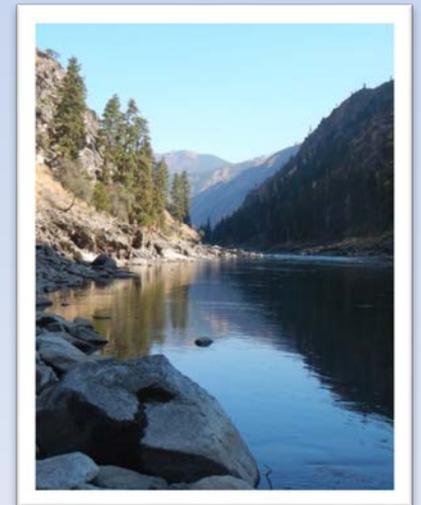


Negotiated Rulemaking  
Docket No. 58-0102-1801

# Update to Human Health Criteria for Arsenic

June 27, 2018



# Outline

- Comment summary
- Revised Rulemaking Schedule
- Implementation Tools to Address Arsenic
  - Variance
  - UAA/Use change
  - Natural Background Provisions
- Montana Presentation
- Monitoring
- Discussion
- Next Steps



# Comment Summary

- Idaho Conservation League
  - Natural Background: Critical to determine anthropogenic vs. background
    - Mass Balance Approach should account for air emissions, land applications in addition to direct discharge to waters
    - Base calculations on maximum *allowable* rather than actual release
    - DEQ should consult with other agencies/land managers to determine role of historic mining

# Comment Summary

- Idaho Conservation League
  - This rulemaking should focus on derivation of criteria protective of human health, with any use of natural background provisions part of permit application
  - BAF calculation method must be scientifically defensible; question whether  $R^2$  of 0.0784 is valid (power function)

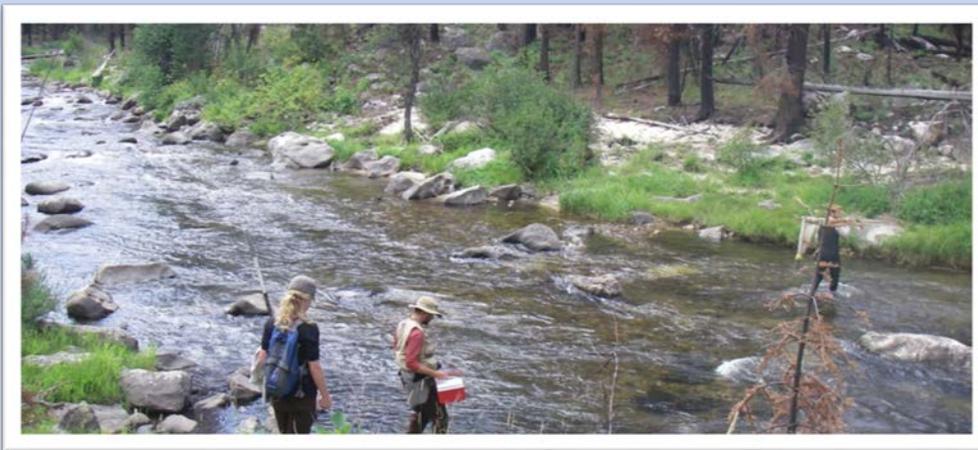
# Comment Summary

- Idaho Conservation League
  - Consideration of freshwater BAFs only: how would this effect anadromous populations
  - Consideration of only low ambient concentrations of As for calculation of BAF: what is the threshold for low vs. high? Not necessary if using valid regression approach



# Comment Summary

- Idaho Conservation League
  - Suggest using all data (like 10% As(i):As(T) used in Oregon) as opposed to Idaho-specific data for deriving BAFs
  - Support monitoring effort



# Comment Summary

- Association of Idaho Cities
  - Generally, AIC supports using natural background as opposed to HHC equation to determine criteria
  - Either develop independent CSF or apply IRIS revision
  - Either use existing HDR report or develop new analysis on treatment costs to support variance development
  - Support monitoring effort, suggest additional data mining effort

