

IDAPA 58 – DEPARTMENT OF ENVIRONMENTAL QUALITY

58.01.02 – WATER QUALITY STANDARDS

DOCKET NO. 58-0102-1802

NOTICE OF RULEMAKING – PROPOSED RULE

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 21, 2018. 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 meeting of the Idaho Board of Environmental Quality (Board) scheduled for November 14 and 15, 2018.

DESCRIPTIVE SUMMARY: This rulemaking has been initiated to make certain revisions identified as high priority in the 2017 Triennial Review of Idaho Water Quality Standards and to comply with federal requirements for consideration of EPA recommended (aka §304(a)) criteria (40 CFR 131.20): (1) Adopt aquatic life criteria for acrolein, carbaryl, and diazinon in accordance with EPA's current §304(a) recommended criteria, and (2) adopt EPA's current §304(a) recommended criteria for bacteria and clarify the definition of recreational use.

EPA's Recommended §304(a) Aquatic life Criteria for Acrolein, Carbaryl, and Diazinon

This rulemaking adds criteria for acrolein, carbaryl, and diazinon in Subsection 210.01. Currently, Idaho does not have aquatic life criteria for acrolein, carbaryl, and diazinon, although EPA has issued new recommended aquatic life criteria for these toxics. Acrolein is an aquatic herbicide and is known to be toxic to aquatic life, particularly amphibians and fish. In 2009, EPA added acrolein to the §304(a) list of aquatic life criteria. Carbaryl and diazinon are pesticides that are toxic to aquatic life, particularly invertebrates. EPA added diazinon to the §304(a) list of aquatic life criteria in 2005 and added carbaryl in 2012.

In order to avoid EPA promulgating federal standards for acrolein, carbaryl, and diazinon for Idaho, DEQ initiated negotiated rulemaking to revise these aquatic life criteria in Idaho's water quality standards. By adopting these criteria, DEQ will comply with federal requirements for consideration of EPA recommended criteria (40 CFR 131.20) and ensure that its criteria provide sufficient protection of aquatic life uses.

EPA's §304(a) Recommended Criteria for Bacteria

This rulemaking adopts EPA's 2012 §304(a) recommended criteria for bacteria. EPA's 2012 §304(a) criteria includes both *E. coli* criteria as well as enterococci criteria; either of which would be considered protective of contact recreation. States (and dischargers) can use either criterion to demonstrate compliance with water quality standards. This rulemaking also clarifies the definition of recreational use, recognizing that waters designated for primary contact recreation (PCR) also include recreational activities associated with secondary contact recreation (SCR).

Consideration of enterococci criteria as included in EPA's 2012 §304(a) recommendation is necessary to comply with federal requirements for consideration of EPA recommended criteria (40 CFR 131.20). Enterococci criteria are more directly related to incidences of gastrointestinal illnesses than *E. coli* criteria. In addition, rapid analytical techniques for enterococci are currently being developed. By adopting enterococci criteria, Idaho will be in a position to easily integrate any advances to improve sampling logistics (for example, extended holding times and field preservation to allow for monitoring and assessment of more remote waters, and rapid notification of affected swimming beaches and recreational facilities).

DEQ will also consider the adoption of statistical threshold values (STV) as criteria. The STV is a concentration that is not to be exceeded more frequently than 10% of valid samples collected in a 30-day period.

By adopting EPA's 2012 §304(a) criteria recommendation, DEQ can meet a recommendation of the 2017 Triennial Review and meet federal requirements to consider EPA's 2012 §304(a) recommendations while providing the same level of protection for Idaho water bodies. In addition, this allows dischargers the option to request an alternative fecal indicator bacteria for monitoring compliance with water quality standards.

Idahoans that recreate in, drink from, or fish Idaho's surface waters, and any who discharge pollutants to those same waters, may be interested in commenting on this proposed rule. The proposed rule text is in legislative format. Language the agency proposes to add is underlined. Language the agency proposes to delete is struck out. It is these additions and deletions to which public comment should be addressed.

After consideration of public comments, DEQ intends to present the final proposal to the Board in November 2018 for adoption of a pending rule. The rule is expected to be final and effective upon the conclusion of the 2019 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: Not applicable.

