
70	Butylbenzyl Phthalate	85687				0.33	c	0.33	c
71	2-Chloronaphthalene	91587				330	c	380	c
72	4-Chlorophenyl Phenyl Ether	7005723					h		h
73	Chrysene	218019			Y	0.42	cl	0.42	cl
74	Dibenzo (a,h) Anthracene	53703			Y	0.00042	cl	0.00042	cl
75	1,2-Dichlorobenzene	95501				700	c	1,100	c
76	1,3-Dichlorobenzene	541731				3.5	c	4.8	c
77	1,4-Dichlorobenzene	106467				180	c	300	c
78	3,3'-Dichlorobenzidine	91941			Y	0.29	cl	0.48	cl
79	Diethyl Phthalate	84662				200	c	210	c
80	Dimethyl Phthalate	131113				600	c	600	c
81	Di-n-Butyl Phthalate	84742				8.2	c	8.3	c
82	2,4-Dinitrotoluene	121142			Y	0.46	cl	5.5	cl
83	2,6-Dinitrotoluene	606202					h		h
84	Di-n-Octyl Phthalate	117840					h		h
85	1,2-Diphenylhydrazine	122667			Y	0.25	cl	0.65	cl
86	Fluoranthene	206440				6.3	c	6.4	c
87	Fluorene	86737				21	c	22	c
88	Hexachlorobenzene	118741			Y	0.00026	cl	0.00026	cl
89	Hexachlorobutadiene	87683			Y	0.031	cl	0.031	cl
90	Hexachloro-cyclopentadiene	77474				1.3	c	1.3	c
91	Hexachloroethane	67721				0.23	c	0.24	c
92	Ideno (1,2,3-cd) Pyrene	193395			Y	0.0042	cl	0.0042	cl
93	Isophorone	78591			Y	330	cl	6,000	cl

A		B Aquatic life			C Human health for consumption of:			
(Number) Compound	a CAS Number	b CMC (µg/L)	b CCC (µg/L)	Carcinogen?	Water & fish (µg/L)		Fish only (µg/L)	
		B1	B2		C1		C2	
94	Naphthalene	91203				h		h
95	Nitrobenzene	98953				12 c	180	c
96	N-Nitrosodimethylamine	62759			Y	0.0065 cl	9.1	cl
97	N-Nitrosodi-n-Propylamine	621647			Y	0.046 cl	1.5	cl
98	N-Nitrosodiphenylamine	86306			Y	3.14 cl	18	cl
99	Phenanthrene	85018				h		h
100	Pyrene	129000				8.1 c	8.4	c
101	1,2,4-Trichlorobenzene	120821				0.24 c	0.24	c
102	Aldrin	309002	3		Y	2.5E-06 cl	2.5E-06	cl
103	alpha-BHC	319846			Y	0.0012 cl	0.0013	cl
104	beta-BHC	319857			Y	0.036 cl	0.045	cl
105	gamma-BHC (Lindane)	58899	2	0.08		1.4 c	1.4	c
106	delta-BHC	319868				h		h
107	Chlordane	57749	2.4	0.0043	Y	0.0010 cl	0.0010	cl
108	4,4'-DDT	50293	1.1	0.001	Y	9.8E-05 cl	9.8E-05	cl
109	4,4'-DDE	72559			Y	5.5E-05 cl	5.5E-05	cl
110	4,4'-DDD	72548			Y	0.00042 cl	0.00042	cl
111	Dieldrin	60571	2.5	0.0019	Y	4.2E-06 cl	4.2E-06	cl
112	alpha-Endosulfan	959988	0.22	0.056		7.0 c	8.5	c
113	beta-Endosulfan	33213659	0.22	0.056		11 c	14	c
114	Endosulfan Sulfate	1031078				9.9 c	13	c
115	Endrin	72208	0.18	0.0023		0.011 c	0.011	c
116	Endrin Aldehyde	7421934				0.38 c	0.40	c
117	Heptachlor	76448	0.52	0.0038	Y	2.0E-05 cl	2.0E-05	cl
118	Heptachlor Epoxide	1024573	0.52	0.0038	Y	0.00010 cl	0.00010	cl
119	Polychlorinated Biphenyls PCBs:	n		0.014 n	Y	0.00019 clo	0.00019	clo
120	Toxaphene	8001352	0.73	0.0002	Y	0.0023 cl	0.0023	cl
121	Chlorine		19 k	11 k				

