

<p>Docket Number: 58-0102-2201 Effective Date: 2023 Sine die if approved by the Legislature Rules Title: IDAPA 58.01.02, Water Quality Standards Agency Contact: Mary Anne Nelson (208)373-0291/Jason Pappani (208)373-0515</p>	<p>Public Participation</p> <p>Negotiated Rule Making? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Negotiated Rulemaking Summary (negotiated under Docket No. 58-0102-1801)</p>
<p>Overview of Rulemaking</p> <p>This rulemaking was initiated to update Idaho’s human health criteria for arsenic and negotiated under Docket No. 58-0102-1801. The proposed revisions are found in Subsections 210.01.a. and b., 210.03.d. and e., and 210.05.b.</p> <p>In May 2016, EPA entered into a Consent Decree with Northwest Environmental Advocates to reconsider EPA’s 2010 approval of Idaho’s human health criteria for arsenic. In September 2016, EPA disapproved Idaho’s human health criteria of 10 µg/L arsenic for both consumption of fish only and consumption of fish & water. The Consent Decree requires that EPA propose new human health criteria for arsenic by November 15, 2018, and that EPA either approve Idaho’s submittal of revised human health criteria for arsenic or promulgate federal criteria by July 15, 2019. In June 2018, the Court granted the Unopposed Motion to Modify Consent Decree, extending the November 15, 2018, and July 15, 2019, deadlines to November 15, 2022, and November 15, 2023, respectively.</p> <p>This rulemaking will enable Idaho to adopt human health criteria for arsenic under state rulemaking and may prevent federal promulgation of criteria for Idaho by EPA.</p>	<p>Proposed Rule: 3/2/22 Idaho Administrative Bulletin</p> <p>Public Hearings? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Notice of Meeting of the Idaho Board of Environmental Quality</p> <p>Written Comment Deadline: 4/1/22</p> <p>Public Comments Received? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Attached: DEQ’s Response to Comments/Proposed Rule</p> <p>Interim Legislative Review of Proposed Rule Pursuant to Idaho Code § 67-5223</p> <p>Documentation from Legislative Services Office (LSO) attached: 3/10/22 Memo from LSO to Germane Joint Subcommittees 3/25/22 Letter from LSO to DEQ (no meetings held/no objections filed).</p>
	<p>Impact on Stakeholders:</p> <p>Dischargers opting to collect fish tissue data will see significant increase in monitoring costs. However, increased costs for monitoring are expected to be significantly less than costs for compliance with a federal criterion that will likely be much more stringent than the proposed rule.</p>

DEQ's Response to Comments/Proposed Rule

Docket No. 58-0102-2201

1. Idaho Association of Commerce & Industry (IACI)
2. Association of Idaho Cities (AIC)
3. U.S. EPA Region 10

Cmt #	Rule Section/ Subject Matter	Commenter	Comment Summary	Response
1.	210.01.b, Water & Fish	1, 2	Support water column criterion of 10 µg/L for DWS.	Thank you for your comment.
2.	210.01.b, Water & Fish	1, 2	Recommend inclusion of fish tissue element of 8 µg/kg (wet weight) to protect DWS use.	We agree that the domestic water supply (DWS) use includes exposure through the consumption of fish. However, as the recreation uses (and therefore the fish tissue element of 8 µg/kg) apply to all waters, including waters designated DWS, it is unnecessary to reiterate that the fish tissue element is applicable to DWS; it is already applicable through the Recreation Use.
3.	210.01.b, Fish Only	2	Do not support the use of a water column criterion for recreation; suggest tissue only criterion <ul style="list-style-type: none"> - Consumption of fish tissue is what poses risk to human health - There is no relationship between water and fish tissue - Fish reach a steady state quickly after variations in arsenic exposure 	<p>We agree that the fish tissue element is the most direct measure of human exposure to inorganic arsenic from consumption of fish. In recognition of this fact, under the proposed rule language, the fish tissue criterion element supersedes the water column element.</p> <p>While it is true that the primary route of exposure for recreation uses is through the consumption of fish tissue, and that the data from Idaho indicate that the relationship between concentration of inorganic arsenic in the water column and fish tissue is weak, there are certain applications of Water Quality</p>