# Comment Summary

- Association of Idaho Cities
  - Support use of freshwater only to derive BAF; prefer use of natural background rather than HHC equation
  - High ambient concentrations of As in Idaho waters suggests that use of low As concentrations may overestimate BAF
  - Support use of alternative approaches to calculation; prefer use of natural background rather than HHC equation
  - Suggest literature data may not be appropriate for Idaho due to high ambient As in Idaho waters

# Comment Summary

- J.R. Simplot Company
  - Do not support use of percentiles to determine background; background considerations should recognize the full range of naturally occurring background concentrations
  - Do not support inclusion of data outside Idaho unless the data can be shown to be high quality and representative of conditions in Idaho
  - Relatively few data are representative based on probabilistic monitoring design

# Comment Summary

- J.R. Simplot Company
  - BAF calculations should not be limited to only “relatively low” As concentrations; should use full range of As concentrations found in Idaho
  - Support use of alternative BAF estimation approaches; prefer linear regression unless a better fit is found
  - Data suggest As(i) in fish is not related to As in water, and establishing a HHC will have no effect on the concentration of As(i) in fish tissue

# Comment Summary

- J.R. Simplot Company
  - DEQ should consider reevaluating CSF



# Revised Rulemaking Schedule

Action	Date
Notice of Negotiated Rulemaking published in Idaho Administrative Bulletin	4/4/18
1 <sup>st</sup> negotiated rulemaking meeting	4/19/18
Continue negotiated rulemaking meetings until summer 2022	
Deadline for submitting Proposed Rule to Office of Administrative Rules for publication in the Bulletin	Summer 2022
Proposed Rule published in Bulletin; comment period begins	Fall 2022
End of comment period.	Fall 2022
Mail final proposal to Board members	October 2022
Board meeting – consideration of final proposal for adoption of pending rule	November 2022
Notice of Adoption of Pending Rule published in Idaho Administrative Bulletin	January 2023
Pending rule reviewed by Legislature	January 2023
Pending rule becomes final and effective if approved by Legislature	2023 sine die

# Revised Rulemaking Schedule

- Continue working on resolving following issues:
  - Appropriate BAF for calculation of HHC
  - Appropriate As(i):As(T) in Idaho Waters
  - Tools for implementing criteria that may be below background
  - When IRIS update is complete, DEQ can use resultant CSF to calculate criteria using Idaho exposure factors

# Implementation Tools

- CWA does not allow for consideration of feasibility when developing numeric criteria
- CWA and Idaho WQS do provide for implementation tools for addressing feasibility issues

# Variance

- 40 CFR 131.14 Water Quality Standard Variance
  - Variances are water body and permit specific
  - Variances are not a change in use nor criteria
  - Approved variances are applicable standard ONLY for NPDES permit limits and 401 certifications
  - Variances cannot be adopted when use and criteria can be achieved through technology-based effluent limits

# Variance

- 40 CFR 131.14 Water Quality Standard Variance
  - Must identify the highest attainable interim use or criterion, or greatest pollutant reduction achievable
  - Must have a term or end date

# Variance

- Idaho Water Quality Standards Section 260.01.a
  - Variances are pollutant and discharger specific



# Variance

- Section 260.01.b and 40 CFR 131.10.g: Factors

Naturally occurring pollutant concentration prevent attainment of the standard	Natural flow conditions prevent attainment of standard
Human caused conditions prevent attainment and cannot be remedied or would cause greater environmental damage	Hydrological modifications prevent attainment and not feasible to restore or change operations
Natural physical conditions preclude attainment	Controls more stringent than technology-based effluent limitations would result in substantial and widespread economic and social impact

# Variance

- Section 260.01.b and 40 CFR 131.10.g: Factors

Naturally occurring pollutant concentration prevent attainment of the standard

Natural flow conditions prevent attainment of standard

Human caused conditions prevent attainment and cannot be remedied or would cause greater environmental damage

Hydrological modifications prevent attainment and not feasible to restore or change operations

Natural physical conditions preclude attainment

Controls more stringent than technology-based effluent limitations would result in substantial and widespread economic and social impact

# Variance

- Section 260.01.c
  - Discharger must submit documentation demonstrating that treatment more advanced than required by technology-based effluent limitations have been considered and that alternative effluent control strategies have been evaluated