A		B Aquatic life			C Human health for consumption of:				
(Number) Compound	a CAS Number	b CMC (µg/L)	b CCC (µg/L)	Carcinogen?	Water & fish (µg/L)		Fish only (µg/L)		
		B1	B2		C1		C2		
122	1,2,4,5-Tetrachlorobenzene	95943				0.0093	c	0.0094	c
123	2,4,5-Trichlorophenol	95954				140	c	190	c
124	Bis (Chloromethyl) Ether	542881			Y	0.0015	cl	0.055	cl
125	Chlorophenoxy Herbicide (2,4,5-TP) [Silvex]	93721				82	c	130	c
126	Chlorophenoxy Herbicide (2,4-D)	94757				1,000	c	3,900	c
127	Dinitrophenols	25550587				13	c	320	c
128	Hexachlorocyclohexane (HCH)-Technical	608731			Y	0.027	cl	0.032	cl
129	Methoxychlor	72435				0.0054	c	0.0055	c
130	Pentachlorobenzene	608935				0.035	c	0.036	c

Table Footnotes

a. Chemical Abstracts Service (CAS) registry numbers which provide a unique identification for each chemical.

b. See definitions of Acute Criteria (CMC) and Chronic Criteria (CCC), Section 010 of these rules.

A		B Aquatic life			C Human health for consumption of:	
(Number) Compound	a CAS Number	b CMC (µg/L)	b CCC (µg/L)	Carcinogen?	Water & fish (µg/L)	Fish only (µg/L)
		B1	B2		C1	C2
<p>c. This criterion is based on input values to human health criteria calculation specified in Idaho's Technical Support Document (TSD) for Human Health Criteria Calculations - 2015. Criteria for non-carcinogens are calculated using the formula:</p> $AWQC = RfD * RSC * \left(\frac{BW}{DI + (FI * BAF)} \right)$ <p>and criteria for carcinogens are calculated using the formula:</p> $AWQC = RSD * \left(\frac{BW}{DI + (FI * BAF)} \right)$ <p>Where: AWQC = Ambient water quality criterion (mg/L)</p> <p>BW = Human Body Weight (kg), 80 is used in these criteria DI = Drinking Water Intake, (L/day), 2.4 is used in these criteria FI = Fish Intake, (kg/day), 0.0665 is used in these criteria</p> <p>BAF = Bioaccumulation Factor, L/kg, chemical specific value, see TSD RfD = Reference dose (mg/kg-day), chemical specific value, see TSD</p> $RSD = \frac{\text{Target Incremental Cancer Risk}}{\text{Cancer Potency Factor}} \text{ (mg/kg-day), chemical specific value, see TSD}$ <p>RSC = Relative Source Contribution, chemical specific value, see TSD</p>						
d. Inorganic forms only.						
e. Criteria for these metals are expressed as a function of the water effect ratio, WER, as defined in Subsection 210.03.c.iii. CMC = column B1 value X WER. CCC = column B2 value X WER.						
f. Criterion expressed as total recoverable (unfiltered) concentrations.						
g. No aquatic life criterion is adopted for inorganic mercury. However, the narrative criteria for toxics in Section 200 of these rules applies. The Department believes application of the human health criterion for methylmercury will be protective of aquatic life in most situations.						
h. No numeric human health criteria has been established for this contaminant. However, permit authorities should address this contaminant in NPDES permit actions using the narrative criteria for toxics from Section 200 of these rules.						