				<p>Standards (such as TMDL targets, effluent limits, etc.) where a water column value is necessary.</p> <p>A screening value would not be sufficient for these purposes as it relies solely on the fish tissue as an actionable criterion. Therefore, to derive water column targets, it would be necessary to translate the fish tissue value to water column targets through collection of site-specific fish tissue and water column data.</p> <p>Acquisition of fish tissue data is labor and resource intensive, inherently difficult, and at times, not possible due to regulatory restrictions or safety concerns. To ensure adequate protection of the beneficial use, it is necessary that we have a water column value that can be used when fish tissue is unavailable or unattainable.</p> <p>Furthermore, in many instances, the water column value can be met. Based on Idaho's targeted sampling effort, the vast majority of Idaho streams monitored have annual average concentrations below the proposed water column criterion element of 4.3 µg/L. In 2019, only 4 of 40 sites had annual average inorganic arsenic concentrations >4.3 µg/L. Only two of these sites exceeded 4.3 µg/L annual average concentrations in 2020 and 2021.</p> <p>Under the proposed rule, where fish tissue supersedes water column criterion elements, it would be possible to collect fish tissue data at sites where annual average water column concentrations exceed the water column element if desired.</p> <p>In summary, providing a water column criteria element ensures that, when necessary, TMDL targets, effluent limits, or other CWA applications may be calculated without necessitating costly and intensive fish tissue monitoring. It ensures that the beneficial use is protected and that compliance with criteria can be determined when fish might be absent or when acquisition of fish tissue might be precluded. And, because the fish tissue supersedes the water column element, it allows for confirmation of exceedances or translation of fish tissue element when it is determined that collection of tissue is prudent and would be cost effective.</p>
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4.	210.01.b, Fish Only	2	AIC is concerned about current EPA assumptions about the toxicity or bioaccumulation of inorganic arsenic, that background concentrations of arsenic in Idaho are higher than EPA's recommended criteria, and the need for programmatic and regulatory support for the use of inorganic arsenic fish tissue criteria for recreation uses with a water column screening threshold.	Idaho has relied on EPA's Integrated Risk Information System (IRIS) most up-to-date toxicity values when deriving the proposed criteria. The bioaccumulation factor (BAF) used to derive the proposed criteria was based on Idaho-specific data collected by DEQ.
5.	210.01.b, Fish Only	2	Water quality standard should be solely fish tissue, and water column concentration should be used only as a screening mechanism to determine if fish tissue needs to be assessed.	Please see response to comment #3.
6.	210.01.b, Fish Only	1	Trophic level weighted BAF based on regression analyses and the resulting HHWQC of 13 µg/L represents the most scientifically defensible use of the data.	Using a trophic-level weighted BAF based on geometric means is consistent with Idaho Water Quality Standards (WQS) and federal guidance. While the regression approach identified by IACI may, in some instances, provide a more direct estimate of bioaccumulation, in the absence of a strong, significant, predictable relationship between concentrations of inorganic arsenic in the water column and concentrations of inorganic arsenic in fish tissue, it is necessary to use a more conservative approach for deriving water column values that would be protective of the designated uses. Because the fish tissue element supersedes the water column element, it is possible to use the direct measure of inorganic arsenic in fish tissue rather than rely on the conservative estimates of bioaccumulation when applying the arsenic criteria.
7.	210.01.b, Fish Only	1, 2	Recommend using a water column value as a screening trigger for fish tissue sampling rather than as a water column criterion; if a criterion is necessary, recommend using 13 µg/L based on regression analyses	Please see responses to comments #3 and #6.
8.	210.01.b, Fish Only	1	Proposed water column criterion of 4.3 µg/L is conservative because it is based on a BAF that	Please see response to comment #6.