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 May 2018 issue of the Idaho Administrative Bulletin, a preliminary draft rule was made available for public review on May 8, 2018, and meetings were held on May 31 and June 28, 2018. 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. 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/58-0102-1802.

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 5, 2018.

Dated this 5th day of September, 2018.

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Department of Environmental Quality
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THE FOLLOWING IS THE PROPOSED TEXT OF DOCKET NO. 58-0102-1802
(Only Those Sections With Amendments Are Shown.)

100. SURFACE WATER USE DESIGNATIONS.

Waterbodies are designated in Idaho to protect water quality for existing or designated uses. The designated use of a waterbody does not imply any rights to access or ability to conduct any activity related to the use designation, nor does it imply that an activity is safe. For example, a designation of primary or secondary contact recreation may occur in areas where it is unsafe to enter the water due to water flows, depth or other hazardous conditions. Another example is that aquatic life uses may be designated in areas that are closed to fishing or access is not allowed by property owners. Wherever attainable, the designated beneficial uses for which the surface waters of the state are to be protected include: (3-15-02)

01. Aquatic Life. (7-1-93)

a. Cold water (COLD): water quality appropriate for the protection and maintenance of a viable aquatic life community for cold water species. (4-5-00)

b. Salmonid spawning (SS): waters which provide or could provide a habitat for active self-propagating populations of salmonid fishes. (3-30-07)

c. Seasonal cold water (SC): water quality appropriate for the protection and maintenance of a viable aquatic life community of cool and cold water species, where cold water aquatic life may be absent during, or tolerant of, seasonally warm temperatures. (4-5-00)

d. Warm water (WARM): water quality appropriate for the protection and maintenance of a viable aquatic life community for warm water species. (4-5-00)

e. Modified (MOD): water quality appropriate for an aquatic life community that is limited due to one (1) or more conditions set forth in 40 CFR 131.10(g) which preclude attainment of reference streams or conditions. (4-5-00)

02. Recreation. (7-1-93)

a. Primary contact recreation (PCR): water quality appropriate for prolonged and intimate contact by humans or for recreational activities when the ingestion of small quantities of water is likely to occur. Such activities include, but are not restricted to, those used for swimming, water skiing, or skin diving. (4-5-00)

Effective for CWA purposes until the date EPA issues written notification that the revisions in Docket No. 58-0102-1802 have been approved.

a. Primary contact recreation (PCR): water quality appropriate for prolonged and intimate contact by humans or for recreational activities when the ingestion of small quantities of water is likely to occur. Such activities include, but are not restricted to, those used for swimming, water skiing, or skin diving. PCR includes all activities associated with secondary contact recreation (SCR). (4-5-00)()

Not effective for CWA purposes until the date EPA issues written notification that the revisions in Docket No. 58-0102-1802 have been approved.

b. Secondary contact recreation (SCR): water quality appropriate for recreational uses on or about the water and which are not included in the primary contact category. These activities may include fishing, boating, wading, infrequent swimming, and other activities where ingestion of raw water is not likely to occur. (4-5-00)

- 03. **Water Supply.** (7-1-93)
 - a. Domestic (DWS): water quality appropriate for drinking water supplies. (4-5-00)
 - b. Agricultural: water quality appropriate for the irrigation of crops or as drinking water for livestock. This use applies to all surface waters of the state. (4-5-00)
 - c. Industrial: water quality appropriate for industrial water supplies. This use applies to all surface waters of the state. (4-5-00)
- 04. **Wildlife Habitats.** Water quality appropriate for wildlife habitats. This use applies to all surface waters of the state. (4-5-00)
- 05. **Aesthetics.** This use applies to all surface waters of the state. (7-1-93)

(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 provided in Tables 1 and 2. (3-28-18)
 - a. Table 1 contains criteria set for protection of aquatic life. Criteria for metals (arsenic through zinc) are expressed as dissolved fraction unless otherwise noted. For purposes of these criteria, dissolved fraction means that which passes through a forty-five hundredths (0.45) micron filter. (3-28-18)

Table 1. Criteria for Protection of Aquatic Life					
Compound	^a CAS Number	^b CMC (µg/L)		^b CCC (µg/L)	
Inorganic Compounds/Metals					
Arsenic	7440382	340	c	150	c
Cadmium	7440439	1.3	f	0.6	f
Chromium III	16065831	570	f	74	f

