



UTAH DEPARTMENT of  
ENVIRONMENTAL QUALITY  
**WATER  
QUALITY**

# Idaho Selenium Recalculation

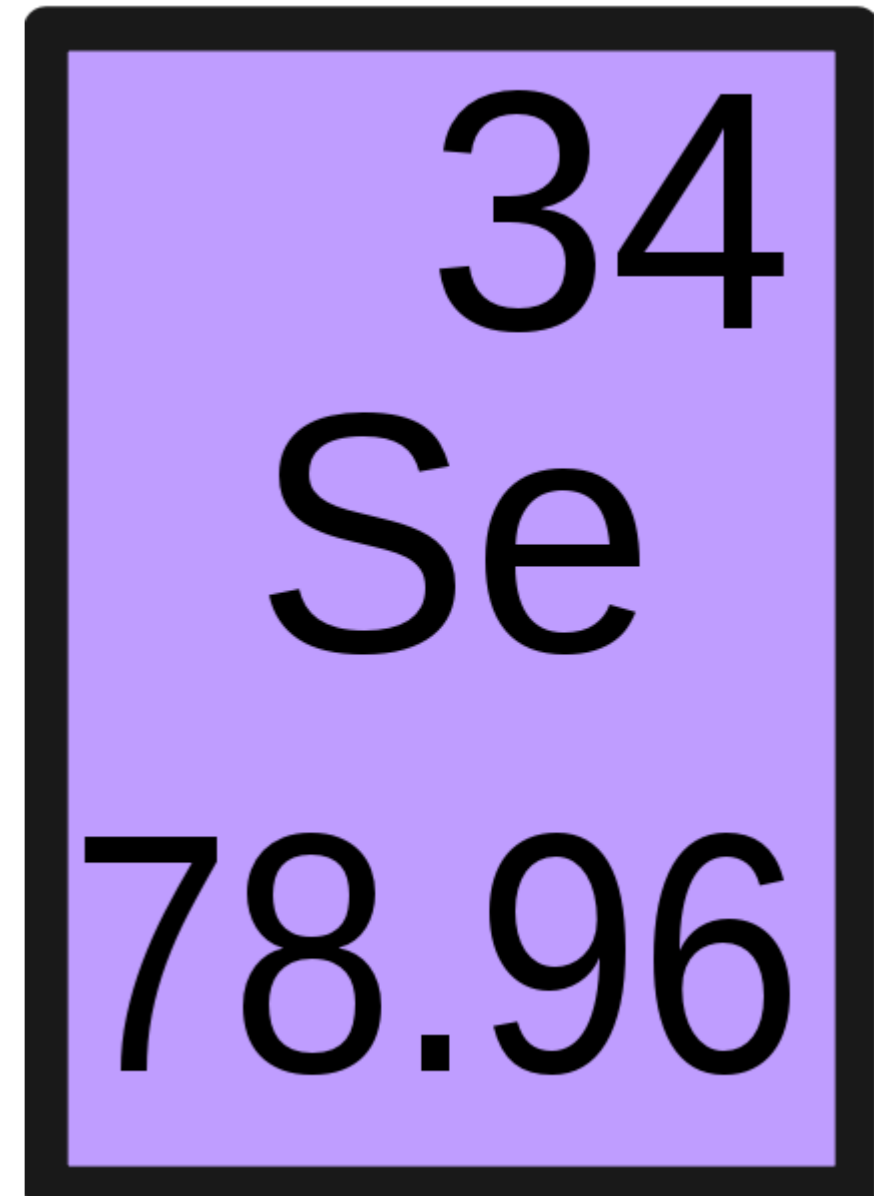
Water Quality Standards Workgroup 2/22/21

# Overview

EPA (2016) criteria review

Idaho implementation of the species deletion procedure

Applicability of Idaho work to Utah



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# EPA 2016 Selenium Criteria Review

Criteria based on protecting fish

Recommends hierarchal criteria

- fish egg/ovary tissue,
- fish muscle,
- fish whole body
- Lentic and lotic water concentration

EPA 2016 Water-based criteria more stringent than existing UT criteria

Waterbody Type	Existing Utah	EPA (2016)
Lentic (e.g., reservoirs)	4.6 µg/L	1.5 µg/L
Lotic (e.g., streams)	4.6 µg/L	3.1 µg/L

Sturgeon is the most sensitive species in database



# Idaho Species Deletion Procedure

## Waters without sturgeon



Four Most Sensitive Genus Mean Chronic Values for Whole-Body Tissue Selenium for Idaho

Rank	Genus	GMCV
4	<i>Esox</i>	14.2
3	<i>Salmo</i>	13.2
2	<i>Oncorhynchus</i>	11.6
1	<i>Lepomis</i>	9.9

Four Most Sensitive Genus Mean Chronic Values for Egg/Ovary Selenium for Idaho

Rank	Genus	GMCV
4	<i>Micropterus</i>	26.3
3	<i>Oncorhynchus</i>	25.3
2	<i>Salmo</i>	21
1	<i>Lepomis</i>	20.6

Four Most Sensitive Genus Mean Chronic Values for Muscle Tissue Selenium for Idaho

Rank	Genus	GMCV
4	<i>Esox</i>	21.7
3	<i>Salmo</i>	18.5
2	<i>Lepomis</i>	15.9
1	<i>Oncorhynchus</i>	14.3

# Idaho recalculation w/o sturgeon

Media	EPA (2016)	Idaho (2017)
Fish egg/ovary (mg/kg dw)	15.1	19.0
Fish muscle (mg/kg dw)	11.3	13.1
Fish whole body (mg/kg dw)	8.5	9.5
Water, lentic (µg/L)	1.5	1.7
Water, lotic (µg/L)	3.1	3.4

SSC = Site-specific criteria applicable to Idaho waters where sturgeon are not residents

# Species Deletion Procedure for Utah

Species present in Utah without toxicity values in EPA (2016) that sturgeon is a potential surrogate.

## 1. Cottus

Bear Lake sculpin

Mottled sculpin

Paiute sculpin

## 2. Gasterosteiformes

Brook stickleback

## 3. Gadiformes

Burbot



**Mottled Sculpin**

Nafna.org

# Next Steps

## Miscellaneous

- EPA (2016) water criteria will affect most POTWs
- Method 200.8 prone to ion (TDS) interferences

## EPA Implementation Guidance expected before summer 2021

- Site-specific tissue to water translators
- California adopting performance-based standards
- Limited options for fishless waters

## DWQ mgmt reviewing options



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**Thank you**