A		B Aquatic life			C Human health for consumption of:	
(Number) Compound	a CAS Number	b CMC (µg/L)	b CCC (µg/L)	Carcinogen?	Water & fish (µg/L)	Fish only (µg/L)
		B1	B2		C1	C2
i. Aquatic life criteria for these metals are a function of total hardness (mg/L as calcium carbonate), the pollutant's water effect ratio (WER) as defined in Subsection 210.03.c.iii. and multiplied by an appropriate dissolved conversion factor as defined in Subsection 210.02. For comparative purposes only, the example values displayed in this table are shown as dissolved metal and correspond to a total hardness of one hundred (100) mg/L and a water effect ratio of one (1.0).						
j. Criteria are expressed as weak acid dissociable (WAD) cyanide.						
k. Total chlorine residual concentrations.						
l. EPA guidance allows states to choose from a range of 10 ⁻⁴ to 10 ⁻⁶ for the incremental increase in cancer risk used in human health criteria calculation. Idaho has chosen to base this criterion on carcinogenicity of 10 ⁻⁵ risk.						
m. Aquatic life criteria for pentachlorophenol are expressed as a function of pH, and are calculated as follows. Values displayed above in the table correspond to a pH of seven and eight tenths (7.8). CMC = exp(1.005(pH)-4.830) CCC = exp(1.005(pH)-5.290)						
n. PCBs are a class of chemicals which include Aroclors, 1242, 1254, 1221, 1232, 1248, 1260, and 1016, CAS numbers 53469219, 11097691, 11104282, 11141165, 12672296, 11096825 and 12674112 respectively. The aquatic life criteria apply to this set of PCBs.						
o. This criterion applies to total PCBs, (e.g. the sum of all congener, isomer, or Aroclor analyses).						
p. This fish tissue residue criterion (TRC) for methylmercury is based on a human health reference dose (RfD) of 0.0001 mg/kg body weight-day; a relative source contribution (RSC) estimated to be 27% of the RfD; a human body weight (BW) of 70 kg (for adults); and a total fish consumption rate of 0.0175 kg/day for the general population, summed from trophic level (TL) breakdown of TL2 = 0.0038 kg fish/day + TL3 = 0.0080 kg fish/day + TL4 = 0.0057 kg fish/day. This is a criterion that is protective of the general population. A site-specific criterion or a criterion for a particular subpopulation may be calculated by using local or regional data, rather than the above default values, in the formula: TRC = [BW x {RfD - (RSCxRfD)}] / Σ TL. In waters inhabited by species listed as threatened or endangered under the Endangered Species Act or designated as their critical habitat, the Department will apply the human health fish tissue residue criterion for methylmercury to the highest trophic level available for sampling and analysis.						
q. This criterion is based on the drinking water Maximum Contaminant Level (MCL).						
<u>L</u>						

<u>Chronic</u>			<u>Short-term</u>		
<u>Egg-Ovary (mg/kg dw)</u>	<u>Fish Tissue (mg/kg dw)</u>		<u>Water Column (µg/L)</u>		<u>Water Column (µg/L)</u>
<u>Egg-Ovary</u>	<u>Whole-Body</u>	<u>Muscle</u>	<u>Water Lentic</u>	<u>Water Lotic</u>	<u>Water</u>
<u>151¹</u>	<u>8.5²</u>	<u>11.3²</u>	<u>1.5 (30 day average)³</u>	<u>3.1 (30 day average)³</u>	<u>Intermittent Exposure Equation^{3,4}</u>
<u>mg/kg dw – milligrams per kilogram dry weight, µg/L – micrograms per liter</u>					

1. Egg-ovary supersedes any whole-body, muscle, or water column element when fish egg-ovary concentrations are measured. Single measurement of an average or composite sample of at least five (5) individuals of the same species. Not to be exceeded; DEQ will evaluate all representative egg-ovary data to determine compliance with this criterion element.

