



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10**

1200 Sixth Avenue, Suite 155
Seattle, WA 98101

WATER
DIVISION

December 1, 2021

Paula Wilson
Idaho Department of Environmental Quality
1410 North Hilton
Boise, Idaho 83706-1255

Re: EPA Comments on Idaho's Draft No. 3 Arsenic Human Health Criteria Proposed on November 4, 2021 – Docket No. 58-0102-1801

Dear Ms. Wilson:

Thank you for the opportunity to provide comments to the Idaho Department of Environmental Quality (DEQ) regarding the third draft of the arsenic human health criteria proposed at the November 4, 2021 negotiated rulemaking meeting. The U.S. Environmental Protection Agency (EPA) commends DEQ for all your efforts throughout the rulemaking process to inform stakeholders, consider input and recommendations, and continuing to improve the draft rule.

EPA offers the comments below on the third draft of the rule for your consideration. Some of the comments reiterate previous recommendations we provided in our September 20, 2021 letter because we do not believe DEQ has sufficiently addressed these comments. For example, EPA continues to recommend that the fish tissue criterion should only supersede the water column criterion under steady state conditions, and that additional details should be included describing the applicability and requirements for a site-specific water column translation.

Subsection 210.01 – Total Recoverable vs. Dissolved Inorganic Arsenic in HHC

DEQ has proposed the following revisions to Subsection 210.01 to clarify that the dissolved form of inorganic arsenic is used for human health criteria.

1. DEQ deleted language in Subsection 210.01.a and added language in Subsection 210.01 resulting in all metals listed in Table 2 (unless otherwise noted) expressed as a dissolved fraction rather than total form.
2. For the Water + Fish (domestic water supply use) in Table 2 (Subsection 210.01.b Footnote 2), DEQ removed Footnote 'd' which states that the arsenic criterion is expressed as total recoverable (unfiltered) concentrations and Footnote 'j' which states this criterion is based on the drinking water Maximum Contaminant Level (MCL).
3. In Footnote 1 to Footnote 'l,' the proposed revisions differentiate the inorganic forms used for fish tissue and water elements. The revisions state that the "Fish muscle (fillet) tissue element is based on total recoverable inorganic arsenic in muscle or fillet" and in Footnote 2 to Footnote 'l' the revisions state that the "Water column element is based on dissolved inorganic arsenic in water."

In the comment letter dated September 20, 2021, EPA noted that the water values for the arsenic human health criteria should be for the total recoverable inorganic arsenic form (i.e., unfiltered inorganic arsenic). DEQ confirmed that it proposed only using the dissolved form and deleting Footnote ‘d’ because it used the dissolved inorganic form of arsenic in water in calculating the bioaccumulation factor (BAF). EPA considers consistency with the BAF calculation to be a reasonable basis for expressing the water column element of the Fish Only criteria as dissolved inorganic arsenic. However, as denoted in Footnote ‘j,’ the water column element of the Water & Fish criteria is based on the Safe Drinking Water Act (SDWA) MCL, and changing that to the dissolved form may not match how compliance with the MCL is conducted. EPA recommends DEQ retain Footnote ‘d’ and the use of total recoverable inorganic arsenic to ensure protection of the domestic water supply use. Additionally, since the National Pollutant Discharge Elimination System regulations (40 CFR §122.45(c)) require effluent limits to be expressed as total recoverable in most cases, EPA recommends that DEQ identify whether the arsenic conversion factor of 1.0 from IDAPA 58.01.02.210.02 or another conversion factor should be used in instances where the Fish Only water column element (i.e., dissolved inorganic arsenic) is the basis for a water quality based effluent limit.

Subsection 210.01.b – Fish Only Criteria (Recreation Uses)

Table 2 – Fish Only Exposure

For the Fish Only (recreation uses) criterion, DEQ has proposed a water column value of 4.3 µg/L and a fish tissue value of 8 µg/kg. To derive these values, DEQ used inputs described in the *Arsenic Human Health Criteria Discussion Paper #3*.¹ DEQ calculated the BAF using the fish trophic-level weighting method and dissolved inorganic arsenic data collected from Idaho waterbodies.² In general, EPA is supportive of the criterion values DEQ has developed.

Footnote ‘l’ – Supersede and Steady State Conditions

For the Fish Only criterion, Idaho has proposed a fish tissue value and a water column value, with the fish tissue value superseding the water column value when sufficient fish tissue data exist as defined in Footnote 1 to Footnote ‘l.’ It would be reasonable for the fish tissue value to supersede the water column value under steady state conditions (i.e., when there are no new or increased discharges of arsenic). The field-based BAF approach that DEQ is using to derive the water column value from the fish tissue value assumes that waters are in steady-state condition, as does the principle of connecting those two values in a hierarchical structure. Therefore, in a non-steady state condition where arsenic inputs are new or increasing, even though arsenic may not be highly bioaccumulative, EPA strongly recommends that the water column value have primacy (i.e., the fish tissue value would not supersede in this case). EPA recommends the following underlined additions to the rule language:

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 discharges of arsenic,

¹ DEQ. 2021. *Arsenic Human Health Criteria Discussion Paper #3*. Rulemaking Docket 58-0102-1801. Idaho Department of Environmental Quality. Boise, Idaho. August 13, 2021.

² DEQ. 2020. *2019 Arsenic Accumulation in Fish Tissue: Preliminary Monitoring Results*. Idaho Department of Environmental Quality. Boise, Idaho.

the fish tissue element supersedes the water column element Fish tissue element will be applied in accordance with Subsection 210.03.e.