# Variance

- Section 260.01.d
  - Variances will expire either in 5 years or at the end of the permit period
  - At end of variance period, discharger must either meet standard or re-apply for variance
  - Must demonstrate reasonable progress toward meeting standard to renew variance

# Variance

- Multiple Discharger Variances
  - All dischargers in group cannot attain same standard for same reason
  - Must meet federal requirements under 40 CFR 131
  - Group permittees according to specific technical and/or economic scenarios
- Consideration of Multiple Discharger Variance will require changes to Idaho Water Quality Standards, Section 260

# Variance

- Variances should be considered when standard is not currently attainable, but could be attainable in the future
- Incremental progress towards meeting standard
  - New technology, changes to economic conditions



# Variance

- Adoption of Variances will likely require changes to Idaho WQS
  - Idaho WQS currently do not allow for Multiple Discharger Variance
  - Not necessarily a change to WQS, but would still require EPA approval to become effective

# Use Change / Use Attainability Analysis

- HHC applied to:
  - Recreation (Fish Only)
  - Domestic Water Supply (Fish + Water)
- Revision of Recreation would require UAA
  - Likely couldn't remove recreation completely, would need to revise use

# UAA

- Section 010.106 **Use Attainability Analysis**

A structured scientific assessment of the factors affecting the attainment of the use which may include physical, chemical, biological, and economic factors as described in Subsection 102.02.a.

# Use Change/UAA

- Section 102.02. **Revision of Beneficial Uses**
  - a. Designated beneficial uses shall be reviewed and revised when such physical, geological, hydrological, atmospheric, chemical or biological measures indicate the need to do so. Designated beneficial uses may be revised or removed if the designated beneficial use is not an existing use, and it is demonstrated that attaining the designated beneficial use is not feasible due to one of the following factors:

# Factors

Naturally occurring pollutant concentration prevent attainment of the use	Natural flow conditions prevent attainment of use
Human caused conditions prevent attainment and cannot be remedied or would cause greater environmental damage	Hydrological modifications prevent attainment and not feasible to restore or change operations
Natural physical conditions preclude attainment of use	Controls more stringent than those required by Section 301(b) and 306 of the CWA would result in substantial and widespread economic and social impact

# Use Change/UAA

- Section 102.b
  - Designated beneficial uses may not be removed if:
    - They are existing uses
    - Use can be attained by implementing effluent limits required under 301(b) and 306 of the CWA and implementing cost-effective and reasonable non-point source controls



# Use Change / Use Attainability Analysis

- Revision of DWS would not require UAA, but still must meet Idaho WQS (and federal regulations) regarding use change
- DWS could not be removed from waters where DWS is an existing use



# Use Change/UAA

- Removing DWS and/or Recreation from many waters may not be feasible
- May need to consider revising use to account for naturally elevated arsenic levels
  - Arsenic-limited recreation
  - Arsenic-limited Domestic Water Supply
- Case-by-Case (Watershed-by-Watershed) basis in conjunction with determination of natural background condition

# Natural Background

- 010.63. **Natural Background Conditions**

The physical, chemical, biological, or radiological conditions existing in a water body ***without human sources of pollution within the watershed***. Natural disturbances including, but not limited to, wildfire, geologic disturbance, diseased vegetation, or flow extremes that affect the physical, chemical, and biological integrity of the water are part of natural background conditions. Natural background conditions should be described and evaluated taking into account this inherent variability with time and place

# Natural Background

- **054.04. Natural Conditions**

There is no impairment of beneficial uses or violation of water quality standards where natural background conditions exceed any applicable water quality criteria as determined by the Department, and such natural background conditions shall not, alone, be the basis for placing a water body on the list of water quality limited water bodies described in Section 055.

# Natural Background

- 054.04. **Natural Conditions**

There is no impairment of beneficial uses or violation of water quality standards for natural background water quality conditions, and such natural background conditions shall not, alone, be the basis for placing a water body on the list of water quality limited water bodies described in Section 055.

## ANTIDEGRADATION POLICY

# Natural Background

- **200.09. Natural Background Conditions as Criteria**

When natural background conditions exceed any applicable water quality criteria set forth in Sections 210, 250, 251, 252, or 253, the applicable water quality criteria shall not apply; instead, there shall be no lowering of water quality from natural background conditions. Provided, however, that temperature may be increased above natural background conditions when allowed under Section 401.