Table 1. Criteria for Protection of Aquatic Life					
Compound	^a CAS Number	^b CMC (µg/L)		^b CCC (µg/L)	
Chromium VI	18540299	16	c	11	c
Copper ¹	7440508	17	f	11	f
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.					
Copper ²	7440508	12.3	k	7.6	k
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.					
Lead	7439921	65	f	2.5	f
Mercury	7439976		e		e
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 .					
Nickel	7440020	470	f	52	f
Selenium ¹	7782492	20	d	5	d
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.					
Selenium ²	7782492	m		l	d
² Not yet effective for CWA purposes. The CMC footnote m . and CCC footnote l . 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.					
Silver	7440224	3.4	f		
Zinc	7440666	120	f	120	f
Inorganic Compounds/Non-Metals					
Chlorine		19	h	11	h
Cyanide	57125	22	g	5.2	g
Organic Compounds					
<u>Acrolein</u>	<u>107028</u>	1 <u>3²</u>		1 <u>3²</u>	

Table 1. Criteria for Protection of Aquatic Life					
Compound	^a CAS Number	^b CMC (µg/L)		^b CCC (µg/L)	
¹ Effective for CWA purposes until the date EPA issues written notification that the revisions in Docket No. 58-0102-1802 have been approved. ² Not effective for CWA purposes until the date EPA issues written notification that the revisions in Docket No. 58-0102-1802 have been approved.					
Aldrin	39002	3			
gamma-BHC (Lindane)	58899	2		0.08	
<u>Carbaryl</u>	<u>63252</u>	1 2.1 ²		1 2.1 ²	
¹ Effective for CWA purposes until the date EPA issues written notification that the revisions in Docket No. 58-0102-1802 have been approved. ² Not effective for CWA purposes until the date EPA issues written notification that the revisions in Docket No. 58-0102-1802 have been approved.					
Chlordane	57749	2.4		0.0043	
4,4'-DDT	50293	1.1		0.001	
<u>Diazinon</u>	<u>333415</u>	1 0.17 ²		1 0.17 ²	
¹ Effective for CWA purposes until the date EPA issues written notification that the revisions in Docket No. 58-0102-1802 have been approved. ² Not effective for CWA purposes until the date EPA issues written notification that the revisions in Docket No. 58-0102-1802 have been approved.					
Dieldrin	60571	2.5		0.0019	
alpha-Endosulfan	959988	0.22		0.056	
beta-Endosulfan	33213659	0.22		0.056	
Endrin	72208	0.18		0.0023	
Heptachlor	76448	0.52		0.0038	
Heptachlor Epoxide	1024573	0.52		0.0038	
Pentachlorophenol	87865	20	i	13	i
Polychlorinated Biphenyls PCBs	j			0.014	j
Toxaphene	8001352	0.73		0.0002	
Footnotes for Table 1. Criteria for Protection of Aquatic Life					
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.					

Table 1. Criteria for Protection of Aquatic Life					
Compound	^a CAS Number	^b CMC (µg/L)		^b CCC (µg/L)	
<p>c. Criteria for these metals are expressed as a function of the water effect ratio, WER, as defined in Subsection 210.03.c.iii. CMC = CMC column value X WER. CCC = CCC column value X WER.</p>					
<p>d. Criterion expressed as total recoverable (unfiltered) concentrations.</p>					
<p>e. 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.</p>					
<p>f. 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).</p>					
<p>g. Criteria are expressed as weak acid dissociable (WAD) cyanide.</p>					
<p>h. Total chlorine residual concentrations.</p>					
<p>i. 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 = $\exp(1.005(\text{pH})-4.830)$ CCC = $\exp(1.005(\text{pH})-5.290)$</p>					
<p>j. 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.</p>					
<p>k. 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 = 1.00×10^{-8} mg/L.</p> <p><i>(Footnote k. 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.)</i></p>					
l. Chronic					Short-term
Egg-Ovary (mg/kg dw)		Fish Tissue (mg/kg dw)		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					
<p>1. Egg-ovary supersedes any whole-body, muscle, or water column element when fish egg-ovary concentrations are measured. Single measurement of an average or composite sample of at least five (5) individuals of the same species. Not to be exceeded; DEQ will evaluate all representative egg-ovary data to determine compliance with this criterion element.</p>					

