

# Water Quality Standards Quarterly Meeting

May 11, 2016

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west virginia department of environmental protection

# Agenda

- **Introductions – WQS Staff, Attendees**
- 2016 Legislative Session
- 2017 Triennial Review – Review to this point
- Discussion of draft changes to WQS Rule

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# DEP 2015 Rules Not Authorized

- HB 4053 “DEP Rules Bundle” was not finalized by 2016 Legislature
- Special Session starts Monday May 16<sup>th</sup>
- DEP rules likely will be taken up in Special Session, but can’t be sure

...so, we are in  
limbo



# Proposed WV Aquatic Criteria for Selenium

PARAMETER	USE DESIGNATION			
	AQUATIC LIFE			
	B1, B4		B2	
	ACUTE <sup>1</sup>	CHRON <sup>2</sup>	ACUTE <sup>1</sup>	CHRON <sup>2</sup>
8.27.1 Selenium (ug/g) <sup>g</sup> (based on instantaneous measurement) 8.0 ug/g Fish Whole-Body Concentration or 11.3 ug/g Fish Muscle (skinless, boneless filet)		X		X
8.27.2 Selenium (ug/g) Fish Egg/Ovary Concentration <sup>h</sup> (based on instantaneous measurement)		15.8		15.8

<sup>f</sup> Water column values take precedence over fish tissue values when new inputs of selenium occur in waters previously unimpacted by selenium, until equilibrium is reached between the water column and fish tissue.

<sup>g</sup> Overrides any water column concentration when both fish tissue and water concentrations and either fish whole body or fish muscle (skinless, boneless filet) are measured, except in situations described in footnote <sup>f</sup>

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

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# 2017 Triennial Review Timeline

## **2016 Proposed Rule process & 2017 Legislative process**

- **Sept** – Began informal public comment period
- **Nov, Jan & Feb**– Public meetings held to discuss possible rule changes
- **March-April 2016** – Continued review of potential revisions
- **May 2016** – Initial filing WQS Triennial rule revisions
- **June-July 2016** – Public hearing, comments, submit proposed rule
- **August 26, 2016** – File Agency-approved with Sec of State
- **Sept-Dec 2016** – Legislative Rule-Making Review Committee meets
- **2017 Legislative session** – WQS Triennial rule introduced
- **Spring 2017** – After authorized, submit to EPA for approval

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# Comments Received

**In general, comments received pertained to the following**

- Algae
- Ammonia
- Bacteria
- Bromide
- Category A
- Conductivity, Sulfate, TDS
- Copper
- Design Flow
- EPA Aquatic Life Criteria
- EPA Human Health Criteria
- Fecal coliform
- Methylmercury
- Mixing Zones
- Narrative Water Quality Criteria
- Net Limits
- Thallium

# Category A

DEP considered **potential alternative applications** for the Category A drinking water use designation, based upon HB2283, considering:

- Stream flow
- Depth
- Distance to public water intake

Here we go with changes to be proposed  
47 CSR 2 Section will appear here

**A Cliff Notes version of the change will go here**

Section.number.letter ~~strike thru~~ and underlines will go  
here, in all their sometimes very extensive and detailed  
glory

# Category A

## 47 CSR 2 Section 6.2

### **Clarify existing and future uses**

Category A -- Water Supply, Public. -- This category is used to describe waters which, after conventional treatment, are used or are capable of being used for human consumption. This category includes ~~streams~~ waters on which the following are or could potentially be located

# Category A

## 47 CSR 2 Section 6.3

### Provision for determining unsuitability of Cat A use via NPDES permit

6.3. The Secretary may, in the NPDES permitting process, make a determination on the unsuitability of Category A use, based on **insufficient flow** or previous **hydrologic modification**. In making such determination, the Secretary shall consider the following criteria:

# Category A

## 47 CSR 2 Section 6.3a

### **In consideration of “insufficient flow”**

#### 6.3.a. Insufficient Flow

6.3.a.1. Whether the insufficient flow may be compensated for by the discharge of sufficient volume of effluent discharges to enable the use to be met;

6.3.a.2. Whether reasonable provision for storage or impoundment of the water could be made that would allow the water to serve as a reliable water supply;

6.3.a.3. Whether the water, though having insufficient flow to serve as a primary water supply source, could serve as an emergency or backup supply;

6.3.a.4. The size and location of the waterbody; and

6.3.a.5. The effect of withdrawal on downstream users

# Category A

## 47 CSR 2 Section 6.3b

**Consider “previous hydrologic modification”**

### 6.3.b. Hydrologic Modifications

6.3.b.1. Whether pre-existing modifications or diversions preclude the attainment of the use, and it is not feasible to restore the water to its original condition or to operate such modification in a way that would result in the attainment of the use

# Category A

## 47 CSR 2 Section 6.3b-c

### **Consider “previous hydrologic modification”**

#### 6.3.b. Hydrologic Modifications

6.3.b.1. Whether pre-existing modifications or diversions preclude the attainment of the use, and it is not feasible to restore the water to its original condition or to operate such modification in a way that would result in the attainment of the use

6.3.c. Any other criteria considered appropriate by the Secretary.