2. Fish whole-body or muscle tissue supersedes water column element when both fish tissue and water concentrations are measured. Single measurement of an average or composite sample of at least five (5) individuals of the same species where the smallest individual is no less than seventy-five percent (75%) of the total length (size) of the largest individual. Not to be exceeded; DEQ will evaluate all representative whole body or muscle data to determine compliance with this criterion element.

3. Water column values are based on dissolved total selenium in water and are derived from fish tissue values via bioaccumulation modeling. Water column values are the applicable criterion element in the absence of steady-state condition fish tissue data. In fishless waters, selenium concentrations in fish from the nearest downstream waters may be used to assess compliance using methods provided in Aquatic Life Ambient Water Quality Criterion for Selenium – Freshwater, EPA-822-R-16-006, Appendix K: Translation of a Selenium Fish Tissue Criterion Element to a Site-Specific Water Column Value (June 2016).

4. Intermittent Exposure Equation=

$$\frac{WQC - C_{bkgnd}(1 - f_{int})}{f_{int}}$$

where WQC is the applicable water column element, for either lentic or lotic waters; C_{bkgnd} is the average background selenium concentration, and f_{int} is the fraction of any 30-day period during which elevated selenium concentrations occur, with f_{int} assigned a value ≥ 0.033 (corresponding to one day).

s. There is no specific acute criterion for aquatic life; however, the aquatic life criterion is based on chronic effects of selenium on aquatic life and is expected to adequately protect against acute effects

Footnotes r. and s. are not effective for CWA purposes until the date EPA issues written notification that the revisions adopted under Rule Docket No. 58-0102-1701 have been approved.

(3-25-16)()

03. Applicability. The criteria established in Section 210 are subject to the general rules of applicability in the same way and to the same extent as are the other numeric chemical criteria when applied to the same use classifications. Mixing zones may be applied to toxic substance criteria subject to the limitations set forth in Section 060 and set out below. (3-25-16)

d. Application of toxics criteria. (3-25-16)

[Subsection 210.03.d.i.]

i. Frequency and duration for aquatic life toxics criteria. Column B1 criteria are concentrations not to be exceeded for a one-hour average more than once in three (3) years unless otherwise specified. Column B2 criteria are concentrations not to be exceeded for a four-day average more than once in three (3) years unless otherwise specified. (3-25-16)()

(BREAK IN CONTINUITY OF SECTIONS)

287. SITE-SPECIFIC AQUATIC LIFE CRITERIA FOR SELENIUM.

Site-specific water column values (30-day average) are based on dissolved total selenium in water and are derived using a performance-based approach from fish tissue values via either the mechanistic modeling or empirical bioaccumulation factor (BAF) method in Aquatic Life Ambient Water Quality Criterion for Selenium – Freshwater, EPA-822-R-16-006, Appendix K: Translation of a Selenium Fish Tissue Criterion Element to a Site-Specific Water Column Value (June 2016). ()

[Subsection 287.01 (Table included)]

01. Subsection of Blackfoot Subbasin. Blackfoot River - confluence of Lanes and Diamond Creeks to Blackfoot Reservoir (unit US-10), and all tributaries thereof. Site-specific egg-ovary, whole-body, and muscle criterion elements for these water bodies are set out in the following table. The lentic and short-term exposure water column criterion elements set out in Subsection 210.01., table footnote r, are also applicable to the water bodies identified in this subsection.