Table 1. Criteria for Protection of Aquatic Life			
Compound	^a CAS Number	^b CMC (µg/L)	^b CCC (µg/L)
<p>2. Fish whole-body or muscle tissue supersedes water column element when both fish tissue and water concentrations are measured. Single measurement of an average or composite sample of at least five (5) individuals of the same species where the smallest individual is no less than seventy-five percent (75%) of the total length (size) of the largest individual. Not to be exceeded; DEQ will evaluate all representative whole body or muscle data to determine compliance with this criterion element.</p> <p>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).</p> <p>4. Intermittent Exposure Equation=</p> $\frac{WQC - C_{bkgrnd}(1 - f_{int})}{f_{int}}$ <p>where WQC is the applicable 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).</p> <p><i>(Footnote I. is not effective for CWA purposes until the date EPA issues written notification that the revisions adopted under Rule Docket No. 58-0102-1701 have been approved.)</i></p> <p>m. There is no specific acute criterion for aquatic life; however, the aquatic life criterion is based on chronic effects of the selenium on aquatic life and is expected to adequately protect against acute effects.</p> <p><i>(Footnote m. is not effective for CWA purposes until the date EPA issues written notification that the revisions adopted under Rule Docket No. 58-0102-1701 have been approved.)</i></p>			

(3-28-18)

b. Table 2 contains criteria set for protection of human health. The Water & Fish criteria apply to waters designated for domestic water supply use. The Fish Only criteria apply to waters designated for primary or secondary contact recreation use.

(3-28-18)

Table 2. Criteria for Protection of Human Health (based on consumption of:)						
Compound	^a CAS Number	Carcinogen?	Water & Fish (µg/L)		Fish Only (µg/L)	
Inorganic Compounds/Metals						
Antimony	7440360		5.2	b	190	b
Arsenic	7440382	Y	10	cdj	10	cdj

Table 2. Criteria for Protection of Human Health (based on consumption of:)

Compound	^a CAS Number	Carcinogen?	Water & Fish (µg/L)	Fish Only (µg/L)		
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 2015, 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. Neither EPA nor the state of Idaho has promulgated replacement criteria. For more information, go to http://www.deq.idaho.gov/epa-actions-on-proposed-standards .						
Beryllium	7440417			e		e
Cadmium	7440439			e		e
Chromium III	16065831			e		e
Chromium VI	18540299			e		e
Copper	7440508		1300	j		
Lead	7439921			e		e
Methylmercury	22967926				0.3mg/kg	i
Nickel	7440020		58	b	100	b
Selenium	7782492		29	b	250	b
Thallium	7440280		0.017	b	0.023	b
Zinc	7440666		870	b	1,500	b
Inorganic Compounds/Non-Metals						
Cyanide	57125		3.9	b	140	b
Asbestos	1332214		7,000,000 Fibers/L	j		
Organic Compounds						
Acenaphthene	83329		26	b	28	b
Acenaphthylene	208968			e		e
Acrolein	107028		3.2	b	120	b
Acrylonitrile	107131	Y	0.60	bf	22	bf
Aldrin	309002	Y	2.5E-06	bf	2.5E-06	bf
Anthracene	120127		110	b	120	b
alpha-BHC	319846	Y	0.0012	bf	0.0013	bf
beta-BHC	319857	Y	0.036	bf	0.045	bf
gamma-BHC (Lindane)	58899		1.4	b	1.4	b
delta-BHC	319868			e		e
Benzene	71432		3.0	bf	28	b

Table 2. Criteria for Protection of Human Health (based on consumption of:)

