

FINAL PROPOSAL
Dated November 7, 2017

WATER QUALITY STANDARDS, DOCKET NO. 58-0102-1701

The proposed rule was published in the Idaho Administrative Bulletin, September 6, 2017, Vol. 17-9, pages 311 through 331. The Department of Environmental Quality recommends that the Board take the following action:

IDAPA 58.01.02

Section 210	ADOPT AS REVISED
Section 287	ADOPT AS REVISED

IDAPA 58 - DEPARTMENT OF ENVIRONMENTAL QUALITY

58.01.02 – WATER QUALITY STANDARDS

DOCKET NO. 58-0102-1701

NOTICE OF RULEMAKING – ADOPTION OF PENDING RULE

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

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

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

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

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

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

Dated this 3rd day of January, 2018

Paula J. Wilson
DEQ Administrative Rules Coordinator
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, Idaho 83706
(208)373-0418/Fax No. (208)373-0481
paula.wilson@deq.idaho.gov

**Revisions to Proposed Rule for Board Consideration, Docket No. 58-0102-1701
(dated November 7, 2017)**

The revisions made to the proposed rule are highlighted. Only the rule sections containing revisions are included.

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

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

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

¹Effective for CWA purposes. The CMC value and footnote and the CCC value are effective for CWA purposes until the date EPA issues written notification that the revisions adopted under Rule Docket No. 58-0102-1701 have been approved.

10 Selenium ²	7782492	20 f	5 f		29 c	250 c
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²Not yet effective for CWA purposes. CMC footnote s. and CCC footnote r. are not effective for CWA purposes until the date EPA issues written notification that the revisions adopted under Rule Docket No. 58-0102-1701 have been approved.

Table Footnotes

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Chronic				Short-term	
<u>Egg-Ovary (mg/kg dw)</u>	<u>Fish Tissue (mg/kg dw)</u>		<u>Water Column (µg/L)</u>		<u>Water Column (µg/L)</u>
<u>Egg-Ovary</u>	<u>Whole-Body</u>	<u>Muscle</u>	<u>Water Lentic</u>	<u>Water Lotic</u>	<u>Water</u>
<u>15.1¹</u>	<u>8.5²</u>	<u>11.3³</u>	<u>1.5 (30 day average)²</u>	<u>3.1 (30 day average)²</u>	<u>Intermittent Exposure Equation^{3,4}</u>
<u>mg/kg dw – milligrams per kilogram dry weight, µg/L – micrograms per liter</u>					
<p><u>1. Egg-ovary supersedes any whole-body, muscle, or water column element when fish egg-ovary concentrations are measured. Single measurement of an average or composite sample of at least five (5) individuals of the same species. Not to be exceeded; DEQ will evaluate all representative egg-ovary data to determine compliance with this criterion element.</u></p> <p><u>2. Fish whole-body or muscle tissue supersedes water column element when both fish tissue and water concentrations are measured. Single measurement of an average or composite sample of at least five (5) individuals of the same species where the smallest individual is no less than seventy-five percent (75%) of the total length (size) of the largest individual. Not to be exceeded; DEQ will evaluate all representative whole body or muscle data to determine compliance with this criterion element.</u></p> <p><u>3. Water column values are 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).</u></p> $C_{bkgnd} \frac{(1 - f_{int})}{f_{int}}$ <p><u>4. Intermittent Exposure Equation=</u> <u>where WQC is the applicable water column element, for either lentic or lotic waters; C_{bkgnd} is the average background selenium concentration, and f_{int} is the fraction of any 30-day period during which elevated selenium concentrations occur, with f_{int} assigned a value ≥ 0.033 (corresponding to one day).</u></p>					
<p><u>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</u></p> <p><u>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.</u></p>					

(3-25-16)()

(Break)

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)

(Break)

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

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)

(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 egg-ovary, whole-body, and muscle criterion elements for these water bodies are set out in the following table. The lentic and short-term exposure water column criterion elements set out in Subsection 210.01., table footnote r, are also applicable to the water bodies identified in this subsection.

