Dear Senators BAIR, VICK, Stennett, and
Representatives RAYBOULD, Thompson, Smith:

The Legislative Services Office, Research and Legislation, has received the enclosed rules of the Department of Environmental Quality:

IDAPA 58.01.02 - Water Quality Standards - Proposed Rulemaking (Docket No. 58-0102-1502);

IDAPA 58.01.02 - Water Quality Standards - Proposed Rulemaking (Docket No. 58-0102-1701).

Pursuant to Section 67-454, Idaho Code, a meeting on the enclosed rules may be called by the cochairmen or by two (2) or more members of the subcommittee giving oral or written notice to Research and Legislation no later than fourteen (14) days after receipt of the rules' analysis from Legislative Services. The final date to call a meeting on the enclosed rules is no later than 10/23/2017. If a meeting is called, the subcommittee must hold the meeting within forty-two (42) days of receipt of the rules' analysis from Legislative Services. The final date to hold a meeting on the enclosed rules is 11/21/2017.

The germane joint subcommittee may request a statement of economic impact with respect to a proposed rule by notifying Research and Legislation. There is no time limit on requesting this statement, and it may be requested whether or not a meeting on the proposed rule is called or after a meeting has been held.

To notify Research and Legislation, call 334-4834, or send a written request to the address on the memorandum attached below.

Legislative Services Office
Idaho State Legislature

Serving Idaho's Citizen Legislature

Eric Milstead
Director

MEMORANDUM

TO: Rules Review Subcommittee of the Senate Resources & Environment Committee and the House Environment, Energy & Technology Committee

FROM: Deputy Division Manager - Katharine Gerrity

DATE: October 03, 2017

SUBJECT: Department of Environmental Quality

IDAPA 58.01.02 - Water Quality Standards - Proposed Rulemaking (Docket No. 58-0102-1502)

IDAPA 58.01.02 - Water Quality Standards - Proposed Rulemaking (Docket No. 58-0102-1701)

1. IDAPA 58.01.02 - Water Quality Standards

The Department of Environmental Quality submits notice of proposed rulemaking at IDAPA 58.01.02 - Water Quality Standards. According to the department, the rulemaking is being proposed to update the department's existing hardness dependent criteria by using EPA's 2007 304(a) copper criteria. The department adds that this update is a Reasonable and Prudent Alternative identified in National Oceanic and Atmospheric Administration's biological opinion on Idaho's criteria for toxic substances to support aquatic life. The department indicates that by adopting this criteria it will be able to use the most current state of the science to ensure that the criteria are more precise and are neither unnecessarily burdening dischargers nor increasing risk to aquatic life.

The department states that water quality standards adopted and submitted to EPA since May 30, 2000, are not effective for Clean Water Act purposes until EPA approves them (the Alaska rule), and that this rulemaking will be promulgated so that the existing rule, which continues to be effective, remains in the Idaho Administrative Code until EPA approves the rule revisions. The department has provided notations explaining the effectiveness of the rule sections.

Nine negotiated rulemaking meetings were held between October 2015 and July 2017. The department confirms that the rule does not regulate an activity not regulated by the federal government, nor is it broader in scope or more stringent than federal regulations. The rulemaking appears to be authorized pursuant to Sections 39-105, 39-107 and 39-3601, et seq., Idaho Code.

2. IDAPA 58.01.02 - Water Quality Standards

The Department of Environmental Quality submits notice of proposed rulemaking at IDAPA 58.01.02 - Water Quality Standards. According to the department, the rulemaking is being proposed to update the selenium

criteria for aquatic life use by using EPA's 2016 304(a) selenium criterion based on fish tissue concentrations. The department adds that this update is a Reasonable and Prudent Alternative identified in National Oceanic and Atmospheric Administration's (NOAA) biological opinion on Idaho's criteria for toxic substances to support aquatic life. The department notes that NOAA has called for state adoption and EPA approval or EPA promulgation of the criterion by May 2018 and that in order to avoid EPA promulgating a federal standard for Idaho, this rulemaking was initiated.

The department goes on to state that in fish, selenium toxicity occurs primarily through transfer to the eggs, reducing reproductive success and survival. The department notes that current criteria derived from water column concentrations do not take into account the effects of selenium bioaccumulation in aquatic systems and are generally under-protective of aquatic life. The proposed criterion is derived from the allowable concentration of selenium in fish tissue found to be protective of aquatic life.

The department states that water quality standards adopted and submitted to EPA since May 30, 2000 are not effective for Clean Water Act purposes until EPA approves them (the Alaska rule), and that this rulemaking will be promulgated so that the existing rule, which continues to be effective, remains in the Idaho Administrative Code until EPA approves the rule revisions. The department has provided notations explaining the effectiveness of the rule sections.

According to the department, new subsections set forth site-specific selenium criteria for Upper Blackfoot River and Georgetown Creek Watersheds as well as Hoopes Spring, Sage Creek and Crow Creek near the Smoky Canyon Mine. The department indicates that the proposed rule applies to all waters of the state except the main stems of the Kootenai, Salmon and Snake Rivers within the historic range of white sturgeon, as well as subbasins flowing directly into the aforementioned rivers and those designated as critical salmonid habitat or bull trout habitat.

Three negotiated rulemaking meetings were held in 2017. The department confirms that the rule does not regulate an activity not regulated by the federal government, nor is it broader in scope or more stringent than federal regulations. The rulemaking appears to be authorized pursuant to Sections 39-105, 39-107 and 39-3601, et seq., Idaho Code.

cc: Department of Environmental Quality
Paula J. Wilson

IDAPA 58 – DEPARTMENT OF ENVIRONMENTAL QUALITY

58.01.02 – WATER QUALITY STANDARDS

DOCKET NO. 58-0102-1502

NOTICE OF RULEMAKING – PROPOSED RULEMAKING

AUTHORITY: In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has initiated proposed rulemaking. This rulemaking action is authorized by Sections 39-105, 39-107, and 39-3601 et seq., Idaho Code.

PUBLIC HEARING SCHEDULE: Pursuant to Section 67-5222(2), Idaho Code, a public hearing will be held if requested in writing by twenty-five (25) persons, a political subdivision, or an agency. Written requests for a hearing must be received by the undersigned on or before September 22, 2017. If no such written request is received, a public hearing pursuant to Section 67-5222(2), Idaho Code, will not be held. The public will have the opportunity to provide oral comments on the proposed rule during the November 16, 2017, meeting of the Idaho Board of Environmental Quality (Board).

DESCRIPTIVE SUMMARY: This rulemaking has been initiated to update DEQ's existing hardness dependent criteria by using EPA's 2007 304(a) copper criteria. This update is a Reasonable and Prudent Alternative identified in National Oceanic and Atmospheric Administration's (NOAA) biological opinion (BiOp) on Idaho's criteria for toxic substances to support aquatic life.

The toxicity of copper to aquatic life is highly variable depending on physicochemical factors within a water body. The effect of hardness on metal toxicity has long been acknowledged as one such factor and is reflected in DEQ's current hardness dependent criteria, whereby the acute and chronic criteria are determined based on the total hardness of the receiving water body. However, DEQ's current hardness dependent criteria do not take into account the effects of other physicochemical properties of the receiving water body which affect toxicity, leading to DEQ's current criteria being either over- or under-protective of aquatic life.

This action is identified in NOAA's BiOp on Idaho's criteria for toxic substances to support aquatic life. This BiOp concluded that the current copper criteria were not always protective of aquatic life and would result in adverse modification of critical habitat. NOAA's recommendation is to use EPA's 2007 304(a) copper criteria, which uses other physicochemical properties of the water (e.g., pH, dissolved organic carbon, etc.) to predict water-body specific criteria known as the Biotic Ligand Model (BLM). NOAA has called for state adoption and EPA approval or EPA promulgation of these criteria by May 2017. Because of this, DEQ's 2014 triennial review identified revision of the aquatic life criteria for copper as a high priority. By adopting a copper criterion based on the BLM, DEQ will be able to use the most current state of the science to ensure that the criteria are more precise and are neither unnecessarily burdening dischargers nor increasing risk to aquatic life.