Compound	^a CAS Number	Carcinogen?	Water & Fish		Fish Only	
			(µg/L)		(µg/L)	
Benzidine	92875	Y	0.0014	bf	0.033	bf
Benzo(a)Anthracene	56553	Y	0.0042	bf	0.0042	bf
Benzo(b)Fluoranthene	205992	Y	0.0042	bf	0.0042	bf
Benzo(k)Fluoranthene	207089	Y	0.042	bf	0.042	bf
Benzo(ghi)Perylene	191242			e		e
Benzo(a)Pyrene	50328	Y	0.00042	bf	0.00042	bf
Bis(2-Chloroethoxy) Methane	111911			e		e
Bis(2-Chloroethyl) Ether	111444	Y	0.29	bf	6.8	bf
Bis(2-Chloroisopropyl) Ether	108601		220	b	1,200	b
Bis(Chloromethyl) Ether	542881	Y	0.0015	bf	0.055	bf
Bis(2-Ethylhexyl) Phthalate	117817	Y	1.2	bf	1.2	bf
Bromoform	75252	Y	62	bf	380	bf
4-Bromophenyl Phenyl Ether	101553			e		e
Butylbenzyl Phthalate	85687		0.33	b	0.33	b
Carbon Tetrachloride	56235	Y	3.6	bf	15	bf
Chlorobenzene	108907		89	b	270	b
Chlordane	57749	Y	0.0010	bf	0.0010	bf
Chlorodibromomethane	124481	Y	7.4	bf	67	bf
Chloroethane	75003			e		e
2-Chloroethylvinyl Ether	110758			e		e
Chloroform	67663		61	b	730	b
2-Chloronaphthalene	91587		330	b	380	b
2-Chlorophenol	95578		30	b	260	b
Chlorophenoxy Herbicide (2,4-D)	94757		1,000	b	3,900	b
Chlorophenoxy Herbicide (2,4,5-TP) [Silvex]	93721		82	b	130	b
4-Chlorophenyl Phenyl Ether	7005723			e		e
Chrysene	218019	Y	0.42	bf	0.42	bf

Table 2. Criteria for Protection of Human Health (based on consumption of:)

Compound	a CAS Number	Carcinogen?	Water & Fish (µg/L)		Fish Only (µg/L)	
4,4'-DDD	72548	Y	0.00042	bf	0.00042	bf
4,4'-DDE	72559	Y	5.5E-05	bf	5.5E-05	bf
4,4'-DDT	50293	Y	9.8E-05	bf	9.8E-05	bf
Di-n-Butyl Phthalate	84742		8.2	b	8.3	b
Di-n-Octyl Phthalate	117840			e		e
Dibenzo (a,h) Anthracene	53703	Y	0.00042	bf	0.00042	bf
1,2-Dichlorobenzene	95501		700	b	1,100	b
1,3-Dichlorobenzene	541731		3.5	b	4.8	b
1,4-Dichlorobenzene	106467		180	b	300	b
3,3'-Dichlorobenzidine	91941	Y	0.29	bf	0.48	bf
Dichlorobromomethane	75274	Y	8.8	bf	86	bf
1,1-Dichloroethane	75343			e		e
1,2-Dichloroethane	107062	Y	96	bf	2,000	bf
1,1-Dichloroethylene	75354		310	b	5,200	b
2,4-Dichlorophenol	120832		9.6	b	19	b
1,2-Dichloropropane	78875	Y	8.5	bf	98	bf
1,3-Dichloropropene	542756	Y	2.5	bf	38	bf
Dieldrin	60571	Y	4.2E-06	bf	4.2E-06	bf
Diethyl Phthalate	84662		200	b	210	b
2,4-Dimethylphenol	105679		110	b	820	b
Dimethyl Phthalate	131113		600	b	600	b
Dinitrophenols	25550587		13	b	320	b
2,4-Dinitrophenol	51285		12	b	110	b
2,4-Dinitrotoluene	121142	Y	0.46	bf	5.5	bf
2,6-Dinitrotoluene	606202			e		e
1,2-Diphenylhydrazine	122667	Y	0.25	bf	0.65	bf
2, 3, 7, 8-TCDD Dioxin	1746016	Y	1.8E-08	bf	1.9E-08	bf
alpha-Endosulfan	959988		7.0	b	8.5	b
beta-Endosulfan	33213659		11	b	14	b
Endosulfan Sulfate	1031078		9.9	b	13	b
Endrin	72208		0.011	b	0.011	b
Endrin Aldehyde	7421934		0.38	b	0.40	b

Table 2. Criteria for Protection of Human Health (based on consumption of:)