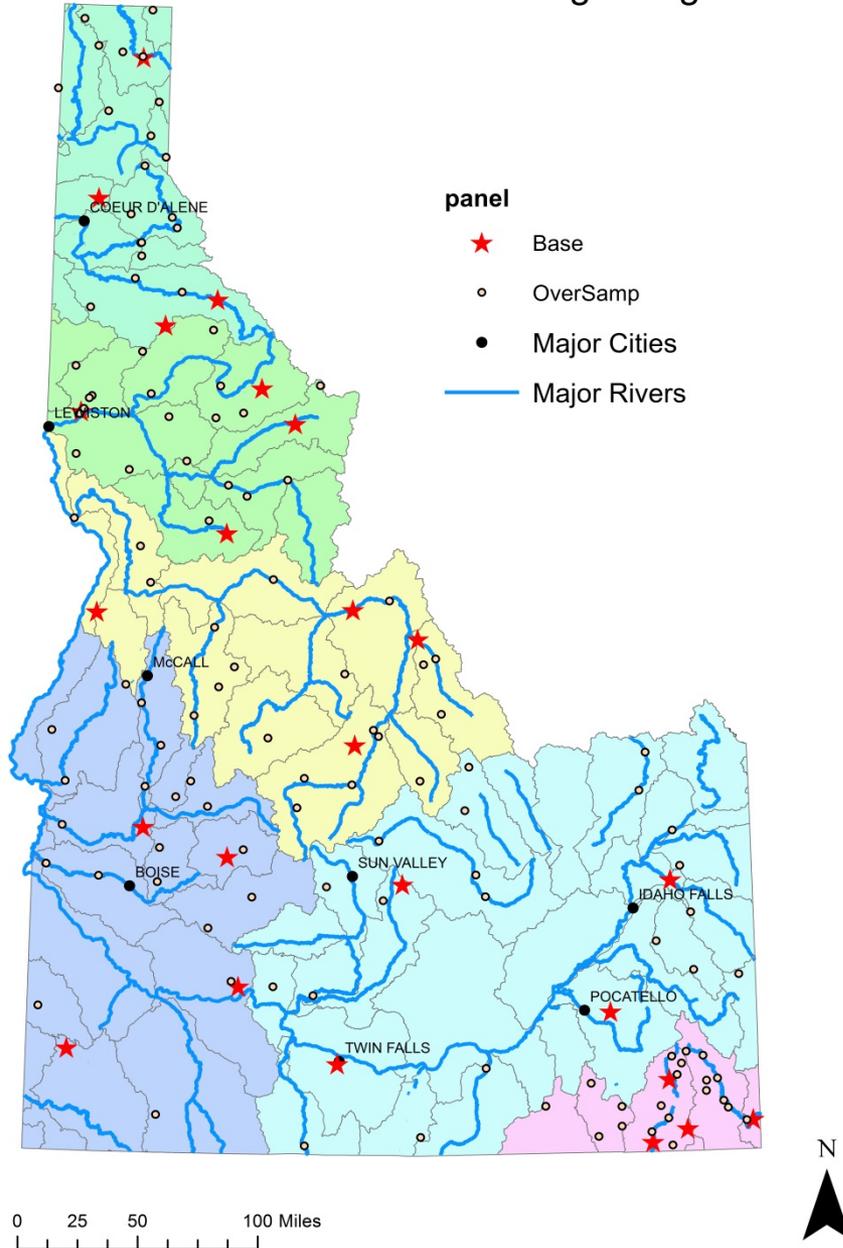
# Natural Background

- Prevents listings based on naturally elevated pollutants
  - TMDL Resources
  - Antidegradation
- Already approved standard
- Must develop scientifically-defensible methodology for determining natural condition
- May require adoption as Site Specific Criteria once determination of natural background condition is complete
  - Demonstrate that SSC protects use