Chronic			
<u>Egg-Ovary (mg/kg dw)</u>	<u>Fish Tissue (mg/kg dw)</u>		<u>Water Column (µg/L)</u>
<u>Egg-Ovary</u>	<u>Whole-Body</u>	<u>Muscle</u>	<u>Water Lotic</u>
<u>24.5¹</u>	<u>12.5²</u>	<u>12.8²</u>	<u>11.9^{3,4,5}</u>
<u>mg/kg dw – milligrams per kilogram dry weight, µg/L – micrograms per liter</u>			
<p><u>1. Egg-ovary supersedes any whole-body, muscle, or water column element when fish egg-ovary concentrations are measured. Single measurement of an average or composite sample of at least five (5) individuals of the same species. Not to be exceeded; DEQ will evaluate all representative egg-ovary data to determine compliance with this criterion element.</u></p> <p><u>2. Fish whole-body or muscle tissue supersedes water column element when both fish tissue and water concentrations are measured. Single measurement of an average or composite sample of at least five (5) individuals of the same species where the smallest individual is no less than seventy-five percent (75%) of the total length (size) of the largest individual. Not to be exceeded; DEQ will evaluate all representative whole-body or muscle data to determine compliance with this criterion element.</u></p> <p><u>3. Water column values are derived using the empirical BAF method. For comparative purposes only, the example value displayed in this table represents the lotic water column value for Sheep Creek based on the average BAF for Cutthroat Trout among all sampling locations and years.</u></p> <p><u>4. Lotic Water Column Equation=</u></p> $\frac{\text{Tissue}_{\text{criterion}}}{\text{BAF}}$ <p><u>where Tissue_{criterion} is the fish tissue element (whole-body), and BAF is the bioaccumulation factor derived by dividing site-specific field-collected samples of fish tissue (whole-body) by site-specific field-collected samples of water.</u></p> <p><u>5. Water column values are the applicable criterion element in the absence of steady-state condition fish tissue data. In fishless waters, surface water from the fishless waters and fish tissue from the nearest downstream waters are used for bioaccumulation modeling. Fish tissue supersedes any site-specific water column values when fish are sampled downstream of fishless waters.</u></p>			

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[Subsection 287.02 through 287.04]

02. Subsection of Bear Lake Subbasin. Georgetown Creek - source to mouth (unit B-22), and all tributaries thereof. Site-specific egg-ovary, whole-body, and muscle criterion elements for these water bodies are set out in the following table. The lentic and short-term water column criterion elements set out in Subsection 210.01., table footnote r, are also applicable to the water bodies identified in this subsection.

Chronic			
Egg-Ovary (mg/kg dw)	Fish Tissue (mg/kg dw)		Water Column (µg/L)
<i>Egg-Ovary</i>	<i>Whole-Body</i>	<i>Muscle</i>	<i>Water Lotic</i>
<i>21.0¹</i>	<i>12.5²</i>	<i>12.8²</i>	<i>3.8^{3,4,5}</i>
<i>mg/kg dw – milligrams per kilogram dry weight, µg/L – micrograms per liter</i>			
<p><u>1. Egg-ovary supersedes any whole-body, muscle, or water column element when fish egg-ovary concentrations are measured. Single measurement of an average or composite sample of at least five (5) individuals of the same species. Not to be exceeded; DEQ will evaluate all representative egg-ovary data to determine compliance with this criterion element.</u></p> <p><u>2. Fish whole-body or muscle tissue supersedes water column element when both fish tissue and water concentrations are measured. Single measurement of an average or composite sample of at least five (5) individuals of the same species where the smallest individual is no less than seventy-five percent (75%) of the total length (size) of the largest individual. Not to be exceeded; DEQ will evaluate all representative whole-body and muscle data to determine compliance with this criterion element.</u></p> <p><u>3. Water column values are derived using the empirical BAF method. For comparative purposes only, the example displayed in this table represents the lotic water column value for Georgetown Creek, upstream of the intermittent reach, based on the average BAF for Brook Trout in all sampling locations and years.</u></p> <p><u>4. Lotic Water Column Equation=</u></p> $\frac{\text{Tissue}_{\text{criterion}}}{\text{BAF}}$ <p><u>where Tissue_{criterion} is the fish tissue element (whole-body), and BAF is the bioaccumulation factor derived by dividing site-specific field-collected samples of fish tissue (whole-body) by site-specific field-collected samples of water.</u></p> <p><u>5. Water column values are the applicable criterion element in the absence of steady-state condition fish tissue data. In fishless waters, surface water from the fishless waters and fish tissue from the nearest downstream waters are used for bioaccumulation modeling. Fish tissue supersedes any site-specific water column values when fish are sampled downstream of fishless waters.</u></p>			