Compound	^a CAS Number	Carcinogen?	Water & Fish (µg/L)		Fish Only (µg/L)	
Ethylbenzene	100414		32	b	41	b
Fluoranthene	206440		6.3	b	6.4	b
Fluorene	86737		21	b	22	b
Heptachlor	76448	Y	2.0E-05	bf	2.0E-05	bf
Heptachlor Epoxide	1024573	Y	0.00010	bf	0.00010	bf
Hexachlorobenzene	118741	Y	0.00026	bf	0.00026	bf
Hexachlorobutadiene	87683	Y	0.031	bf	0.031	bf
Hexachlorocyclohexane (HCH)-Technical	608731	Y	0.027	bf	0.032	bf
Hexachloro- cyclopentadiene	77474		1.3	b	1.3	b
Hexachloroethane	67721		0.23	b	0.24	b
Ideno (1,2,3-cd) Pyrene	193395	Y	0.0042	bf	0.0042	bf
Isophorone	78591	Y	330	bf	6,000	bf
Methoxychlor	72435		0.0054	b	0.0055	b
Methyl Bromide	74839		130	b	3,700	b
Methyl Chloride	74873			e		e
3-Methyl-4-Chlorophenol	59507		350	b	750	b
2-Methyl-4,6-Dinitrophenol	534521		1.6	b	8.6	b
Methylene Chloride	75092		38	b	960	b
Naphthalene	91203			e		e
Nitrobenzene	98953		12	b	180	b
2-Nitrophenol	88755			e		e
4-Nitrophenol	100027			e		e
N-Nitrosodimethylamine	62759	Y	0.0065	bf	9.1	bf
N-Nitrosodi-n-Propylamine	621647	Y	0.046	bf	1.5	bf
N-Nitrosodiphenylamine	86306	Y	3.14	bf	18	bf
Pentachlorobenzene	608935		0.035	b	0.036	b
Pentachlorophenol	87865	Y	0.11	bf	0.12	bf
Phenanthrene	85018			e		e
Phenol	108952		3,800	b	85,000	b
Polychlorinated Biphenyls PCBs	g	Y	0.00019	bfh	0.00019	bfh

Table 2. Criteria for Protection of Human Health (based on consumption of:)

Compound	^a CAS Number	Carcinogen?	Water & Fish (µg/L)		Fish Only (µg/L)	
Pyrene	129000		8.1	b	8.4	b
1,2,4,5-Tetrachlorobenzene	95943		0.0093	b	0.0094	b
1,1,2,2-Tetrachloroethane	79345	Y	1.4	bf	8.6	bf
Tetrachloroethylene	127184		15	b	23	b
Toluene	108883		47	b	170	b
Toxaphene	8001352	Y	0.0023	bf	0.0023	bf
1,2-Trans-Dichloroethylene	156605		120	b	1,200	b
1,2,4-Trichlorobenzene	120821		0.24	b	0.24	b
1,1,1-Trichloroethane	71556		11,000	b	56,000	b
1,1,2-Trichloroethane	79005	Y	4.9	bf	29	bf
Trichloroethylene	79016		2.6	b	11	b
2,4,5-Trichlorophenol	95954		140	b	190	b
2,4,6-Trichlorophenol	88062		1.5	b	2.0	b
Vinyl Chloride	75014	Y	0.21	bf	5.0	bf

Footnotes for Table 2. Criteria for Protection of Human Health

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

b. 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:

Table 2. Criteria for Protection of Human Health (based on consumption of:)				
Compound	^a CAS Number	Carcinogen?	Water & Fish (µg/L)	Fish Only (µg/L)
$AWQC = RfD * RSC * \left(\frac{BW}{DI + (FI * BAF)} \right)$ <p>and criteria for carcinogens are calculated using the formula:</p> $AWQC = RSD * \left(\frac{BW}{DI + (FI * BAF)} \right)$ <p>Where: AWQC = Ambient water quality criterion (mg/L) 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 = Bioaccumulation 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</p>				
c. Inorganic forms only.				
d. Criterion expressed as total recoverable (unfiltered) concentrations.				
e. 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.				
f. 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.				
g. 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.				
h. This criterion applies to total PCBs, (e.g. the sum of all congener, isomer, or Aroclor analyses).				