<u>Chronic</u>			<u>Short-term</u>
<u>Egg-Ovary (mg/kg dw)</u>	<u>Fish Tissue (mg/kg dw)</u>		<u>Water Column (ug/L)</u>
<u>Egg-Ovary</u>	<u>Whole-Body</u>	<u>Muscle</u>	<u>Water</u>
<u>24.5¹</u>	<u>12.5²</u>	<u>12.8²</u>	<u>6.3-11.9^{3,4,5}</u> <u>Intermittent Exposure Equation^{3,4,5,6}</u>
<u>mg/kg dw – milligrams per kilogram dry weight, ug/L – micrograms per liter</u>			

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

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

3. Water column values are 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=

where Tissue_{crit} 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=

where WOC is the lotic water column element; C_{bl,avg} 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).

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

<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>Egg-Ovary</u>	<u>Whole-Body</u>	<u>Muscle</u>	<u>Water</u>
<u>21.0¹</u>	<u>12.5²</u>	<u>12.8²</u>	<u>3.4 3.8^{3,4,5}</u>
			<u>Intermittent Exposure Equation^{2,4,5,6}</u>
<u>mg/kg dw – milligrams per kilogram dry weight, µg/L – micrograms per liter</u>			

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

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

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=

where Tissue_{crit} 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=

where WOC is the lotic water column element; C_{background} 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 egg-ovary and whole-body criterion elements for these water bodies are set out in the following table. The muscle, lentic water column, and short-term water column criterion elements set out in Subsection 210.01., table footnote r, are also applicable to the water bodies identified in this subsection.

Chronic			Short term
Egg-Ovary (mg/kg dw)	Fish Tissue (mg/kg dw)	Water Column (ug/L)	Water Column (ug/L)
<u>Egg-Ovary</u>	<u>Whole-Body</u>	<u>Water Lotic</u>	<u>Water</u>
<u>19.9-20.5¹</u>	<u>13.6²</u>	<u>16.2-16.7²</u>	<u>Intermittent Exposure Equation^{3,4}</u>
<u>mg/kg dw – milligrams per kilogram dry weight, ug/L – micrograms per liter</u>			

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

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

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=
where WOC is the lotic water column element; $C_{background}$ 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 egg-ovary and whole-body criterion elements for these water bodies are set out in the following table. The muscle, lentic water column, and short-term water column criterion elements set out in Subsection 210.01., table footnote r, are also applicable to the water bodies identified in this subsection.

<u>Chronic</u>			<u>Short-term</u>
<u>Egg-Ovary (mg/kg dw)</u>	<u>Fish Tissue (mg/kg dw)</u>	<u>Water Column (ug/L)</u>	<u>Water Column (ug/L)</u>
<u>Egg-Ovary</u>	<u>Whole-Body</u>	<u>Water Lotic</u>	<u>Water</u>
<u>19.9-20.5¹</u>	<u>13.6-12.5²</u>	<u>4.1-4.2³</u>	<u>Intermittent Exposure Equation^{3,4}</u>
<u>mg/kg dw – milligrams per kilogram dry weight, ug/L – micrograms per liter</u>			

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. Not to be exceeded; DEQ will evaluate all representative egg-ovary data to determine compliance with this criterion element.

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

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=
where WOC is the lotic water column element; $C_{background}$ 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.

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

<u>17040203</u>	<u>Lower Henrys</u>		<u>17050107</u>	<u>Middle Owyhee</u>
<u>17040204</u>	<u>Teton</u>		<u>17050108</u>	<u>Jordan</u>
<u>17040205</u>	<u>Willow</u>		<u>17060109</u>	<u>Rock</u>
<u>17040206</u>	<u>American Falls</u>			

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

<u>Chronic</u>			<u>Short-term</u>		
<u>Egg-Ovary (mg/kg dw)</u>	<u>Fish Tissue (mg/kg dw)</u>		<u>Water Column (µg/L)</u>		<u>Water Column (µg/L)</u>
<u>Egg-Ovary</u>	<u>Whole-Body</u>	<u>Muscle</u>	<u>Water Lentic</u>	<u>Water Lotic</u>	<u>Water</u>
<u>19.0¹</u>	<u>9.5²</u>	<u>13.1²</u>	<u>1.7³</u>	<u>3.4³</u>	<u>Intermittent Exposure Equation³⁻⁴</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. Not to be exceeded; DEQ will evaluate all representative egg-ovary data to determine compliance with this criterion element.

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

3. Water column values are 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—
where WQC is the water column element, for either lentic or lotic waters; $C_{background}$ 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).

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Section 287 is not effective for CWA purposes until the date EPA issues written notification that the revisions adopted under Rule Docket No. 58-0102-1502-1701 have been approved.