# Implementation Tools

- Montana Presentation

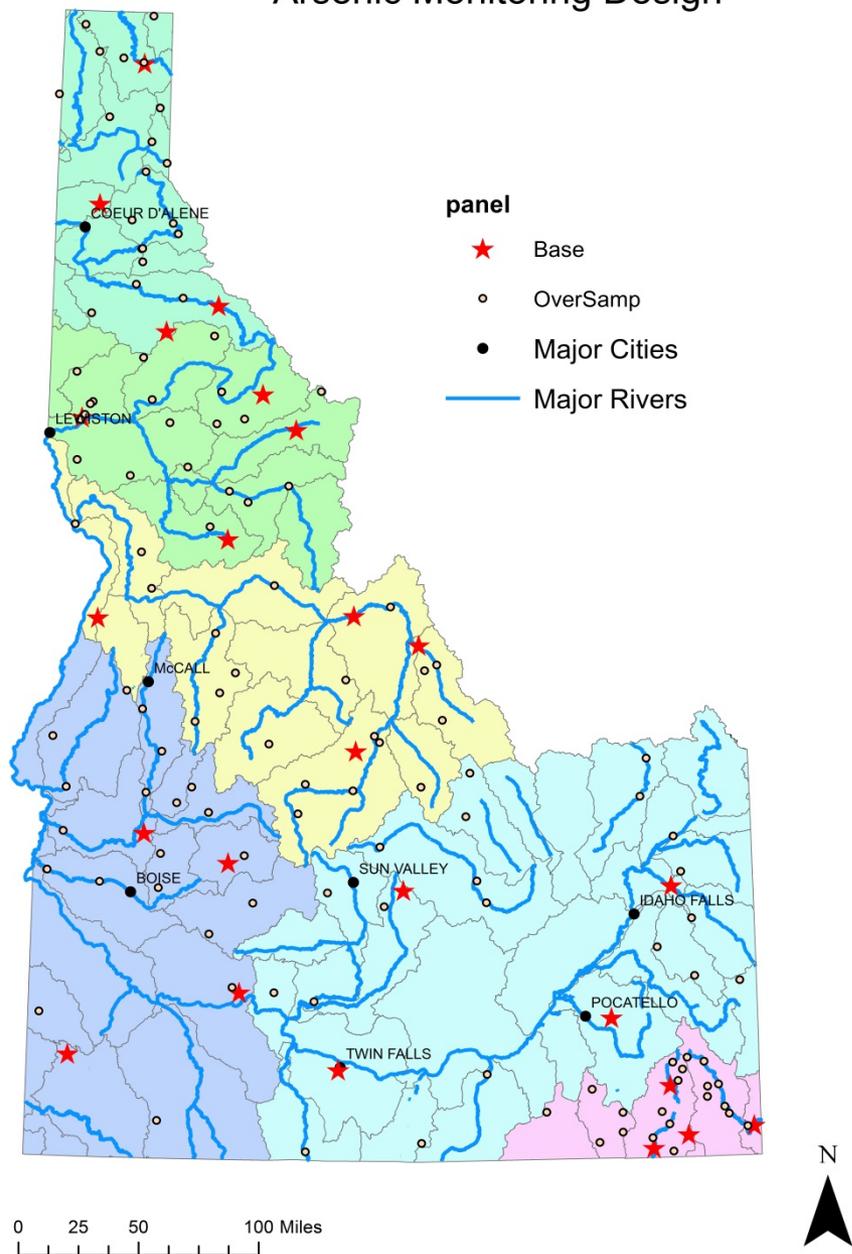
## Arsenic Monitoring Design



# Monitoring (2019?)

- Probabilistic design
- Stratified by Administrative Basin
- Unequal probability selection
- 2 categories:
  - 1<sup>st</sup> – 5<sup>th</sup> Order
  - >6<sup>th</sup> Order

## Arsenic Monitoring Design



# Monitoring (2019?)

- 24 Sites (can be expanded)
  - 4 per basin
- Water Sample 2x
  - Early Summer and Late Fall
- Fish Tissue Collection
  - Target 2 composites of gamefish species

# Path Forward

- Determine appropriate BAF and As(i):As(T) for Idaho Waters
  - Statewide probabilistic monitoring?
- Monitor progress on IRIS update; adopt CSF when finalized
- Explore appropriate implementation options, develop in parallel to criteria revision

# Discussion

# Path Forward

- Comments due August 1, 2018
- Next meeting tentatively scheduled for November 29, 2018