

# Water Quality Standards Quarterly Meeting

August 25, 2015

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west virginia department of environmental protection

# Agenda

- ▶ **Introductions - WQS Staff, Attendees**
- ▶ **Proposed WQS Rule Changes**
- ▶ **Proposed Variance Discussion - Mike Sheehan, DEP OSR**
- ▶ **Triennial Review Considerations & Comment Period**
- ▶ **Algae & Nutrients Update - Jamie Peterson**

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# Status & Timeline: WQS “regular” rule

- ▶ View documents on [Sec of State website](#)
- ▶ Contains changes to selenium and aluminum criteria, as well as variances for Martin and Sandy Creek watersheds
- ▶ July 21<sup>st</sup> Public Hearing - about 60 in attendance, 16 commented
- ▶ 298 pages of written comments received
- ▶ July 31<sup>st</sup> - Comment period ended & submitted to Sec of State
- ▶ 2016 Legislative session - WQS rule will likely be introduced
- ▶ Summer 2016 - When effective, submit to EPA for approval

# Status & Timeline: WQS Emergency Rule

- ▶ Contains aluminum and selenium revisions only
- ▶ Required by WV Legislature, SB562 and SB357
- ▶ “Effective” as of August 10<sup>th</sup>, when approved by Sec of State
- ▶ WQS never really effective until EPA approves
- ▶ Submitting to EPA soon

**SB562:** “secretary shall propose rules for legislative approval ... which establish a state-specific selenium standard that protects aquatic life”

**SB357:** “secretary shall promulgate an emergency rule revising the statewide aluminum water quality criteria for the protection of aquatic life to incorporate aluminum criteria values using a hardness-based equation”



# 2015 DEP-Proposed Al Criterion

For water with pH <6.5 or >9.0 (Conversion Factor CF = 1)

Aquatic Life	Acute warm water fishery	Chronic warm water fishery	Acute trout streams	Chronic trout streams
Dissolved Al (µg/L)	750xCF	750xCF	750xCF	87xCF

For water with pH range of 6.5-9.0 (Conversion Factor CF = 1)

Aquatic Life	Hardness-Based Equation
Acute	$Al = e^{(1.3695[\ln(\text{hardness})]+1.8268)} \times CF$
Chronic	$Al = e^{(1.3695[\ln(\text{hardness})]+0.9121)} \times CF$

Where hardness is limited to the range of 26mg/L to 200mg/L, even if actual ambient hardness is greater or less than this range

# Comments: Proposed Al Standard

- ▶ Completed DEP responses were posted on 8/17/15  
(responses start on pg 373)
- ▶ Aluminum comments
  - ▶ Many in full support of proposed changes
  - ▶ EPA asked for additional literature review, which will be completed in submittal to EPA of emergency rule
  - ▶ Those opposed cited concerns regarding emergency, weakening of standard, & not enough data proving hardness-based approach

# Selenium Criterion Development

- ▶ **March 2015 - GEI Consultants** - revised WV-specific Freshwater Aquatic Life Criteria for Selenium
- ▶ **June 2015** - WV DEP public notice of revised selenium aquatic life revision, based on DEP analysis of scientific literature
- ▶ **July 2015 - EPA Released** Draft Aquatic Life Ambient Water Quality Criterion for Selenium - Freshwater
- ▶ **July 31, 2015** - WV DEP submitted Agency-Approved revision to selenium standard



# Recommended Criteria for Se

Parameter	Freshwater Aquatic Life: Acute	Freshwater Aquatic Life: Chronic
WV Current criterion	20 µg/l	5 µg/l
WV proposed for comment June 2015	20 µg/l	5 µg/l “Selenium in the water column”, OR 8.3 µg/g fish tissue, OR 20 µg/g egg/ovary tissue
GEI Consultants recommended rev. 2015	quotient based on selenium fractionation	5 µg/l total selenium, OR 9.0 µg/g fish tissue, OR 19.5 µg/g egg/ovary tissue
EPA Draft 2015 Nationwide Freshwater	NONE	1.2 µg/L in lentic (still) aquatic systems 3.1 µg/L in lotic (moving) aquatic systems, 30-day average, “based on dissolved total selenium,” OR 8.0 µg/g dw in fish whole-body, or 11.3 µg/g dw in fish muscle (skinless, boneless fillet) (Overrides any water column element), OR 15.8 µg/g dw in fish eggs or ovaries (Overrides whole-body, muscle, or water column elements)