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03. Subsection of Salt Subbasin — Sage Creek. Sage Creek – source to mouth (unit US-9) including, Hoopes Spring channel downstream of the spring complex, South Fork Sage Creek downstream of the spring complex, Sage Creek downstream of the confluence of Hoopes Spring with Sage Creek to its confluence with Crow Creek, North Fork Sage Creek and tributaries (including Pole Canyon Creek). Site-specific egg-ovary and whole-body criterion elements for these water bodies are set out in the following table. The muscle, lentic water column, and short-term water column criterion elements set out in Subsection 210.01., table footnote r, are also applicable to the water bodies identified in this subsection.

Chronic		
<u>Egg-Ovary (mg/kg dw)</u>	<u>Fish Tissue (mg/kg dw)</u>	<u>Water Column (µg/L)</u>
<u>Egg-Ovary</u>	<u>Whole-Body</u>	<u>Water Lotic</u>
<u>20.5¹</u>	<u>13.6²</u>	<u>16.7³</u>
<u>mg/kg dw – milligrams per kilogram dry weight, µg/L – micrograms per liter</u>		
<p><u>1. Egg-ovary supersedes any whole-body, muscle, or water column element when fish egg-ovary concentrations are measured. Single measurement of an average or composite sample of at least five (5) individuals of the same species. Not to be exceeded; DEQ will evaluate all representative egg-ovary data to determine compliance with this criterion element.</u></p> <p><u>2. Fish tissue supersedes water column element when both fish tissue (whole-body) and water concentrations are measured. Fish tissue elements are expressed as a single arithmetic average of tissue concentrations from at least five (5) individuals of the same species where the smallest individual is no less than seventy-five percent (75%) of the total length (size) of the largest individual. Not to be exceeded; DEQ will evaluate all representative whole-body data to determine compliance with this criterion element.</u></p> <p><u>3. Water column values are derived using the empirical BAF method. Water column values are the applicable criterion element in the absence of steady-state condition fish tissue data. In fishless waters, selenium concentrations in fish from the nearest downstream waters may be used to assess compliance.</u></p>		

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04. Subsection of Salt Subbasin — Crow Creek. Crow Creek – Downstream of Sage Creek confluence to Wyoming state line (US-8). Site-specific egg-ovary and whole-body criterion elements for these water bodies are set out in the following table. The muscle, lotic water column, and short-term water column criterion elements set out in Subsection 210.01., table footnote r, are also applicable to the water bodies identified in this subsection.

Chronic		
<u>Egg-Ovary (mg/kg dw)</u>	<u>Fish Tissue (mg/kg dw)</u>	<u>Water Column (µg/L)</u>
<u>Egg-Ovary</u>	<u>Whole-Body</u>	<u>Water Lotic</u>
<u>20.5¹</u>	<u>12.5²</u>	<u>4.2³</u>
<u>mg/kg dw – milligrams per kilogram dry weight, µg/L – micrograms per liter</u>		
<p><u>1. Egg-ovary supersedes any whole-body, muscle, or water column element when fish egg-ovary concentrations are measured. Single measurement of an average or composite sample of at least five (5) individuals of the same species. Not to be exceeded; DEQ will evaluate all representative egg-ovary data to determine compliance with this criterion element.</u></p> <p><u>2. Fish tissue supersedes water column element when both fish tissue (whole-body) and water concentrations are measured. Fish tissue elements are expressed as a single arithmetic average of tissue concentrations from at least five (5) individuals of the same species where the smallest individual is no less than seventy-five percent (75%) of the total length (size) of the largest individual. Not to be exceeded; DEQ will evaluate all representative whole-body data to determine compliance with this criterion element.</u></p> <p><u>3. Water column values are derived using the empirical BAF method. Water column values are the applicable criterion element in the absence of steady-state condition fish tissue data. In fishless waters, selenium concentrations in fish from the nearest downstream waters may be used to assess compliance.</u></p>		