			overpredicts the concentration of inorganic As in fish tissue at a given water column concentration.	
9.	210.01.b, Fish Only	1, 2	Support the fish tissue element HHWQC of 8.0 µg/kg (wet weight) for recreation uses.	Thank you for your comment.
10.	210.01.b, Fish Only, footnote k	1	Support fish tissue element superseding water column element.	Thank you for your comment.
11.	210.01.b, Fish Only, footnote k	1	<p>Recommend the following specific language change:</p> <p>Table 2. Footnote 1: “Fish tissue element is based on total recoverable inorganic arsenic in muscle or fillet. When sufficient fish tissue data are available, and there is no new or increasing point source discharges of arsenic, In fishless waters, surface water from the fishless waters and fish tissue from the nearest downstream waters are used to determine compliance with the fish tissue-based HHWQC. Fish tissue supersedes the water column value when fish are sampled downstream of fishless waters. The fish tissue element supersedes the water column element. The fish tissue element will be applied in accordance with Subsection 210.03.e.”</p>	<p>Thank you for your comment. The following changes have been made to the proposed rule language at subsection 210.01.b, Fish Only, footnote k:</p> <p><i>¹Fish tissue element is based on total recoverable inorganic arsenic in muscle or fillet. When sufficient fish tissue data are available and there are no new or increasing point source discharges of arsenic; The fish tissue element supersedes the water column element provided at least 90 days have passed since any new activity or discharge has occurred within the water body. Fish tissue element will be applied in accordance with Subsection 210.03.e.</i></p> <p>This provision ensures that fish tissue will not be used to determine compliance with the criterion from discharges that have not yet occurred, while acknowledging the rapid assimilation of inorganic As by fish, and relies upon the definition of “new activity or discharge” provided in Subsection 010.65.</p> <p>Please see response to comment #12.</p>
12.	210.01.b, Fish Only, footnote k	2	There should be no special provisions for situations involving new or increased discharges, and IDEQ should rely on fish tissue results in determining the requirements that apply in those situations, just as with regard to existing discharges. Using water column data instead rests on two assumptions: that	It is not protective to use current fish tissue concentrations to determine that discharges that have yet to occur would not lead to increases of inorganic As in fish tissue. While the relationship between inorganic As in water and fish tissue is weak or poorly understood on a statewide basis, it is likely that on a site-specific basis, increases of the flux of inorganic As in water might lead to subsequent increases in fish tissue. To ensure protection of the beneficial use,

			there is a relationship between water column and fish tissue levels, and that once a new/increased discharge occurs, it can take a long period of time for the waterbody to return to a “steady state” with regard to the fish tissue levels of arsenic in the waterbody. Neither of those assumptions is accurate for inorganic arsenic.	it is necessary to provide time for assimilation of any increased flux of inorganic arsenic from any new activity or discharge before using fish tissue data to determine compliance. Please see changes to proposed language identified in the response to comment #11.
13.	210.01.b, Fish Only, footnote k	2	IDEQ should make it clear that the only “new or increased” discharges that trigger use of water column data should be those that are significant and that are expected to result in changes to fish tissue levels in the waterbody.	Please see responses to comments #11 and #12.
14.	210.01.b, Fish Only, footnote k	2	The agency should simply utilize fish tissue data from the next reach downstream. Those data will, in fact, provide a conservative estimate of risk, since arsenic levels downstream could be higher due to other sources that are below the “fishless” reach at issue. It is often the case that a reach is “fishless,” not due to any contamination or high levels of arsenic, but due to physical or other factors that simply preclude having a viable fish population in the relevant reach. Those factors should not lead one to switch to using water column data that are less accurate as a predictor of risk. Fish tissue data should be relied on whenever possible, and data from the next downstream reach is fully adequate to use in assessing impairments and making permitting decisions.	The proposed rule language has been revised at 210.03.e.iv to provide for site-specific translation of the fish tissue element in fishless waters. It is necessary to have a water column element to apply in the absence of fish tissue data to ensure protection of the beneficial use in waters where data necessary for translation of the fish tissue element are not available or attainable.
15.	210.01.b, Fish Only, footnote k	3	Because nonpoint sources may also cause non-steady state conditions, superseding fish tissue should be based upon a determination of no new or increasing discharges of arsenic from all sources	The proposed rule language has been revised at subsection 210.01.b, Fish Only, footnote k. Please see response to comment #11.