Subsection 210.01.b – Water & Fish Criteria (Domestic Water Supply Uses)

Table 2 - Water and Fish Exposure

For the Water and Fish (domestic water supply uses) criterion, DEQ combined the fish tissue value from the fish-only criterion with the SDWA MCL for arsenic to protect the domestic water supply use. DEQ has proposed a water column value of 10 µg/L and a fish tissue value of 8 µg/kg. In the November 4, 2021 rulemaking meeting, DEQ clarified that the water column value of 4.3 µg/L would apply wherever there is a fish consumption use, including where there is also a drinking water use based on the application of Subsection 70.01, which states that “In the application of the use designation, the most stringent criterion of a multiple criteria applies.” To improve clarity, EPA recommends the removal of the 8 µg/kg fish tissue value from the Water and Fish column in Table 2.

Footnote ‘k’

Following our recommendation above, EPA recommends deletion of Footnote ‘k,’ which explains the evaluation of fish tissue concentration within the context of the Water and Fish criterion. Since all Idaho waterbodies are protected for recreation uses, this means that the Fish Only criterion, including its water column element, should apply to all waters in the state, including those waters additionally designated for domestic water supply. EPA would appreciate DEQ confirming in the response to comment document that our understanding is correct and including this clarification in its implementation guidance.

Subsection 210.03.d.ii – Frequency and Duration

EPA appreciates that DEQ has revised Subsection 210.03.d.ii to no longer use the harmonic mean and clarified in the rule that the arithmetic mean will be used.

Subsection 210.03.e.ii – Application of Fish Tissue Element

DEQ added a new section that describes the application of the fish tissue element of the arsenic criterion for human health. While EPA is supportive of DEQ including minimum requirements regarding the application of the fish tissue criterion, as written, they may impose less flexibility than intended in the fish tissue criterion technical support documents from which they were adapted. EPA recommends that DEQ evaluate recent experiences implementing the similarly worded requirements for Idaho’s selenium fish tissue criterion and consider modifying the rule language in Subsection 210.03.e.ii and/or incorporating additional details in guidance.

Subsection 210.03.3.e.iv – Site-Specific BAF Translation

Footnote e.iv. indicates that DEQ contemplates translating the fish tissue criterion element into a water column value on a site-specific basis. However, this footnote does not contain any detail on how the site-specific translation will be performed beyond specifying that it will be based on “at least one paired

water column and tissue sample.” EPA is concerned that simply specifying “at least one paired water column and tissue sample” does not provide sufficient detail for EPA to conclude that any resulting water column translations will be based on sound science and protect the designated use at the site.

Additionally, it is not clear how a site-specific translation would relate to the otherwise applicable water column criterion element of 4.3 µg/L. One option to address this concern would be for DEQ to add more specificity into the rule describing when a site-specific translation is appropriate and how the resulting translation will be used for Clean Water Act (CWA) purposes, including a sufficiently detailed translation procedure with suitable safeguards to ensure repeatable, predictable outcomes. This should include, at a minimum, details on data collection (i.e., number and age of samples; where, when, and how fish and water samples will be collected; how samples will be stored), target fish species for sampling, how fish samples will be composited (if compositing), details on sample analysis (i.e., analytical methods used for fish and water), and any details on how multiple datapoints at a site will be reconciled and ultimately used for purposes of the CWA (e.g., permitting). Another option, given the still evolving understanding of arsenic bioaccumulation, is to focus on implementing the 8 µg/kg fish tissue element and associated 4.3 µg/L water column element, and pursue site-specific criteria at a later date where necessary and appropriate. This would allow for more in-depth analysis of site-specific arsenic bioaccumulation dynamics that could later inform development of a future site-specific translation procedure. EPA is willing to assist DEQ with development of site-specific criteria, where appropriate.

Downstream Protection

In accordance with the requirements at 40 CFR 131.10(b), states must “take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters.” EPA appreciates the preliminary implementation information DEQ provided in the discussion paper³ and during the August 18, 2021 presentation of implementation principles.⁴ DEQ also confirmed during the November 4, 2021 rulemaking meeting that it will review the criteria for downstream waters and ensure implementation procedures address downstream water quality standards according to Subsection 070.08 which states, “All waters shall maintain a level of water quality at their pour point into downstream waters that provides for the attainment and maintenance of the water quality standards of those downstream waters, including waters of another state or tribe.”⁵

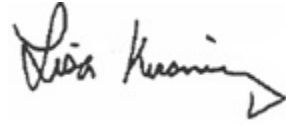
EPA appreciates DEQ’s continued efforts to evaluate potential approaches to revising Idaho’s human health criteria for arsenic. EPA looks forward to continuing to coordinate this effort with DEQ and provide technical support. Please do not hesitate to contact me at (208) 378-5626 or kusnierz.lisa@epa.gov if you have any questions.

³ DEQ 2021 - Discussion Paper #3.

⁴ DEQ. 2021. Revision of Idaho’s Human Health Criteria for Arsenic - Docket No. 58-0102-1801. August 18, 2021. Presentation by Jason Pappani, Surface Water Bureau Chief. Idaho Department of Environmental Quality. Boise, Idaho.

⁵ DEQ. 2021. Revision of Idaho’s Human Health Criteria for Arsenic - Docket No. 58-0102-1801. November 4, 2021. Presentation by Jason Pappani, Surface Water Bureau Chief. Idaho Department of Environmental Quality. Boise, Idaho.

Sincerely,

A handwritten signature in black ink that reads "Lisa Kusnierz". The signature is written in a cursive style with a long, sweeping tail that ends in a small arrowhead pointing to the right.

Lisa Kusnierz
Regional Monitoring Coordinator/WQS

Coordinator

cc: Jason Pappani, Surface Water Bureau Chief, DEQ