

**Negotiated Rule Draft No. 3
Docket No. 58-0102-1701, Dated July 21, 2017**

Rule revisions have been made based on the June 13, 2017 meeting discussion and review of written comments received. These revisions are highlighted in yellow.

Written comment deadline for this draft – August 1, 2017

**Water Quality Standards
IDAPA 58.01.02**

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. (3-3-03)
 - a.** Columns B1 and 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	b	b	Carcinogen?	Water & fish (µg/L)	Fish only (µg/L)
	CAS Number	CMC (µg/L) B1	CCC (µg/L) B2		C1	C2

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. The CMC value and footnote and the CCC value will be deleted upon EPA approval.						
10 Selenium ²	7782492	s	r f		29 c	250 c
² Not yet effective for CWA purposes. CCC footnote r is not effective for CWA purposes until the date EPA issues written notification that the revisions adopted under Rule Docket No. 58-0102-1701 have been approved.						

(Break)

Table Footnotes
f. Criterion expressed as total recoverable (unfiltered) concentrations.

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r.					
Chronic					Short-term
Egg-Ovary (mg/kg dw)	Fish Tissue (mg/kg dw)		Water Column (µg/L)		Water Column (µg/L)
<i>Egg-Ovary</i>	<i>Whole Body</i>	<i>Muscle</i>	<i>Water Lentic</i>	<i>Water Lotic</i>	<i>Water</i>
<u>15.1¹</u>	<u>8.5²</u>	<u>11.3²</u>	<u>1.5 (30 day average)³</u>	<u>3.1 (30 day average)³</u>	<u>Intermittent exposure Equation^{3,4}</u>
<i>mg/kg dw – milligrams per kilogram dry weight, µg/L – micrograms per liter</i>					
<p><i>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.</i></p> <p><i>2. Fish whole-body or muscle tissue supersedes water column element when both fish tissue and water concentrations are measured. Instantaneous Single measurement of an average or composite sample of at least five (5) individuals of the same species and the smallest individual is no less than seventy-five percent (75%) of the total length (size) of the largest individual-similar size (within the 75% rule).</i></p> <p><i>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 approaches 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).</i></p>					

4. Intermittent Exposure Equation =

$$\frac{WQC_{30\text{-day}} - C_{bkgrnd} (1 - f_{int})}{f_{int}}$$

where $WQC_{30\text{-day}}$ is the water column monthly 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.

(Break)

287. SITE-SPECIFIC 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 mechanistic or bioaccumulation modeling methods 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. Subsections of Blackfoot and Bear Lake Subbasins. Blackfoot River - confluence of Lanes and Diamond Creeks to Blackfoot Reservoir (unit US-10), and all tributaries thereof; and Georgetown Creek - source to mouth (unit B-22), and all tributaries thereof. The site-specific fish tissue and water column values for these water bodies are 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)
<i>Egg-Ovary</i>	<i>Whole Body</i>	<i>Muscle</i>	<i>Water Lentic</i>	<i>Water Lotic</i>	<i>Water</i>
25.3 ¹	11.6 ²	14.1 ²	--3,4	-- 3,4	<i>Intermittent exposure Equation⁵</i>

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 three (3) 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 three (3) individuals of the same species and the smallest individual is no less than seventy-five percent (75%) of the total length (size) of the largest individual similar size (within the 75% rule).*

3. Water column values are the applicable criterion element in the absence of steady-state condition fish tissue data. In streams or reaches of streams where fish are naturally absent due to low flow conditions. In fishless waters, surface water from the fishless stream or reach waters and fish tissue measured downstream at the first occurrence of a continuous fish population from the nearest downstream waters are used for bioaccumulation modeling.

4. Fish tissue supersedes any site-specific water column values when fish are sampled downstream of the fishless stream waters or reach of fishless stream, at the first occurrence of a continuous fish population.

5. Intermittent Exposure Equation =

$$WQC_{30\text{-day}} - C_{bkgrnd} (1 - f_{int})$$

$$f_{int}$$

where $WQC_{30\text{-day}}$ is the water column monthly 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)

02. Subsection of Salt Subbasin, Sage Creek – source to mouth (unit US-9), Sage Creek – source to mouth (unit US-9) and Crow Creek - Sage Creek confluence to Wyoming state line (US-8), 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), Crow Creek downstream of its confluence with Sage Creek to the Wyoming Border. The site-specific fish tissue and water column values for these water bodies are set out in the following table.

Chronic ¹			Short-term	
Egg-Ovary (mg/kg dw)	Fish Tissue (mg/kg dw)	Water Column (µg/L)		Water Column (µg/L)
<u>Egg-Ovary</u>	<u>Whole Body</u>	<u>Water Lentic</u>	<u>Water Lotic</u>	<u>Water</u>
<u>19.9²</u>	<u>13.63^{2,3}</u>	<u>--^{4,5}</u>	<u>13.55 (30 day average)⁶ ^{4,5}</u>	<u>Intermittent exposure Equation^{4,5,7}</u>

mg/kg dw – milligrams per kilogram dry weight, µg/L – micrograms per liter

- 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.
- Fish tissue elements are expressed as a single arithmetic average of tissue concentrations from at least five (5) individuals of the same species, and similar size (five individuals one hundred fifty (150) mm total length or less, and the smallest individual is no less than seventy-five percent (75%) of the total length (size) of the largest individual (within the 75% rule)). All fish can be collected in a single time period.
- Fish whole body tissues supersedes water column element when both fish tissue (whole body) and water concentrations are measured.
- Water column values are based on total selenium concentrations and are derived from fish tissue values used using the empirical bioaccumulation factor (BAF) approach and a site-specific dissolved to total concentration translator (zero point nine eight) (0.98).
- The water column value is to be used when no fish tissue data are available, or in rare cases of fishless waters. Water column values are the applicable criterion element in the absence of steady-state condition fish tissue data. For fishless waters, selenium concentrations in fish from the nearest downstream waters may be used to assess compliance.

6. The 30-day average can be based on a single or multiple days of monitoring within a 30-day period. The geometric mean is used as the average.

7. Intermittent Exposure Equation =

$$\frac{WQC_{30\text{-day}} - C_{bkgnd} (1 - f_{int})}{f_{int}}$$

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

03. Non-sturgeon waters. All waters of the state except the main stems of the Kootenai, Salmon, and Snake Rivers, as well as 4th field HUCs flowing directly into the aforementioned rivers. The site-specific fish tissue and water column values for these water bodies are set out in the following table.

<u>Chronic</u>					<u>Short-term</u>
<u>Egg-Ovary (mg/kg dw)</u>	<u>Fish Tissue (mg/kg dw)</u>		<u>Water Column (µg/L)</u>		<u>Water Column (µg/L)</u>
<u>Egg-Ovary</u>	<u>Whole Body</u>	<u>Muscle</u>	<u>Water Lentic</u>	<u>Water Lotic</u>	<u>Water</u>
19.0 ¹	9.5 ²	13.1 ²	1.7 (30 day average) ³	3.4 (30 day average) ³	<u>Intermittent exposure Equation^{3,4}</u>

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. Instantaneous Single measurement of an average or composite sample of at least five (5) individuals of the same species and the smallest individual is no less than seventy-five percent (75%) of the total length (size) of the largest individual-similar size (within the 75% rule).

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.

4. Intermittent Exposure Equation =

$$\frac{WQC_{30\text{-day}} - C_{bkgrnd} (1 - f_{int})}{f_{int}}$$

where $WQC_{30\text{-day}}$ is the water column monthly 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.
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