16.	210.03.e	1	<p>Recommend the following specific language change:</p> <p>210.03.e.</p> <p>i. The fish tissue element for total recoverable inorganic arsenic is based on a single measurement using sufficiently sensitive methods.</p> <p>ii. (new). For new or increasing point source discharges of arsenic, fish tissue sampling to demonstrate compliance with the fish tissue element of the water quality standard will occur no sooner than 90 days after a permitted increased or new point source discharge has commenced.</p>	Please see response to comment #11.
17.	210.03.e	1	<p>Recommend the following specific language change:</p> <p>iii. The single measurement must be made on a sample that is an average or composite of a minimum of five individual fish (fillets or muscle) of the same species, game fish when present, collected from the same water body within the same calendar year. Gamefish, of legal catchable size, are the preferred fish species to be collected for analysis if possible. Results from multiple sample events may be averaged or composited provided they represent the same species collected from the same water body within the same calendar year.</p>	<p>The specification of fillet or muscle tissue is found in 210.01.b, Fish Only, footnote k, and applies to all fish tissue references.</p> <p>The proposed rule language at Subsection 210.03.e.ii has been revised to:</p> <p>ii. The single measurement must be made on a sample that is an average or composite of a minimum of five (5) individual fish of the same species game fish when present, collected from the same water body within the same calendar year. When available, gamefish species representative of the size and species that may be legally harvested within the waterbody are preferred. Results from multiple sample events may be averaged or composited provided they represent the same species collected from the same water body within the same calendar year.</p>
18.	210.03.e	1	Recommend the following specific language change:	Please see response to comment #17.

			<p>vi. When translating the fish tissue element to a water column value, the following procedures will be followed:</p> <p>(1) Data used to translate the fish tissue element must be based on current conditions and consistent with Subsections 210.03.e.i, ii, and iii.</p> <p>(2) Fish tissue samples must be representative of the fish species present within the waterbody and include game fish species if such species can be collected. In the absence of suitable game fish species, other resident species may be used.</p>	
19.	210.03.e.iv	3	Suggest including in rule additional translation details such as minimum number of samples, whether more than one event is required over the course of a year.	DEQ intends to develop implementation guidance. DEQ believes that the details suggested here are better suited for implementation guidance as opposed to developing rule language to address these details.
20.	210.03.e.iv	3.	EPA recommends removing 'other scientifically defensible methods' for deriving BAF for translation, or specify that this would require SSC rulemaking and submittal.	<p>The rule language at 210.03.e.iv has been revised to read:</p> <p>iv. <i>For purposes of determining water column targets for the development of effluent limits, TMDL targets, or water column targets for fishless waters, the fish tissue element may be translated to a water column value using a site-specific bioaccumulation factor (BAF) based on the ratio of total recoverable inorganic arsenic in fish muscle or fillet tissue to dissolved inorganic arsenic in the water column using the following equation:</i></p> $WC_T (\mu g/L) = \frac{8.00 \mu g/kg}{BAF_{SS} L/kg}$ <p>Where:</p>

				<p>WC_T ($\mu\text{g/L}$) WC_T ($\mu\text{g/L}$) is the translated water column value; and</p> <p>BAF_{SS} L/kg BAF_{SS} L/kg is the site specific BAF calculated consistent with 210.03.e.v.</p> <p><i>In fishless waters, surface water from the fishless waters and fish tissue from the immediate downstream waters may be used for bioaccumulation modeling. In the absence of sufficient fish tissue data, the water column element is the applicable element in fishless waters.</i></p> <p>Using scientifically defensible methods for translating criteria, such as fish tissue criteria, for purposes of developing water quality targets for TMDLs and effluent limits is not novel or unique to the proposed arsenic criteria. All CWA applications of the translation are subject to public comment and, in most instances (TMDLs, Integrated Report) are subject to EPA approval.</p> <p>It is not reasonable nor practical for DEQ to initiate and promulgate site specific criteria when translating EPA approved criteria for CWA applications.</p>
21.	210.03.e.iv	3.	Unclear how the translation would relate to the applicable water column criterion and request clarification if it would supersede the applicable criterion.	The proposed translation is not a revision of the water column criteria, but rather, a translation of the superseding fish tissue criterion based on site specific factors. Translations will be specific to the applications for which they are derived.
22.	General Implementation	1	Recommend DEQ develop implementation guidance based on <i>Implementation Guidance for the Idaho Mercury Water Quality Criteria</i> through a public process.	Please see response to comment #19.
23.	General Implementation	1, 2	Guidance should address the restrictions placed on mixing zones for bioaccumulative criteria	The Idaho Mixing Zone Policy states that mixing zones cannot be authorized if they cause unreasonable interference with beneficial uses (58.10.02.060.d); and that, among other factors, unreasonable interference includes “[bioaccumulation of pollutants (as defined in Section 010) resulting in tissue levels in aquatic organisms that exceed levels protective of human health or aquatic life” (060.d.iii).