# Comments: Proposed Se Standard

- ▶ Completed DEP responses were posted on 8/17/15  
(responses start on pg 373)
- ▶ Selenium comments
  - ▶ Many in full support of proposed changes
  - ▶ EPA recommended using newly-updated 2015 draft criterion
  - ▶ Those opposed cited enforceability, weakening of standard

# 2015 DEP-Proposed Se Criterion

Selenium Parameter	Aquatic Life ACUTE	Aquatic Life CHRONIC	Human Health Cat A
Water Column Concentration <sup>f</sup>	<b>REMOVED</b>	<b>5 ug/L</b>	<b>50 ug/L</b>
Fish Whole-Body Concentration <sup>g</sup>		<b>8.0 ug/g</b>	
Fish Egg/ovary Concentration <sup>h</sup>		<b>15.8 ug/g</b>	

<sup>f</sup> Water column values have primacy over fish tissue values under two circumstances: 1) “Fishless waters” (waters where fish have been extirpated or where physical habitat and/or flow regime cannot sustain fish populations); and 2) New inputs of selenium into waters previously unimpacted by selenium, until equilibrium is reached.

<sup>g</sup> Overrides any water column concentration when both fish tissue and water concentrations are measured, except in situations described in footnote <sup>f</sup>

<sup>h</sup> Overrides any whole-body or water column concentration when fish egg/ovary concentrations are measured, except in situations described in footnote <sup>f</sup>

# Questions on Se and Al Aquatic Life Revisions?



**What comments and questions do you have regarding currently-proposed aquatic life revisions?**

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# Status & Timeline: 2017 Triennial Review

## Remainder of 2015 - Input and Preparation

- ▶ **August 2015** - WQS Public Meeting: discuss potential revisions
- ▶ **September 2015** - Accept comments on potential revisions
- ▶ **October 2015** - Review public comments
- ▶ **November 2015** - WQS Public Meeting: discuss potential revisions
- ▶ **December 2015** - Scientific/technical review of potential revisions

# Status & Timeline: 2017 Triennial Review

## 2016 Proposed Rule process & 2017 Legislative process

- ▶ **Jan-Feb 2016** - Scientific/technical review of potential revisions
- ▶ **March 2016** - WQS Public Meeting: discuss revisions
- ▶ **Spring 2016** - Initial filing WQS Triennial rule revisions
- ▶ **Summer 2016** - Public hearing and comments, DEP-proposed rule submittal
- ▶ **2017 Legislative session** - WQS Triennial rule introduced
- ▶ **Summer 2017** - When in effect, submit to EPA for approval



# Application of Category A

HB 2283, passed March 12, 2015

Requirements Governing Water Quality Standards is authorized.

*Provided*; that the Secretary ... shall consider, for the 2017 triennial review, potential alternative applications for the Category A drinking water use designation to the waters of the state, taking into consideration

- ▶ Stream flow
- ▶ Depth
- ▶ Distance to public water intake

# EPA Human Health Criteria

## US EPA Released Final 2015 Updated National Recommended Human Health Criteria

- ▶ 94 chemical pollutants updated
- ▶ Updates based on revised fish consumption, body weight, drinking water intake

WV DEP will be considering these potential revisions



# Discussion: Triennial Review Topics



**What  
should DEP consider for  
Triennial Water Quality  
Standards review?**

Submit written comments for DEP  
consideration throughout  
September 2015

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# Next WQS Quarterly Meeting

- Will be in November - How about Tuesday the 17<sup>th</sup>?



**What other  
comments and questions  
do you have?**

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