This proposed rule replaces the existing hardness dependent criteria for copper with a similar, albeit more detailed, modeled approach. Additionally, the proposed rule references the "Implementation Guidance for the Idaho Copper Criteria for Aquatic Life: Using the Biotic Ligand Model" which details procedures for implementing the criteria including determining minimum data requirements for BLM inputs and guidance for estimating protective criteria when data are incomplete or absent.

Idahoans that recreate in, drink from, or fish Idaho's surface waters and all who discharge pollutants to those same waters may be interested in commenting on this proposed rule. After consideration of public comments, DEQ intends to present the final proposal to the Board on November 16, 2017, for adoption of a pending rule. The rule is expected to become final and effective upon the conclusion of the 2018 legislative session if adopted by the Board and approved by the Legislature.

EFFECTIVE FOR CLEAN WATER ACT PURPOSES: Water quality standards adopted and submitted to EPA since May 30, 2000, are not effective for federal Clean Water Act (CWA) purposes until EPA approves them (see **40 CFR 131.21**). This is known as the Alaska Rule. This rulemaking will be promulgated so that the existing rule, which continues to be effective for CWA purposes, remains in the Idaho Administrative Code until EPA approves the rule revisions. Notations explaining the effectiveness of the rule sections are also included. Upon EPA approval, the revised rule will become effective for CWA purposes and the previous rule and notations will be deleted from the Idaho Administrative Code. Information regarding the status of EPA review will be posted at **http://www.deq.idaho.gov/epa-actions-on-proposed-standards**

INCORPORATION BY REFERENCE: Pursuant to Section 67-5229(2)(a), Idaho Code, the following is a brief synopsis of why the incorporation by reference is necessary:

EPA national recommended criteria, "**Aquatic Life Ambient Freshwater Quality Criteria – Copper**": EPA-822-R-07-001 (February 2007), is incorporated by reference in the proposed rule. This document provides guidance for calculating aquatic life criteria for copper using the Biotic Ligand Model software. Incorporation by reference benefits the regulated community by ensuring that the state rule is consistent with the EPA guidance. The alternative to incorporating by reference is to restate the document in the rule, which would be impractical and costly.

NEGOTIATED RULEMAKING: The text of the proposed rule was drafted based on discussions held and concerns raised during negotiations conducted pursuant to Idaho Code § 67-5220 and IDAPA 58.01.23.810-815. The Notice of Negotiated Rulemaking was published in the October 2015 issue of the Idaho Administrative Bulletin, and a preliminary draft rule was made available for public review. Nine negotiated rulemaking and guidance development meetings were held between October 28, 2015, and July 18, 2017. Key information was posted on the DEQ rulemaking web page and distributed to the public. Members of the public participated in the negotiated rulemaking process by attending the meetings and by submitting written comments.

All comments received during the negotiated rulemaking process were considered by DEQ when making decisions regarding development of the rule. For comments that were not incorporated into the draft rule, DEQ's response to those comments is included in the negotiated rulemaking summary. At the conclusion of the negotiated rulemaking process, DEQ formatted the final draft for publication as a proposed rule. DEQ is now seeking public comment on the proposed rule. The negotiated rulemaking record, which includes the negotiated rule drafts, written public comments, documents distributed during the negotiated rulemaking process, and the negotiated rulemaking summary, is available at **www.deq.idaho.gov/58-0102-1502**.

IDAHO CODE SECTION 39-107D STATEMENT: This proposed 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 AND SUBMISSION OF WRITTEN COMMENTS: For assistance on questions concerning this rulemaking, contact Jason Pappani at **Jason.Pappani@deq.idaho.gov**, (208) 373-0515.

Anyone may submit written comments by mail, fax or email at the address below regarding this proposed rule. DEQ will consider all written comments received by the undersigned on or before October 6, 2017.

Dated this 6th day of September, 2017

Paula J. Wilson
Hearing Coordinator
Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706-1255
Phone: (208) 373-0418
Fax: (208) 373-0481
E-mail: **paula.wilson@deq.idaho.gov**

THE FOLLOWING IS THE PROPOSED TEXT OF DOCKET NO. 58-0102-1502
(Only Those Sections With Amendments Are Shown.)

004. INCORPORATION BY REFERENCE.
Codes, standards and regulations may be incorporated by reference in these rules pursuant to Section 67-5229, Idaho Code. Such incorporation by reference shall constitute full adoption by reference, including any notes or appendices therein, unless expressly provided otherwise in these rules. Copies of the codes, standards or regulations adopted by reference throughout these rules are available in the following locations: (8-24-94)

01. ~~***Department***~~ **Guidance and Technical Support Documents**. Idaho Department of Environmental Quality, 1410 N. Hilton, Boise, Idaho 83706-1255, www.deq.idaho.gov; and ~~*(4-5-00)*~~( )

~~***02. Law Library.*** *State Law Library, 451 W. State Street, Boise, Idaho 83720.* *(7-1-93)*~~

0~~3~~**2.** ~~***Federal Documents***~~ **Code of Federal Regulations**. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, www.ecfr.gov, and State Law Library, 451 W. State Street, Boise, Idaho 83720. ~~*(4-11-06)*~~( )

(BREAK IN CONTINUITY OF SECTIONS)

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

Note: In 2016, Idaho updated human health criteria for 104 toxic substances (10 of which are new). Final rule submitted to EPA on December 13, 2016 (docket 58-0102-1201). Until EPA approves the revisions in this rule docket, the human health criteria published in 2005 Idaho Administrative Code in Subsection 210.01 continue to apply and are effective for CWA purposes. These criteria are listed in Numeric Criteria for Toxic Substances (2005). The previous human health criteria based on a fish consumption rate of 6.5 g/day published in 2005 Idaho Administrative Code in Subsection 210.05.b.i. continue to apply and are effective for CWA purposes. Until EPA approves the revisions in this rule docket, the additional fish-plus-water criterion for copper; the revisions in Subsections 070.08, 210.03, 210.04, 210.05.b.ii. and 400.06; and the definition of harmonic mean published in 2015 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.

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

a. Columns B1and B2 of the following table apply to waters designated for aquatic life use. (3-25-16)

b. Column C2 of the following table applies to waters designated for primary or secondary contact recreation use. (3-25-16)

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) B1	b CCC (µg/L) B2	Carcinogen?	Water & fish (µg/L) C1	Fish only (µg/L) C2
1	Antimony	7440360				5.2 c	190 c
2	Arsenic	7440382	340 e	150 e	Y	10 dfq	10 dfq
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.							
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[1]	7440508	17 i	11 i		1,300 q	
[1]Effective for CWA purposes. The CMC, CCC, and footnote are effective for CWA purposes until the date EPA issues written notification that the revisions adopted under Rule Docket No. 58-0102-1502 have been approved.							
6	Copper[2]	7440508	~~17~~ i 12.3 r	~~11~~ i 7.6 r		1,300 q	
[2]Not yet effective for CWA purposes. The CMC, CCC, and footnote are not effective for CWA purposes until the date EPA issues written notification that the revisions adopted under Rule Docket No. 58-0102-1502 have been approved.							
7	Lead	7439921	65 i	2.5 i		h	h
8a	Mercury	7439976	g	g			
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.							
8b	Methylmercury	22967926					0.3 mg/kg p
9	Nickel	7440020	470 i	52 i		58 c	100 c
10	Selenium	7782492	20 f	5 f		29 c	250 c

A			B Aquatic life		C Human health for consumption of:				
(Number) Compound		[a] CAS Number	[b] CMC (µg/L) B1		[b] CCC (µg/L) B2		Carcinogen?	Water & fish (µg/L) C1		Fish only (µg/L) C2	
11	Silver	7440224	3.4	i							
12	Thallium	7440280						0.017	c	0.023	c
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

A			B Aquatic life		C Human health for consumption of:				
(Number) Compound		[a] CAS Number	[b] CMC (µg/L) B1	[b] CCC (µg/L) B2	Carcinogen?	Water & fish (µg/L) C1		Fish only (µg/L) C2	
39	Toluene	108883				47	c	170	c
40	1,2-Trans-Dichloroethylene	156605				120	c	1,200	c
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

A			B Aquatic life		C Human health for consumption of:				
(Number) Compound		[a] CAS Number	[b] CMC (µg/L) B1	[b] CCC (µg/L) B2	Carcinogen?	Water & fish (µg/L) C1		Fish only (µg/L) C2	
66	Bis(2-Chloroethyl)Ether	111444			Y	0.29	cl	6.8	cl
67	Bis(2-Chloroisopropyl) Ether	108601				220	c	1,200	c
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