				<p>Subsection 010 of the Idaho WQS define a bioaccumulative pollutant as “a compound with a bioaccumulation factor of greater than one thousand (1,000).”</p> <p><i>Idaho Mixing Zone Implementation Guidance</i> provides a link to bioaccumulative pollutants that have BAF’s greater than 1,000; Arsenic is not identified on that list.</p> <p>Therefore, according to Idaho’s Mixing Zone rules and guidance, and because arsenic does not have a BAF >1,000 L/kg, mixing zones for arsenic will not be subject to the same restrictions as other bioaccumulative pollutants (those pollutants with a BAF >1,000), as defined under Idaho WQS.</p>
24.	General Implementation	2	<p>Permittees should not have end-of-pipe limits, but should instead receive requirements to develop pollutant minimization plans similar to mercury and PCBs.</p>	<p>EPA’s <i>Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion</i> recommends that permitting authorities require permittees to develop and implement a mercury minimization plan (MMP) as a condition of granting a variance for mercury. Importantly, in these cases, the requirement to develop and implement an MMP as a condition of an issued variance does not supplant the requirement that permittees receive effluent limits; permits would still require effluent limits.</p> <p>There are physicochemical properties of methylmercury and PCBs that make pollutant minimization plans effective. Chief among these is that they are highly bioaccumulative. For example, Idaho Human Health Criteria for PCBs are calculated based on a bioconcentration factor of 31,200 L/kg. Relatively small reductions of mercury and PCB flux into waterbodies can result, over time, in very large changes in the concentration of these pollutants in fish tissue.</p> <p>In contrast, inorganic arsenic is not highly bioaccumulative; changes in flux of inorganic arsenic into waterbodies would not be expected to result in substantial changes of the inorganic arsenic concentration in fish tissue.</p> <p>Furthermore, the use of MMPs to reduce fish tissue mercury is supported by studies that have documented their success. DEQ is not aware of any studies that have demonstrated similar success for inorganic arsenic in Idaho.</p>

25.	General Implementation	3.	Support plans to develop guidance, recommend that it include sample locations, species selected, methods to collect, prep, and analyze samples.	Thank you for your comment. Please see response to comment #19.
26.	General	3.	Tribal Reserved Rights: EPA suggests DEQ evaluates revising standards to support subsistence designated use to protect treaty reserved fishing rights in Idaho.	<p>Idaho considered tribal treaty rights when adopting the Human Health Criteria exposure factors found in Subsection 210.05.b.ii and when selecting the fish consumption rate of 0.0665 kg/day adopted in Rule Docket 58-0102-1201. This consumption rate is based on the mean consumption rate of near coastal, estuarine, freshwater, and anadromous fishes from the Nez Perce Tribe’s fish consumption survey¹, and corresponds to approximately the 70th percentile of the Nez Perce consumption rate.</p> <p>The CWA requires States adopt criteria sufficient to protect designated uses. Idaho WQS do not provide for a subsistence designated use; DEQ includes fishing as part of its secondary contact recreation use. (IDAPA 58.01.02.100.02.b.) Therefore, Idaho’s human health criteria must ensure a level of water quality that allows the safe consumption of fish taken by recreational fishermen. DEQ agrees that, to ensure criteria are sufficient to protect the secondary contact recreation use, DEQ must take into consideration the amount of fish consumed by both the general population in Idaho and any more highly exposed subpopulations, including the consumption of fish by members of Idaho tribes pursuant to tribal fishing rights. DEQ has done exactly that. It has used the data from both the tribal surveys and the survey of the Idaho general population to set criteria that protect the general population and members of Idaho tribes taking fish pursuant to treaty fishing rights.</p>

¹ Polissar, N.L., A. Salisbury, C. Ridolfi, K. Callahan, M. Neradilek, D.S. Hippe. 2015. *A Fish Consumption Survey of the Nez Perce Tribe*. Seattle, WA: The Mountain-Whisper-Light Statistics. <https://www2.deq.idaho.gov/admin/LEIA/api/document/download/16803>