Table 2. Criteria for Protection of Human Health (based on consumption of:)

Compound	^a CAS Number	Carcinogen?	Water & Fish (µg/L)	Fish Only (µg/L)
<p>i. 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: $TRC = [BW \times \{RfD - (RSC \times RfD)\}] / \sum TL$. 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.</p>				
<p>j. This criterion is based on the drinking water Maximum Containment Level (MCL).</p>				

(3-28-18)

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

b. $CCC = WER \exp\{mc[\ln(\text{hardness})] + bc\}$ 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
<p>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.</p>						
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: $CF = 1.136672 - [(\ln \text{hardness})(0.041838)]$ 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: $CF = 1.101672 - [(\ln \text{hardness})(0.041838)]$

Lead (Acute and Chronic): $CF = 1.46203 - [(\ln \text{hardness})(0.145712)]$

b. Not applicable

c. No chronic criteria are available for silver.

(3-28-18)

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 (arsenic through zinc in Table 1 in Subsection 210.01) 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 c. and f. in Table 1 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., LC50) 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., EC50) 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. (3-28-18)

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. (3-28-18)
 - (1) Aquatic life criteria for copper shall be derived using: (3-28-18)
 - (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 (3-28-18)
 - (b) An estimate derived from BLM outputs that is based on a scientifically sound method and protective of the designated aquatic life use. (3-28-18)
 - (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, 1.00×10^{-8} mg/L sulfide. Measured values shall supersede any estimate or default input. (3-28-18)
 - (3) BLM input measurements shall be planned to capture the most bioavailable conditions for copper. (3-28-18)
 - (4) A criterion derived under Subsection 210.03.c.v.(1)(a) shall supersede any criterion derived under Subsection 210.03.c.v.(1)(b). Acceptable BLM software includes the “[US EPA WQC Calculation](#)” for copper in [BLM Version 3.1.2.37](#) (October 2015). (3-28-18)
 - (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. (3-28-18)

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. CMC column criteria in Table 1 in Subsection 210.01 are concentrations not to be exceeded for a one-hour average more than once in three (3) years unless otherwise specified. CCC column criteria in Table 1 in Subsection 210.01 are concentrations not to be exceeded for a four-day average more than once in three (3) years unless otherwise specified. (3-28-18)
 - ii. Frequency and duration for human health toxics criteria. Criteria in Table 2 in Subsection 210.01 are not to be exceeded based on an annual harmonic mean. (3-28-18)

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)

251. SURFACE WATER QUALITY CRITERIA FOR RECREATION USE DESIGNATIONS.

Effective for CWA purposes until the date EPA issues written notification that the revisions in Docket No. 58-0102-1802 have been approved.

01. *E. Coli* Bacteria. Waters designated for recreation are not to contain *E. coli* bacteria, used as indicators of human pathogens, in concentrations exceeding: (4-11-06)

a. Geometric Mean Criterion. Waters designated for primary or secondary contact recreation are not to contain *E. coli* bacteria in concentrations exceeding a geometric mean of one hundred twenty-six (126) *E. coli* organisms per one hundred (100) ml based on a minimum of five (5) samples taken every three (3) to seven (7) days over a thirty (30) day period. (4-11-06)

b. Use of Single Sample Values. A water sample exceeding the *E. coli* single sample maximums below indicates likely exceedance of the geometric mean criterion, but is not alone a violation of water quality standards. If a single sample exceeds the maximums set forth in Subsections 251.01.b.i., 251.01.b.ii., and 251.01.b.iii., then additional samples must be taken as specified in Subsection 251.01.c.: (4-11-06)

i. For waters designated as secondary contact recreation, a single sample maximum of five hundred seventy-six (576) *E. coli* organisms per one hundred (100) ml; or (4-11-06)

ii. For waters designated as primary contact recreation, a single sample maximum of four hundred six (406) *E. coli* organisms per one hundred (100) ml; or (4-11-06)

iii. For areas within waters designated for primary contact recreation that are additionally specified as public swimming beaches, a single sample maximum of two hundred thirty-five (235) *E. coli* organisms per one hundred (100) ml. Single sample counts above this value should be used in considering beach closures. (4-11-06)

c. Additional Sampling. When a single sample maximum, as set forth in Subsections 251.01.b.i., 251.01.b.ii., and 251.01.b.iii., is exceeded, additional samples should be taken to assess compliance with the geometric mean *E. coli* criteria in Subsection 251.01.a. Sufficient additional samples should be taken by the Department to calculate a geometric mean in accordance with Subsection 251.01.a. This provision does not require additional ambient monitoring responsibilities for dischargers. (4-11-06)

251. SURFACE WATER QUALITY CRITERIA FOR RECREATION USE DESIGNATIONS.

Not effective for CWA purposes until the date EPA issues written notification that the revisions in Docket No. 58-0102-1802 have been approved.