A			B Aquatic life		C Human health for consumption of:				
(Number) Compound		[a] CAS Number	[b] CMC (µg/L) B1	[b] CCC (µg/L) B2	Carcinogen?	Water & fish (µg/L) C1		Fish only (µg/L) C2	
92	Ideno (1,2,3-cd) Pyrene	193395			Y	0.0042	cl	0.0042	cl
93	Isophorone	78591			Y	330	cl	6,000	cl
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

A			B Aquatic life		C Human health for consumption of:				
(Number) Compound		[a] CAS Number	[b] CMC (µg/L) B1		[b] CCC (µg/L) B2		Carcinogen?	Water & fish (µg/L) C1		Fish only (µg/L) C2	
120	Toxaphene	8001352	0.73		0.0002		Y	0.0023	cl	0.0023	cl
121	Chlorine		19	k	11	k					
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) B1	[b] CCC (µg/L) B2	Carcinogen?	Water & fish (µg/L) C1	Fish only (µg/L) C2

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:

$$\textbf{AWQC} = \textbf{RfD} * \textbf{RSC} * \left(\frac{BW}{DI + (FI * BAF)}\right)$$

and criteria for carcinogens are calculated using the formula:

$$\textbf{AWQC} = \textbf{RSD} * \left(\frac{BW}{DI + (FI * BAF)}\right)$$

Where:
AWQC = Ambient water quality criterion (mg/L)

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

BAF = Bioaccumualtion Factor, L/kg, chemical specific value, see TSD
RfD = Reference dose (mg/kg-day), chemical specific value, see TSD

$$RSD = \frac{\text{Target Incremental Cancer Risk}}{\text{Cancer Potency Factor}}$$ (mg/kg-day), chemical specific value, see TSD

RSC = Relative Source Contribution, chemical specific value, see TSD

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) B1	[b] CCC (µg/L) B2	Carcinogen?	Water & fish (µg/L) C1	Fish only (µg/L) 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).						
r. *Aquatic life criteria for copper shall be derived in accordance with Subsection 210.03.c.v. For comparative purposes only, the example values displayed in this table correspond to the Biotic Ligand Model output based on the following inputs: temperature = 14.9°C, pH = 8.16, dissolved organic carbon = 1.4 mg/L, humic acid fraction = 10%, calcium = 44.6 mg/L, magnesium = 11.0 mg/L, sodium = 11.7 mg/L, potassium = 2.12 mg/L, sulfate = 46.2 mg/L, chloride = 12.7 mg/L, alkalinity = 123 mg/L CaCO3, and sulfide = 1.00 x 10^{-8} mg/L.*						

~~(3-25-16)~~( )

*Footnote **r.** is not effective for CWA purposes until the date EPA issues written notification that the revisions adopted under Rule Docket No. 58-0102-1502 have been approved.*

02. Factors for Calculating Hardness Dependent Metals Criteria. Hardness dependent metals criteria are calculated using values from the following table in the equations: (5-3-03)

a. CMC=WER exp{mA[ln(hardness)]+bA} X Acute Conversion Factor. (5-3-03)

b. CCC=WER exp{mc[ln(hardness)]+bc} X Chronic Conversion Factor.

Metal	mA	bA	mc	bc	aAcute Conversion Factor	aChronic Conversion Factor
Arsenic	b	b	b	b	1.0	1.0
Cadmium	0.8367	-3.560	0.6247	-3.344	0.944 see footnote a	0.909
Chromium (III)	0.819	3.7256	0.8190	0.6848	0.316	0.860
Chromium (VI)	b	b	b	b	0.982	0.962
Copper	0.9422	-1.464	0.8545	-1.465	0.960	0.960
The values for calculating hardness dependent metal criteria for copper, set out in the Copper row above, are effective for CWA purposes until the date EPA issues written notification that the revisions adopted under Rule Docket No. 58-0102-1502 have been approved. The Copper row will be deleted upon EPA approval.						
Lead	1.273	-1.460	1.273	-4.705	0.791	0.791
Mercury	b	b	b	b	0.85	0.85
Nickel	0.846	2.255	0.8460	0.0584	0.998	0.997
Silver	1.72	-6.52	c	c	0.85	c
Zinc	0.8473	0.884	0.8473	0.884	0.978	0.986

Note to table: The term “exp” represents the base e exponential function.

Footnotes to table:

a. Conversion factors (CF) are from “Stephan, C. E. 1995. Derivation of conversion factors for the calculation of dissolved freshwater aquatic life criteria for metals. U.S. Environmental Protection Agency, Environmental Research Laboratory – Duluth.” The conversion factors for cadmium and lead are hardness-dependent and can be calculated for any hardness (see limitations in Subsection 210.03.b.i.) using the following equations. For comparative purposes, the conversion factors for a total hardness of one hundred (100) mg/L are shown in the table. The conversion factor shall not exceed one (1).

Cadmium

Acute: CF=1.136672–[(ln hardness)(0.041838)] NOTE: The cadmium acute criterion equation was derived from dissolved metals toxicity data and thus requires no conversion; this conversion factor may be used to back calculate an equivalent total recoverable concentration.

Chronic: CF=1.101672–[(ln hardness)(0.041838)]

Lead (Acute and Chronic): CF=1.46203–[(ln hardness)(0.145712)

b. Not applicable

c. No chronic criteria are available for silver.

~~(3-29-10)~~( )

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)

a. For all waters for which the Department has determined mixing zones to be applicable, the toxic

substance criteria apply at the boundary of the mixing zone(s) and beyond. Absent an authorized mixing zone, the toxic substance criteria apply throughout the waterbody including at the end of any discharge pipe, canal or other discharge point. (3-25-16)

b. Low flow design conditions. Water quality-based effluent limits and mixing zones for toxic substances shall be based on the following low flows in perennial receiving streams. Numeric chemical criteria may be exceeded in perennial streams outside any applicable mixing zone only when flows are less than these values:

Aquatic Life		Human Health	
CMC ("acute" criteria)	1Q10 or 1B3	Non-carcinogens	Harmonic mean flow
CCC ("chronic" criteria)	7Q10 or 4B3	Carcinogens	Harmonic mean flow

(3-25-16)

i. Where "1Q10" is the lowest one-day flow with an average recurrence frequency of once in ten (10) years determined hydrologically; (5-3-03)

ii. Where "1B3" is biologically based and indicates an allowable exceedance of once every three (3) years. It may be determined by EPA's computerized method (DFLOW model); (5-3-03)

iii. Where "7Q10" is the lowest average seven (7) consecutive day low flow with an average recurrence frequency of once in ten (10) years determined hydrologically; (5-3-03)

iv. Where "4B3" is biologically based and indicates an allowable exceedance for four (4) consecutive days once every three (3) years. It may be determined by EPA's computerized method (DFLOW model); (5-3-03)

v. Where the harmonic mean flow is a long term mean flow value calculated by dividing the number of daily flows analyzed by the sum of the reciprocals of those daily flows. (5-3-03)

c. Application of aquatic life metals criteria. (3-25-16)

i. For metals other than cadmium, for purposes of calculating hardness dependent aquatic life criteria from the equations in Subsection 210.02, the minimum hardness allowed for use in those equations shall not be less than twenty-five (25) mg/l, as calcium carbonate, even if the actual ambient hardness is less than twenty-five (25) mg/l as calcium carbonate. For cadmium, the minimum hardness for use in those equations shall not be less than ten (10) mg/l, as calcium carbonate. The maximum hardness allowed for use in those equations shall not be greater than four hundred (400) mg/l, as calcium carbonate, except as specified in Subsections 210.03.c.ii. and 210.03.c.iii., even if the actual ambient hardness is greater than four hundred (400) mg/l as calcium carbonate. (3-29-10)

ii. The hardness values used for calculating aquatic life criteria for metals at design discharge conditions shall be representative of the ambient hardnesses for a receiving water that occur at the design discharge conditions given in Subsection 210.03.b. (5-3-03)

iii. Except as otherwise noted, the aquatic life criteria for metals (compounds #1 through #13 in the criteria table of Subsection 210.02) are expressed as dissolved metal concentrations. Unless otherwise specified by the Department, dissolved concentrations are considered to be concentrations recovered from a sample which has passed through a forty-five hundredths (0.45) micron filter. For the purposes of calculating aquatic life criteria for metals from the equations in footnotes e. and i. in the criteria table in Subsection 210.01, the water effect ratio is computed as a specific pollutant's acute or chronic toxicity values measured in water from the site covered by the standard, divided by the respective acute or chronic toxicity value in laboratory dilution water. The water-effect ratio shall be assigned a value of one (1.0), except where the Department assigns a different value that protects the designated uses of the water body from the toxic effects of the pollutant, and is derived from suitable tests on sampled water representative of conditions in the affected water body, consistent with the design discharge conditions established in Subsection 210.03.b. For purposes of calculating water effects ratios, the term acute toxicity value is the toxicity test results, such as the concentration lethal one-half (1/2) of the test organisms (i.e., LC5O) after ninety-six (96) hours of exposure (e.g., fish toxicity tests) or the effect concentration to one-half of the test organisms, (i.e.,