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05. Portions of Idaho. ()

[Subsection 287.05.a. AND 287.05.b.]

a. This site-specific criterion applies in the HUC subbasins set out in the following table. ()

<u>HUC</u>	<u>Subbasin</u>	<u>HUC</u>	<u>Subbasin</u>
<u>16010102</u>	<u>Central Bear</u>	<u>17040208</u>	<u>Portneuf</u>
<u>16010201</u>	<u>Bear Lake</u>	<u>17040209</u>	<u>Lake Walcott</u>
<u>16010202</u>	<u>Middle Bear</u>	<u>17040210</u>	<u>Raft</u>
<u>16010203</u>	<u>Little Bear-Logan</u>	<u>17040211</u>	<u>Goose</u>
<u>16010204</u>	<u>Lower Bear-Malad</u>	<u>17040214</u>	<u>Beaver-Camas</u>
<u>16020309</u>	<u>Curlew Valley</u>	<u>17040215</u>	<u>Medicine Lodge</u>
<u>17010302</u>	<u>South Fork Coeur d Alene</u>	<u>17040216</u>	<u>Birch</u>
<u>17010306</u>	<u>Hangman</u>	<u>17040218</u>	<u>Big Lost</u>
<u>17010308</u>	<u>Little Spokane</u>	<u>17040220</u>	<u>Camas</u>
<u>17040104</u>	<u>Palisades</u>	<u>17040221</u>	<u>Little Wood</u>
<u>17040105</u>	<u>Salt</u>	<u>17050104</u>	<u>Upper Owyhee</u>
<u>17040201</u>	<u>Idaho Falls</u>	<u>17050105</u>	<u>South Fork Owyhee</u>
<u>17040202</u>	<u>Upper Henrys</u>	<u>17050106</u>	<u>East Little Owyhee</u>
<u>17040203</u>	<u>Lower Henrys</u>	<u>17050107</u>	<u>Middle Owyhee</u>
<u>17040204</u>	<u>Teton</u>	<u>17050108</u>	<u>Jordan</u>
<u>17040205</u>	<u>Willow</u>	<u>17060109</u>	<u>Rock</u>
<u>17040206</u>	<u>American Falls</u>		
<u>17040207</u>	<u>Blackfoot</u>		

b. Site-specific egg-ovary, whole-body, and muscle criterion elements for the water bodies identified in Subsection 287.05.a. are set out in the following table. The water column criterion elements set out in Subsection 210.01., table footnote r, are also applicable to the water bodies identified in Subsection 287.05.a.

<u>Chronic</u>		
<u>Egg-Ovary (mg/kg dw)</u>	<u>Fish Tissue (mg/kg dw)</u>	
<u>Egg-Ovary</u>	<u>Whole-Body</u>	<u>Muscle</u>
<u>19.0¹</u>	<u>9.5²</u>	<u>13.1²</u>
<u>mg/kg dw – milligrams per kilogram dry weight, µg/L – micrograms per liter</u>		

1. Egg-ovary supersedes any whole-body, muscle, or water column element when fish egg-ovary concentrations are measured. Single measurement of an average or composite sample of at least five (5) individuals of the same species. Not to be exceeded; DEQ will evaluate all representative egg-ovary data to determine compliance with this criterion element.

2. Fish whole-body or muscle tissue supersedes water column element when both fish tissue and water concentrations are measured. Single measurement of an average or composite sample of at least five (5) individuals of the same species where the smallest individual is no less than seventy-five percent (75%) of the total length (size) of the largest individual. Not to be exceeded; DEQ will evaluate all representative whole-body or muscle data to determine compliance with this criterion element.

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Section 287 is not effective for CWA purposes until the date EPA issues written notification that the revisions adopted under Rule Docket No. 58-0102-1701 have been approved.