01. *Toxics* Criteria. Waters designated for recreation must meet the Fish Only water quality criteria set forth in Subsection 210.01.b. ()

02. *Fecal* Indicators. Waters designated for recreation must meet criteria for indicator organisms of fecal contamination. Either of the following indicator criterion would be considered sufficient for determining compliance with the fecal indicator criteria: ()

~~01~~**a.** *E. Coli* Bacteria. Waters designated for recreation are not to contain *E. coli* bacteria, used as

indicators of human pathogens, in concentrations exceeding: (4-11-06)

~~a.i. Geometric Mean Criterion. Waters designated for primary or secondary contact recreation are~~
~~Not to contain *E. coli* bacteria in concentrations exceeding a geometric mean of one hundred twenty-six (126) *E.*~~
~~*coli* organisms colony forming units (CFU) per one hundred (100) ml based on a minimum of five (5) samples taken~~
~~every three (3) to seven (7) days over a thirty (30) day period; or (4-11-06)()~~

~~ii. Statistical Threshold Value (STV). No greater than ten percent (10%) of valid samples collected~~
~~over a thirty (30) day period are to contain *E. coli* bacteria in concentrations exceeding an STV of four hundred and~~
~~ten (410) *E. coli* CFU per one hundred (100) ml; or ()~~

~~b. Use of Single Sample Values. A water sample exceeding the *E. coli* single sample maximums below~~
~~indicates likely exceedance of the geometric mean criterion, but is not alone a violation of water quality standards. If~~
~~a single sample exceeds the maximums set forth in Subsections 251.01.b.i., 251.01.b.ii., and 251.01.b.iii., then~~
~~additional samples must be taken as specified in Subsection 251.01.e. Enterococci. Waters designated for recreation~~
~~are not to contain enterococci bacteria, used as indicators of human pathogens, in concentrations exceeding:~~
~~(4-11-06)()~~

~~i. For waters designated as secondary contact recreation, a single sample maximum of five hundred~~
~~seventy-six (576) *E. coli* organisms per one hundred (100) ml Geometric Mean Criterion. Not to contain enterococci~~
~~bacteria in concentrations exceeding a geometric mean of thirty-five (35) enterococci CFU per one hundred (100) ml~~
~~based on a minimum of five (5) samples taken every three (3) to seven (7) days over a thirty (30) day period; or~~
~~(4-11-06)()~~

~~ii. For waters designated as primary contact recreation, a single sample maximum of four hundred six~~
~~(406) *E. coli* organisms per one hundred (100) ml; or Statistical Threshold Value (STV). No greater than ten percent~~
~~(10%) of valid samples collected over a thirty (30) day period are to contain enterococci bacteria in concentrations~~
~~exceeding an STV of one hundred and thirty (130) enterococci CFU per one hundred (100) ml. (4-11-06)()~~

~~iii. For areas within waters designated for primary contact recreation that are additionally specified~~
~~as public swimming beaches, a single sample maximum of two hundred thirty-five (235) *E. coli* organisms per one~~
~~hundred (100) ml. Single sample counts above this value should be used in considering beach closures. (4-11-06)~~

~~e. Additional Sampling. When a single sample maximum, as set forth in Subsections 251.01.b.i.,~~
~~251.01.b.ii., and 251.01.b.iii., is exceeded, additional samples should be taken to assess compliance with the~~
~~geometric mean *E. coli* criteria in Subsection 251.01.a. Sufficient additional samples should be taken by the~~
~~Department to calculate a geometric mean in accordance with Subsection 251.01.a. This provision does not require~~
~~additional ambient monitoring responsibilities for dischargers. (4-11-06)~~