EC5O) after forty-eight (48) hours of exposure (e.g., daphnia toxicity tests). For purposes of calculating water effects ratios, the term chronic value is the result from appropriate hypothesis testing or regression analysis of measurements of growth, reproduction, or survival from life cycle, partial life cycle, or early life stage tests. The determination of acute and chronic values shall be according to current standard protocols (e.g., those published by the American Society for Testing and Materials (ASTM)) or other comparable methods. For calculation of criteria using site-specific values for both the hardness and the water effect ratio, the hardness used in the equations in Subsection 210.02 shall be as required in Subsection 210.03.c.ii. Water hardness shall be calculated from the measured calcium and magnesium ions present, and the ratio of calcium to magnesium shall be approximately the same in laboratory toxicity testing water as in the site water, or be similar to average ratios of laboratory waters used to derive the criteria. (4-6-05)

iv. Implementation Guidance for the Idaho Mercury Water Quality Criteria. (4-6-05)

(1) The "Implementation Guidance for the Idaho Mercury Water Quality Criteria" describes in detail suggested methods for discharge related monitoring requirements, calculation of reasonable potential to exceed (RPTE) water quality criteria in determining need for mercury effluent limits, and use of fish tissue mercury data in calculating mercury load reductions. This guidance, or its updates, will provide assistance to the Department and the public when implementing the methylmercury criterion. The "Implementation Guidance for the Idaho Mercury Water Quality Criteria" also provides basic background information on mercury in the environment, the novelty of a fish tissue criterion for water quality, the connection between human health and aquatic life protection, and the relation of environmental programs outside of Clean Water Act programs to reducing mercury contamination of the environment. The "Implementation Guidance for the Idaho Mercury Water Quality Criteria" is available at the Department of Environmental Quality, 1410 N. Hilton, Boise, Idaho 83706, and on the DEQ website at http://www.deq.idaho.gov/media/639808-idaho_mercury_wq_guidance.pdf. (4-6-05)

(2) The implementation of a fish tissue criterion in NPDES permits and TMDLs requires a non-traditional approach, as the basic criterion is not a concentration in water. In applying the methylmercury fish tissue criterion in the context of NPDES effluent limits and TMDL load reductions, the Department will assume change in fish tissue concentrations of methylmercury are proportional to change in water body loading of total mercury. Reasonable potential to exceed (RPTE) the fish tissue criterion for existing NPDES sources will be based on measured fish tissue concentrations potentially affected by the discharge exceeding a specified threshold value, based on uncertainty due to measurement variability. This threshold value is also used for TMDL decisions. Because measured fish tissue concentrations do not reflect the effect of proposed new or increased discharge of mercury, RPTE in these cases will be based upon an estimated fish tissue methylmercury concentration, using projected changes in waterbody loading of total mercury and a proportional response in fish tissue mercury. For the above purposes, mercury will be measured in the skinless filets of sport fish using techniques capable of detecting tissue concentrations down to point zero five (0.05) mg/kg. Total mercury analysis may be used, but will be assumed to be all methylmercury for purposes of implementing the criterion. (4-6-05)

v. Copper Criteria for Aquatic Life. *( )*

(1) Aquatic life criteria for copper shall be derived using: *( )*

(a) Biotic Ligand Model (BLM) software that calculates criteria consistent with the "Aquatic Life Ambient Freshwater Quality Criteria – Copper": EPA-822-R-07-001 (February 2007); or *( )*

(b) An estimate derived from BLM outputs that is based on a scientifically sound method and protective of the designated aquatic life use. *( )*

(2) To calculate copper criteria using the BLM, the following parameters from each site shall be used: temperature, pH, dissolved organic carbon (DOC), calcium, magnesium, sodium, potassium, sulfate, chloride, and alkalinity. The BLM inputs for humic acid (HA) as a proportion of DOC and sulfide shall be based on either measured values or the following default values: 10% HA as a proportion of DOC, 1.00 x 10^{-8} mg/L sulfide. Measured values shall supersede any estimate or default input. *( )*

(3) BLM input measurements shall be planned to capture the most bioavailable conditions for copper. *( )*

(4) A criterion derived using BLM software shall supersede any estimated criterion. Acceptable BLM software includes the "US EPA WQC Calculation" for copper in BLM Version 3.1.2.37 (October 2015). ( )

(5) Implementation Guidance for the Idaho Copper Criteria for Aquatic Life. The "Implementation Guidance for the Idaho Copper Criteria for Aquatic Life: Using the Biotic Ligand Model" describes in detail methods for implementing the aquatic life criteria for copper using the BLM. This guidance, or its updates, will provide assistance to the Department and the public for determining minimum data requirements for BLM inputs and how to estimate criteria when data are incomplete or unavailable. The "Implementation Guidance for the Idaho Copper Criteria for Aquatic Life: Using the Biotic Ligand Model" is available at the Department of Environmental Quality, 1410 N. Hilton, Boise, Idaho 83706, and on the DEQ website at www.deq.idaho.gov/58-0102-1502. ( )

Subsection 210.03.c.v is not effective for CWA purposes until the date EPA issues written notification that the revisions adopted under Rule Docket No. 58-0102-1502 have been approved.

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

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. Column B2 criteria are concentrations not to be exceeded for a four-day average more than once in three (3) years. (3-25-16)

ii. Frequency and duration for human health toxics criteria. Columns C1 and C2 criteria are not to be exceeded based on an annual harmonic mean. (3-25-16)

04. National Pollutant Discharge Elimination System Permitting. For the purposes of NPDES permitting, interpretation and implementation of metals criteria listed in Subsection 210.02 should be governed by the following standards, that are hereby incorporated by reference, in addition to other scientifically defensible methods deemed appropriate by the Department; provided, however, any identified conversion factors within these documents are not incorporated by reference. Metals criteria conversion factors are identified in Subsection 210.02 of this rule. (5-3-03)

a. "Guidance Document on Dissolved Criteria -- Expression of Aquatic Life Criteria," EPA, October 1993, http://www.deq.idaho.gov/media/827413-epa-guidance-dissolved-criteria-1093.pdf. (4-5-00)

b. "Guidance Document on Dynamic Modeling and Translators," EPA, August 1993, http://www.deq.idaho.gov/media/827417-epa-guidance-dynamic-modeling-translators-0893.pdf. (4-5-00)

c. "Guidance Document on Clean Analytical Techniques and Monitoring," EPA, October 1993, http://www.deq.idaho.gov/media/827421-epa-guidance-analytical-techniques-1093.pdf. (4-5-00)

d. "Interim Guidance on Determination and Use of Water-Effect Ratios for Metals," EPA, February 1994, http://www.deq.idaho.gov/media/827409-epa-guidance-water-effect-ratios-for-metals-0294.pdf. (4-5-00)

e. "Technical Support Document for Water Quality-Based Toxics Control." EPA, March 1991. http://www.deq.idaho.gov/media/60177101/58-0102-1201-epa-technical-support-document-1991.pdf. (3-25-16)

05. Development of Toxic Substance Criteria. (4-5-00)

a. Aquatic Life Communities Criteria. Numeric criteria for the protection of aquatic life uses not identified in these rules for toxic substances, may be derived by the Department from the following information: (4-5-00)

i. Site-specific criteria developed pursuant to Section 275; (4-5-00)

ii. Effluent biomonitoring, toxicity testing and whole-effluent toxicity determinations; (4-5-00)

iii. The most recent recommended criteria defined in EPA's ECOTOX database. When using EPA recommended criteria to derive water quality criteria to protect aquatic life uses, the lowest observed effect concentrations (LOECs) shall be considered; or (3-25-16)

iv. Scientific studies including, but not limited to, instream benthic assessment or rapid bioassessment. (4-5-00)

b. Human Health Criteria. (4-5-00)

Note: In 2016, Idaho updated human health criteria for 104 toxic substances (10 of which are new). Final rule submitted to EPA on December 13, 2016 (docket 58-0102-1201). Until EPA approves the revisions in this rule docket, the human health criteria published in 2005 Idaho Administrative Code in Section 210 continue to apply and are effective for CWA purposes. These criteria are listed in Numeric Criteria for Toxic Substances (2005). The previous human health criteria based on a fish consumption rate of 6.5 g/day published in 2005 Idaho Administrative Code in Section 210.05.b.i. continue to apply and are effective for CWA purposes. Until EPA approves the revisions in this rule docket, the additional fish-plus-water criterion for copper; the revisions in Sections 070.08, 210.03, 210.04, 210.05.b.ii. and 400.06; and the definition of harmonic mean published in 2015 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.

i. When numeric criteria for the protection of human health are not identified in these rules for toxic substances, quantifiable criteria may be derived by the Department using best available science on toxicity thresholds (i.e. reference dose or cancer slope factor), such as defined in EPA's Integrated Risk Information System (IRIS) or other peer-reviewed source acceptable to the Department. (3-25-16)

ii. When using toxicity thresholds to derive water quality criteria to protect human health, a fish consumption rate representative of the population to be protected, a mean adult body weight, an adult 90th percentile water ingestion rate, a trophic level weighted BAF or BCF, and a hazard quotient of one (1) for non-carcinogens or a cancer risk level of 10^{-5} for carcinogens shall be utilized. (3-25-16)

IDAPA 58 – DEPARTMENT OF ENVIRONMENTAL QUALITY

58.01.02 – WATER QUALITY STANDARDS

DOCKET NO. 58-0102-1701

NOTICE OF RULEMAKING – PROPOSED RULEMAKING

AUTHORITY: In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has initiated proposed rulemaking. This rulemaking action is authorized by Sections 39-105, 39-107, and 39-3601 et seq., Idaho Code.

PUBLIC HEARING SCHEDULE: Pursuant to Section 67-5222(2), Idaho Code, a public hearing will be held if requested in writing by twenty-five (25) persons, a political subdivision, or an agency. Written requests for a hearing must be received by the undersigned on or before September 22, 2017. If no such written request is received, a public hearing pursuant to Section 67-5222(2), Idaho Code, will not be held. The public will have the opportunity to provide oral comments on the proposed rule during the November 16, 2017, meeting of the Idaho Board of Environmental Quality (Board).

DESCRIPTIVE SUMMARY: This rulemaking has been initiated to update the selenium criteria for aquatic life use. This proposed update is identified as a Reasonable and Prudent Alternative (RPA) in the National Oceanic and Atmospheric Administration's (NOAA) biological opinion (BiOp) on Idaho's criteria for toxic substances to support aquatic life. This BiOp concluded that the current selenium criterion was likely to adversely affect endangered species and would result in adverse modification of critical habitat. The NOAA recommendation is to use EPA's 2016 304(a) selenium criterion based on fish-tissue concentrations. NOAA has called for state adoption and EPA approval or EPA promulgation of this criterion by May 2018. In order to avoid EPA promulgating a federal selenium standard for Idaho, DEQ initiated this rulemaking for a revised selenium aquatic life criterion in Idaho's water quality standards. DEQ's 2014 triennial review identified revision of the aquatic life criteria for selenium as a medium priority.

Although selenium may cause acute toxicity at high concentrations, the most detrimental effect on aquatic organisms is due to its bioaccumulative properties. Aquatic organisms exposed to selenium accumulate it primarily through their diets and not directly through water. In fish, selenium toxicity occurs primarily through transfer to the eggs, reducing reproductive success and survival. Current criteria derived from water column concentrations do not take into account the effects of selenium bioaccumulation in aquatic systems and are generally under-protective of aquatic life. The proposed criterion is derived from the allowable concentration of selenium in fish tissue found to be protective of aquatic life. The fish-tissue concentration, in conjunction with site-specific bioaccumulation factors, can be used to determine the allowable concentration of selenium in ambient water. Aquatic communities are expected to be protected by this chronic criterion from any potential acute effects of selenium. By adopting the fish-tissue-derived criterion, DEQ will ensure that its criterion neither unnecessarily burdens dischargers nor increases risk to aquatic life.

This proposed rule replaces the existing water column based criteria for selenium with a four-part criterion. The recommended elements are (1) a fish egg-ovary element, (2) a fish whole-body and/or muscle element, (3) a water column element which includes one value for lentic (still water) and one value for lotic (running water) aquatic systems, and (4) a water column intermittent element to account for potential chronic effects from short-term exposures (one value for lentic and one value for lotic aquatic systems).

This proposed rule also includes the addition of Section 287, Site-Specific Aquatic Life Criteria for Selenium. Subsections 287.01 through 287.04 were negotiated in response to proposals for site-specific selenium criteria submitted by Nu-West Industries, Inc., and J.R. Simplot Company. Subsections 287.01 and 287.02 set out site-specific selenium criteria for Upper Blackfoot River and Georgetown Creek Watersheds. Subsections 287.03 and 287.04 set out the site-specific selenium criteria for Hoopes Spring, Sage Creek, and Crow Creek near the Smoky Canyon Mine. The negotiated rulemaking also included site-specific selenium criteria for portions of Idaho (Subsection 287.05). This proposed rule applies to all waters of the state except the main stems of the Kootenai, Salmon, and Snake Rivers within the historic range of white sturgeon, as well as subbasins flowing directly into the aforementioned rivers and those designated as critical salmonid habitat or bull trout habitat. Information regarding the site-specific selenium criteria includes (1) Nu-West Industries' Proposal for Site-Specific Selenium Criteria: Upper Blackfoot River and Georgetown Creek Watersheds; (2) J.R. Simplot Company's Proposed Site-Specific

Selenium Criterion for Hoopes Spring, Sage Creek, and Crow Creek near the Smoky Canyon Mine; and (3) DEQ's Justification for Site-Specific Selenium Criterion for Aquatic Life in Portions of Idaho. These documents are available at **www.deq.idaho.gov/58-0102-1701**.

Idahoans that recreate in, drink from, or fish Idaho's surface waters and all who discharge pollutants to those same waters may be interested in commenting on this proposed rule. After consideration of public comments, DEQ intends to present the final proposal to the Board on November 16, 2017, for adoption of a pending rule. The rule is expected to become final and effective upon the conclusion of the 2018 legislative session if adopted by the Board and approved by the Legislature.

EFFECTIVE FOR CLEAN WATER ACT PURPOSES: Water quality standards adopted and submitted to EPA since May 30, 2000, are not effective for federal Clean Water Act (CWA) purposes until EPA approves them (see **40 CFR 131.21**). This is known as the Alaska Rule. This rulemaking will be promulgated so that the existing rule, which continues to be effective for CWA purposes, remains in the Idaho Administrative Code until EPA approves the rule revisions. Notations explaining the effectiveness of the rule sections are also included. Upon EPA approval, the revised rule will become effective for CWA purposes and the previous rule and notations will be deleted from the Idaho Administrative Code. Information regarding the status of EPA review will be posted at **http://www.deq.idaho.gov/epa-actions-on-proposed-standards**

NEGOTIATED RULEMAKING: The text of the proposed rule was drafted based on discussions held and concerns raised during negotiations conducted pursuant to Idaho Code § 67-5220 and IDAPA 58.01.23.810-815. The Notice of Negotiated Rulemaking was published in the April 2017 issue of the Idaho Administrative Bulletin, and a preliminary draft rule was made available for public review. Meetings were held on April 27, June13, and July 25, 2017. Key information was posted on the DEQ rulemaking web page and distributed to the public. Members of the public participated in the negotiated rulemaking process by attending the meetings and by submitting written comments.

All comments received during the negotiated rulemaking process were considered by DEQ when making decisions regarding development of the rule. For comments that were not incorporated into the draft rule, DEQ's response to those comments is included in the negotiated rulemaking summary. At the conclusion of the negotiated rulemaking process, DEQ formatted the final draft for publication as a proposed rule. DEQ is now seeking public comment on the proposed rule. The negotiated rulemaking record, which includes the negotiated rule drafts, written public comments, documents distributed during the negotiated rulemaking process, and the negotiated rulemaking summary, is available at **www.deq.idaho.gov/58-0102-1701**.

IDAHO CODE SECTION 39-107D STATEMENT: This proposed 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 AND SUBMISSION OF WRITTEN COMMENTS: For assistance on questions concerning this rulemaking, contact Stephanie Jenkins at **stephanie.jenkins@deq.idaho.gov** or (208) 373-0407.

Anyone may submit written comments by mail, fax or email at the address below regarding this proposed rule. DEQ will consider all written comments received by the undersigned on or before October 6, 2017.

Dated this 6th day of September, 2017

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THE FOLLOWING IS THE PROPOSED TEXT OF DOCKET NO. 58-0102-1701
(Only Those Sections With Amendments Are Shown.)

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

Note: In 2016, Idaho updated human health criteria for 104 toxic substances (10 of which are new). Final rule submitted to EPA on December 13, 2016 (docket 58-0102-1201). Until EPA approves the revisions in this rule docket, the human health criteria published in 2005 Idaho Administrative Code in Subsection 210.01 continue to apply and are effective for CWA purposes. These criteria are listed in Numeric Criteria for Toxic Substances (2005). The previous human health criteria based on a fish consumption rate of 6.5 g/day published in 2005 Idaho Administrative Code in Subsection 210.05.b.i. continue to apply and are effective for CWA purposes. Until EPA approves the revisions in this rule docket, the additional fish-plus-water criterion for copper; the revisions in Subsections 070.08, 210.03, 210.04, 210.05.b.ii. and 400.06; and the definition of harmonic mean published in 2015 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.

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

a. Columns B1and B2 of the following table apply to waters designated for aquatic life use. (3-25-16)

b. Column C2 of the following table applies to waters designated for primary or secondary contact recreation use. (3-25-16)

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) B1	[b] CCC (µg/L) B2	Carcinogen?	Water & fish (µg/L) C1	Fish only (µg/L) C2
1	Antimony	7440360				5.2 c	190 c
2	Arsenic	7440382	340 e	150 e	Y	10 dfq	10 dfq

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.

A			B Aquatic life			C Human health for consumption of:	
(Number) Compound	a CAS Number	b CMC (µg/L) B1	b CCC (µg/L) B2	Carcinogen?	Water & fish (µg/L) C1	Fish only (µg/L) C2
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	g			
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.						
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
[1]*Effective 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.*						
10 Selenium[2]	7782492	~~20~~ *s* ~~f~~	~~5~~ *r* f		29 c	250 c
[2]*Not 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.*						
11 Silver	7440224	3.4 i				
12 Thallium	7440280				0.017 c	0.023 c
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

A			B Aquatic life		C Human health for consumption of:				
(Number) Compound		[a] CAS Number	[b] CMC (µg/L) B1	[b] CCC (µg/L) B2	Carcinogen?	Water & fish (µg/L) C1		Fish only (µg/L) C2	
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
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

A			B Aquatic life		C Human health for consumption of:				
(Number) Compound		[a] CAS Number	[b] CMC (µg/L) B1	[b] CCC (µg/L) B2	Carcinogen?	Water & fish (µg/L) C1		Fish only (µg/L) C2	
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
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

A			B Aquatic life		C Human health for consumption of:				
(Number) Compound		[a] CAS Number	[b] CMC (µg/L) B1	[b] CCC (µg/L) B2	Carcinogen?	Water & fish (µg/L) C1		Fish only (µg/L) C2	
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
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

A			B Aquatic life		C Human health for consumption of:				
(Number) Compound		[a] CAS Number	[b] CMC (µg/L) B1	[b] CCC (µg/L) B2	Carcinogen?	Water & fish (µg/L) C1		Fish only (µg/L) C2	
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					
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

A			B Aquatic life		C Human health for consumption of:				
(Number) Compound		[a] CAS Number	[b] CMC (µg/L) B1	[b] CCC (µg/L) B2	Carcinogen?	Water & fish (µg/L) C1		Fish only (µg/L) C2	
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) B1	[b] CCC (µg/L) B2	Carcinogen?	Water & fish (µg/L) C1	Fish only (µg/L) C2

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:

$$\textbf{AWQC} = \textbf{RfD} * \textbf{RSC} * \left(\frac{BW}{DI + (FI * BAF)}\right)$$

and criteria for carcinogens are calculated using the formula:

$$\textbf{AWQC} = \textbf{RSD} * \left(\frac{BW}{DI + (FI * BAF)}\right)$$

Where:
AWQC = Ambient water quality criterion (mg/L)

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

BAF = Bioaccumualtion Factor, L/kg, chemical specific value, see TSD
RfD = Reference dose (mg/kg-day), chemical specific value, see TSD

$$RSD = \frac{\text{Target Incremental Cancer Risk}}{\text{Cancer Potency Factor}}$$ (mg/kg-day), chemical specific value, see TSD

RSC = Relative Source Contribution, chemical specific value, see TSD

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) B1	[b] CCC (µg/L) B2	Carcinogen?	Water & fish (µg/L) C1	Fish only (µg/L) 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).						
r.						

Chronic					***Short-term***
Egg-Ovary (mg/kg dw)	***Fish Tissue (mg/kg dw)***		***Water Column (µg/L)***		***Water Column (µg/L)***
Egg-Ovary	*Whole-Body*	*Muscle*	*Water Lentic*	*Water Lotic*	*Water*
15.1[1]	*8.5[2]*	*11.3[2]*	*1.5 (30 day average)[3]*	*3.1 (30 day average)[3]*	*Intermittent Exposure Equation[3,4]*
mg/kg dw – milligrams per kilogram dry weight, µg/L – micrograms per liter					

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.

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.

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=

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

where WQC is the water column element, for either lentic or lotic waters; C_{bkgrnd} 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)~~( )

02. Factors for Calculating Hardness Dependent Metals Criteria. Hardness dependent metals criteria are calculated using values from the following table in the equations: (5-3-03)

a. CMC=WER exp{mA[ln(hardness)]+bA} X Acute Conversion Factor. (5-3-03)

b. CCC=WER exp{mc[ln(hardness)]+bc} X Chronic Conversion Factor.

Metal	mA	bA	mc	bc	aAcute Conversion Factor	aChronic Conversion Factor
Arsenic	b	b	b	b	1.0	1.0
Cadmium	0.8367	-3.560	0.6247	-3.344	0.944 see footnote a	0.909
Chromium (III)	0.819	3.7256	0.8190	0.6848	0.316	0.860
Chromium (VI)	b	b	b	b	0.982	0.962
Copper	0.9422	-1.464	0.8545	-1.465	0.960	0.960
Lead	1.273	-1.460	1.273	-4.705	0.791	0.791
Mercury	b	b	b	b	0.85	0.85
Nickel	0.846	2.255	0.8460	0.0584	0.998	0.997

Silver	1.72	-6.52	c	c	0.85	c
Zinc	0.8473	0.884	0.8473	0.884	0.978	0.986

Note to table: The term "exp" represents the base e exponential function.

Footnotes to table:

a. Conversion factors (CF) are from "Stephan, C. E. 1995. Derivation of conversion factors for the calculation of dissolved freshwater aquatic life criteria for metals. U.S. Environmental Protection Agency, Environmental Research Laboratory – Duluth." The conversion factors for cadmium and lead are hardness-dependent and can be calculated for any hardness (see limitations in Subsection 210.03.b.i.) using the following equations. For comparative purposes, the conversion factors for a total hardness of one hundred (100) mg/L are shown in the table. The conversion factor shall not exceed one (1).

Cadmium

Acute: CF=1.136672–[(ln hardness)(0.041838)] NOTE: The cadmium acute criterion equation was derived from dissolved metals toxicity data and thus requires no conversion; this conversion factor may be used to back calculate an equivalent total recoverable concentration.

Chronic: CF=1.101672–[(ln hardness)(0.041838)]

Lead (Acute and Chronic): CF=1.46203–[(ln hardness)(0.145712)

b. Not applicable

c. No chronic criteria are available for silver.

(3-29-10)

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)

a. For all waters for which the Department has determined mixing zones to be applicable, the toxic substance criteria apply at the boundary of the mixing zone(s) and beyond. Absent an authorized mixing zone, the toxic substance criteria apply throughout the waterbody including at the end of any discharge pipe, canal or other discharge point. (3-25-16)

b. Low flow design conditions. Water quality-based effluent limits and mixing zones for toxic substances shall be based on the following low flows in perennial receiving streams. Numeric chemical criteria may be exceeded in perennial streams outside any applicable mixing zone only when flows are less than these values:

Aquatic Life		Human Health	
CMC ("acute" criteria)	1Q10 or 1B3	Non-carcinogens	Harmonic mean flow
CCC ("chronic" criteria)	7Q10 or 4B3	Carcinogens	Harmonic mean flow

(3-25-16)

i. Where "1Q10" is the lowest one-day flow with an average recurrence frequency of once in ten (10) years determined hydrologically; (5-3-03)

ii. Where "1B3" is biologically based and indicates an allowable exceedance of once every three (3) years. It may be determined by EPA's computerized method (DFLOW model); (5-3-03)

iii. Where "7Q10" is the lowest average seven (7) consecutive day low flow with an average recurrence frequency of once in ten (10) years determined hydrologically; (5-3-03)

iv. Where "4B3" is biologically based and indicates an allowable exceedance for four (4) consecutive days once every three (3) years. It may be determined by EPA's computerized method (DFLOW model); (5-3-03)

v. Where the harmonic mean flow is a long term mean flow value calculated by dividing the number of daily flows analyzed by the sum of the reciprocals of those daily flows. (5-3-03)

c. Application of aquatic life metals criteria. (3-25-16)

i. For metals other than cadmium, for purposes of calculating hardness dependent aquatic life criteria from the equations in Subsection 210.02, the minimum hardness allowed for use in those equations shall not be less than twenty-five (25) mg/l, as calcium carbonate, even if the actual ambient hardness is less than twenty-five (25) mg/l as calcium carbonate. For cadmium, the minimum hardness for use in those equations shall not be less than ten (10) mg/l, as calcium carbonate. The maximum hardness allowed for use in those equations shall not be greater than four hundred (400) mg/l, as calcium carbonate, except as specified in Subsections 210.03.c.ii. and 210.03.c.iii., even if the actual ambient hardness is greater than four hundred (400) mg/l as calcium carbonate. (3-29-10)

ii. The hardness values used for calculating aquatic life criteria for metals at design discharge conditions shall be representative of the ambient hardnesses for a receiving water that occur at the design discharge conditions given in Subsection 210.03.b. (5-3-03)

iii. Except as otherwise noted, the aquatic life criteria for metals (compounds #1 through #13 in the criteria table of Subsection 210.02) are expressed as dissolved metal concentrations. Unless otherwise specified by the Department, dissolved concentrations are considered to be concentrations recovered from a sample which has passed through a forty-five hundredths (0.45) micron filter. For the purposes of calculating aquatic life criteria for metals from the equations in footnotes e. and i. in the criteria table in Subsection 210.01, the water effect ratio is computed as a specific pollutant's acute or chronic toxicity values measured in water from the site covered by the standard, divided by the respective acute or chronic toxicity value in laboratory dilution water. The water-effect ratio shall be assigned a value of one (1.0), except where the Department assigns a different value that protects the designated uses of the water body from the toxic effects of the pollutant, and is derived from suitable tests on sampled water representative of conditions in the affected water body, consistent with the design discharge conditions established in Subsection 210.03.b. For purposes of calculating water effects ratios, the term acute toxicity value is the toxicity test results, such as the concentration lethal one-half (1/2) of the test organisms (i.e., LC5O) after ninety-six (96) hours of exposure (e.g., fish toxicity tests) or the effect concentration to one-half of the test organisms, (i.e., EC5O) after forty-eight (48) hours of exposure (e.g., daphnia toxicity tests). For purposes of calculating water effects ratios, the term chronic value is the result from appropriate hypothesis testing or regression analysis of measurements of growth, reproduction, or survival from life cycle, partial life cycle, or early life stage tests. The determination of acute and chronic values shall be according to current standard protocols (e.g., those published by the American Society for Testing and Materials (ASTM)) or other comparable methods. For calculation of criteria using site-specific values for both the hardness and the water effect ratio, the hardness used in the equations in Subsection 210.02 shall be as required in Subsection 210.03.c.ii. Water hardness shall be calculated from the measured calcium and magnesium ions present, and the ratio of calcium to magnesium shall be approximately the same in laboratory toxicity testing water as in the site water, or be similar to average ratios of laboratory waters used to derive the criteria. (4-6-05)

iv. Implementation Guidance for the Idaho Mercury Water Quality Criteria. (4-6-05)

(1) The "Implementation Guidance for the Idaho Mercury Water Quality Criteria" describes in detail suggested methods for discharge related monitoring requirements, calculation of reasonable potential to exceed (RPTE) water quality criteria in determining need for mercury effluent limits, and use of fish tissue mercury data in calculating mercury load reductions. This guidance, or its updates, will provide assistance to the Department and the public when implementing the methylmercury criterion. The "Implementation Guidance for the Idaho Mercury Water Quality Criteria" also provides basic background information on mercury in the environment, the novelty of a fish tissue criterion for water quality, the connection between human health and aquatic life protection, and the relation of environmental programs outside of Clean Water Act programs to reducing mercury contamination of the environment. The "Implementation Guidance for the Idaho Mercury Water Quality Criteria" is available at the Department of Environmental Quality, 1410 N. Hilton, Boise, Idaho 83706, and on the DEQ website at http://www.deq.idaho.gov/media/639808-idaho_mercury_wq_guidance.pdf. (4-6-05)

(2) The implementation of a fish tissue criterion in NPDES permits and TMDLs requires a non-traditional approach, as the basic criterion is not a concentration in water. In applying the methylmercury fish tissue criterion in the context of NPDES effluent limits and TMDL load reductions, the Department will assume change in fish tissue concentrations of methylmercury are proportional to change in water body loading of total mercury. Reasonable potential to exceed (RPTE) the fish tissue criterion for existing NPDES sources will be based on measured fish tissue concentrations potentially affected by the discharge exceeding a specified threshold value, based on uncertainty due to measurement variability. This threshold value is also used for TMDL decisions. Because measured fish tissue concentrations do not reflect the effect of proposed new or increased discharge of mercury, RPTE in these cases will be based upon an estimated fish tissue methylmercury concentration, using projected changes in waterbody loading of total mercury and a proportional response in fish tissue mercury. For the above purposes, mercury will be measured in the skinless filets of sport fish using techniques capable of detecting tissue concentrations down to point zero five (0.05) mg/kg. Total mercury analysis may be used, but will be assumed to be all methylmercury for purposes of implementing the criterion. (4-6-05)

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

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. Column B2 criteria are concentrations not to be exceeded for a four-day average more than once in three (3) years. (3-25-16)

ii. Frequency and duration for human health toxics criteria. Columns C1 and C2 criteria are not to be exceeded based on an annual harmonic mean. (3-25-16)

04. National Pollutant Discharge Elimination System Permitting. For the purposes of NPDES permitting, interpretation and implementation of metals criteria listed in Subsection 210.02 should be governed by the following standards, that are hereby incorporated by reference, in addition to other scientifically defensible methods deemed appropriate by the Department; provided, however, any identified conversion factors within these documents are not incorporated by reference. Metals criteria conversion factors are identified in Subsection 210.02 of this rule. (5-3-03)

a. "Guidance Document on Dissolved Criteria -- Expression of Aquatic Life Criteria," EPA, October 1993, http://www.deq.idaho.gov/media/827413-epa-guidance-dissolved-criteria-1093.pdf. (4-5-00)

b. "Guidance Document on Dynamic Modeling and Translators," EPA, August 1993, http://www.deq.idaho.gov/media/827417-epa-guidance-dynamic-modeling-translators-0893.pdf. (4-5-00)

c. "Guidance Document on Clean Analytical Techniques and Monitoring," EPA, October 1993, http://www.deq.idaho.gov/media/827421-epa-guidance-analytical-techniques-1093.pdf. (4-5-00)

d. "Interim Guidance on Determination and Use of Water-Effect Ratios for Metals," EPA, February 1994, http://www.deq.idaho.gov/media/827409-epa-guidance-water-effect-ratios-for-metals-0294.pdf. (4-5-00)

e. "Technical Support Document for Water Quality-Based Toxics Control." EPA, March 1991. http://www.deq.idaho.gov/media/60177101/58-0102-1201-epa-technical-support-document-1991.pdf. (3-25-16)

05. Development of Toxic Substance Criteria. (4-5-00)

a. Aquatic Life Communities Criteria. Numeric criteria for the protection of aquatic life uses not identified in these rules for toxic substances, may be derived by the Department from the following information: (4-5-00)

i. Site-specific criteria developed pursuant to Section 275; (4-5-00)

ii. Effluent biomonitoring, toxicity testing and whole-effluent toxicity determinations; (4-5-00)

iii. The most recent recommended criteria defined in EPA's ECOTOX database. When using EPA

recommended criteria to derive water quality criteria to protect aquatic life uses, the lowest observed effect concentrations (LOECs) shall be considered; or (3-25-16)

iv. Scientific studies including, but not limited to, instream benthic assessment or rapid bioassessment. (4-5-00)

b. Human Health Criteria. (4-5-00)

Note: In 2016, Idaho updated human health criteria for 104 toxic substances (10 of which are new). Final rule submitted to EPA on December 13, 2016 (docket 58-0102-1201). Until EPA approves the revisions in this rule docket, the human health criteria published in 2005 Idaho Administrative Code in Section 210 continue to apply and are effective for CWA purposes. These criteria are listed in Numeric Criteria for Toxic Substances (2005). The previous human health criteria based on a fish consumption rate of 6.5 g/day published in 2005 Idaho Administrative Code in Section 210.05.b.i. continue to apply and are effective for CWA purposes. Until EPA approves the revisions in this rule docket, the additional fish-plus-water criterion for copper; the revisions in Sections 070.08, 210.03, 210.04, 210.05.b.ii. and 400.06; and the definition of harmonic mean published in 2015 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.

i. When numeric criteria for the protection of human health are not identified in these rules for toxic substances, quantifiable criteria may be derived by the Department using best available science on toxicity thresholds (i.e. reference dose or cancer slope factor), such as defined in EPA's Integrated Risk Information System (IRIS) or other peer-reviewed source acceptable to the Department. (3-25-16)

ii. When using toxicity thresholds to derive water quality criteria to protect human health, a fish consumption rate representative of the population to be protected, a mean adult body weight, an adult 90th percentile water ingestion rate, a trophic level weighted BAF or BCF, and a hazard quotient of one (1) for non-carcinogens or a cancer risk level of 10^{-5} for carcinogens shall be utilized. (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). *( )*

01. Subsection of Blackfoot Subbasin. *Blackfoot River - confluence of Lanes and Diamond Creeks to Blackfoot Reservoir (unit US-10), and all tributaries thereof. The site-specific criterion for these water bodies is set out in the following table.*

Chronic				***Short-term***
Egg-Ovary (mg/kg dw)	***Fish Tissue (mg/kg dw)***		***Water Column (µg/L)***	***Water Column (µg/L)***
Egg-Ovary	*Whole-Body*	*Muscle*	*Water Lotic*	*Water*
24.5[1]	*12.5[2]*	*12.8[2]*	*6.3[3,4,5]*	*Intermittent Exposure Equation[3,4,5,6]*
mg/kg dw – milligrams per kilogram dry weight, µg/L – micrograms per liter				

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.

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.

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.

4. Lotic Water Column Equation=

$$\frac{Tissue_{criterion}}{BAF}$$

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.

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.

6. Intermittent Exposure Equation=

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

where WQC is the lotic water column element; C_{bkgrnd} 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).

( )

02. Subsection of Bear Lake Subbasin. Georgetown Creek - source to mouth (unit B-22), and all tributaries thereof. The site-specific criterion for these water bodies is set out in the following table.

Chronic				**Short-term**
Egg-Ovary (mg/kg dw)	**Fish Tissue (mg/kg dw)**		**Water Column (µg/L)**	**Water Column (µg/L)**
Egg-Ovary	Whole-Body	Muscle	Water Lotic	Water
21.0[1]	12.5[2]	12.8[2]	3.4[3,4,5]	Intermittent Exposure Equation[3,4,5,6]
mg/kg dw – milligrams per kilogram dry weight, µg/L – micrograms per liter				

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.

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.

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.

4. Lotic Water Column Equation=

$$\frac{Tissue_{criterion}}{BAF}$$

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.

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.

6. Intermittent Exposure Equation=

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

where WQC is the lotic water column element; C_{bkgrnd} 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).

( )

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). The site-specific criterion for these water bodies is set out in the following table.

Chronic			Short-term
Egg-Ovary (mg/kg dw)	Fish Tissue (mg/kg dw)	Water Column (µg/L)	Water Column (µg/L)
Egg-Ovary	Whole-Body	Water Lotic	Water
19.9[1]	13.6[2]	16.2[3]	Intermittent Exposure Equation[3,4]
mg/kg dw – milligrams per kilogram dry weight, µg/L – micrograms per liter			

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.

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.

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.

4. Intermittent Exposure Equation=

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

where WQC is the lotic water column element; C_{bkgrnd} 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).

( )

04. Subsection of Salt Subbasin — Crow Creek. Crow Creek – Downstream of Sage Creek confluence to Wyoming state line (US-8). The site-specific criterion for these water bodies is set out in the following table.

Chronic			**Short-term**
Egg-Ovary (mg/kg dw)	**Fish Tissue (mg/kg dw)**	**Water Column (µg/L)**	**Water Column (µg/L)**
Egg-Ovary	Whole-Body	Water Lotic	Water
19.9[1]	13.6[2]	4.1[3]	Intermittent Exposure Equation[3,4]
mg/kg dw – milligrams per kilogram dry weight, µg/L – micrograms per liter			

1. Egg-ovary supersedes any whole-body 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.

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.

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.

4. Intermittent Exposure Equation=

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

where WQC is the lotic water column element; C_{bkgrnd} 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).

( )

05. Portions of Idaho. ( )

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

HUC	Subbasin		HUC	Subbasin
16010102	Central Bear		17040207	Blackfoot
16010201	Bear Lake		17040208	Portneuf
16010202	Middle Bear		17040209	Lake Walcott
16010203	Little Bear-Logan		17040210	Raft
16010204	Lower Bear-Malad		17040211	Goose
16020309	Curlew Valley		17040214	Beaver-Camas
17010103	Yaak		17040215	Medicine Lodge
17010302	South Fork Coeur d Alene		17040216	Birch
17010306	Hangman		17040218	Big Lost
17010308	Little Spokane		17040220	Camas
17040104	Palisades		17040221	Little Wood
17040105	Salt		17050104	Upper Owyhee
17040201	Idaho Falls		17050105	South Fork Owyhee
17040202	Upper Henrys		17050106	East Little Owyhee
17040203	Lower Henrys		17050107	Middle Owyhee
17040204	Teton		17050108	Jordan
17040205	Willow		17060109	Rock
17040206	American Falls			

( )

b. The site-specific criterion for the water bodies identified in Subsection 287.05.a. is set out in the following table.

Chronic					Short-term
Egg-Ovary (mg/kg dw)	Fish Tissue (mg/kg dw)		Water Column (µg/L)		Water Column (µg/L)
Egg-Ovary	Whole-Body	Muscle	Water Lentic	Water Lotic	Water
19.0[1]	9.5[2]	13.1[2]	1.7[3]	3.4[3]	Intermittent Exposure Equation[3,4]
mg/kg dw – milligrams per kilogram dry weight, µg/L – micrograms per liter					

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.

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.

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.

4. Intermittent Exposure Equation=

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

where WQC is the water column element, for either lentic or lotic waters; C_{bkgrnd} 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).

( )

Section 287 is not effective for CWA purposes until the date EPA issues written notification that the revisions adopted under Rule Docket No. 58-0102-1502 have been approved.