# Category A

## 47 CSR 2 Section 6.4

**Application shall address all info required for WQS site-specific criterion**

6.4. Any person seeking a determination of unsuitability in accordance with subsection 6.3 shall submit an application to the Secretary containing information and data addressing the applicable criteria under the subsection. The applicant shall also submit the information specified in subsection 7.2.c.4.A through 7.2.c.4.F herein and 47 CSR 6, subdivisions 4.2.a and 4.2.c.

# Category A

## 47 CSR 2 Section 6.5

### **Consultation with WV BPH, and 45-day public notice with public hearing**

6.5. Before making a determination under subsection 6.3 that Category A use does not apply, the Secretary shall consult with the West Virginia Bureau for Public Health and shall provide public notice and the opportunity to comment on the determination to the general public. The public notice may occur in conjunction with any public notice that is required in the permitting process, provided that a 45-day comment period and public hearing are afforded. Notice of the public hearing shall be given at least 45 days prior to the hearing and the notice of comment and hearing may be combined.

# Category A

## 47 CSR 2 Section 6.6

### **Ensure water is not being used for human consumption**

6.6. The Secretary shall also ensure that the water is not being used for human consumption, and shall require the permit applicant to make a demonstration that includes the following documentation:

# Category A

## 47 CSR 2 Section 6.6a-c

### **Requiring WV BPH contact, written plan, physical survey, research on groundwater connectivity**

6.6.a. Contact with the West Virginia Bureau for Public Health and the County Health Department in the county or counties where the affected stream segment occurs

6.6.b. The results of a physical survey of the stream, or portion thereof, to determine the existence of drinking water intake pipes and other evidence of use of the stream as a source of drinking water. Where homes/domiciles occur adjacent to the affected portion of the stream, contact with the residents to determine the source of their drinking water must be attempted and such information included in the application. Before conducting the survey or contacting residents, the applicant shall submit a written plan outlining the methodology it proposes to use, and receive approval of the plan by the Secretary; and

6.6.c. Results of research to determine the presence or absence of drinking water wells and springs in the vicinity of the stream or stream segment. If drinking water wells or springs are found in the vicinity, the applicant shall make a determination of the potential for a hydrogeologic connection between the wells or springs and the surface water in question.

# Category A

## 47 CSR 2 Section 6.7-10

### **Consideration of downstream waters, US EPA concurrence, maintain WQS use removal option, maintain list of affected segments**

6.7. In making a determination under subsection 6.3, the Secretary shall consider the quality of downstream waters and assure that water quality standards are met in those waters.

6.8. Any determination under subsection 6.3 that the Category A use does not apply shall be made with the concurrence of the U.S. EPA.

6.9. In addition to waters determined unsuitable by the Secretary in the permitting process pursuant to subsections 6.3 through 6.8, the Category A water supply use may be removed from waters or segments thereof in accordance with the provisions of subdivisions 6.1.b through 6.1.d. In any such demonstration, the applicant shall, in addition to the requirements of those subdivisions, make the demonstration required under subsection 6.6 to confirm the water is not being used for human consumption.

6.10. The Secretary shall maintain a list of water segments determined unsuitable for the Category A use on the West Virginia Department of Environmental Protection's website.

# Critical Design Flow

## 47 CSR 2 Section 8.2.b

### **Implement EPA-recommended Harmonic mean flow for carcinogens, 30Q5 flow for noncarcinogens**

~~8.2.b. For waters other than the Ohio River between river mile points 68.0 and 70.0, a final determination on the critical design flow for carcinogens is not made in this rule, in order to permit further review and study of that issue. Following the conclusion of such review and study, the Legislature may again take up the authorization of this rule for purposes of addressing the critical design flow for carcinogens: Provided, That until such time as the review and study of the issue is concluded or until such time as the Legislature may again take up the authorization of this rule, the regulatory requirements for determining effluent limits for carcinogens shall remain as they were on the date this rule was proposed. The critical design flow for human health criteria effluent limits for carcinogens (indicated with an endnote <sup>(b)</sup> in Appendix E, Table 1) shall be the long-term harmonic mean flow, and the critical design flow for human health criteria effluent limits for noncarcinogens shall be the minimum mean thirty (30) consecutive day drought flow with a five (5) year return frequency (30Q5).~~

~~8.2.b.1. For the Ohio River between river mile points 68.0 and 70.0 the critical design flow for determining effluent limits for carcinogens shall be harmonic mean flow.~~

# Site-Specific Numeric Criteria

## 47 CSR 2 Section 8.5

### **Strike previous language on use of Water Effect Ratio for Metals via WQS change process**

8.5 Site-Specific Numeric Criteria ... The site-specific numeric criterion may be established by ~~conducting a Water Effect Ratio study pursuant to the procedures outlined in US EPA's "Interim Guidance on the Determination and Use of Water Effect Ratios for Metals" (February 1994); other methods may be used with prior approval by the Secretary. In adopting site-specific numeric criteria, the requirements for revision of water quality standards set forth in 46 CSR 6 shall be followed. developed in a manner described in Section 8.5.a or 8.5.b herein.~~

# Site-Specific Numeric Criteria

## 47 CSR 2 Section 8.5.a-b

**Establish use of WER for Metal or Biotic Ligand Model for Copper via NPDES permitting, and maintain WQS process for any “other methods”**

8.5.a. A site-specific numeric criterion may be established as part of the NPDES permitting process by use of a Water Effect Ratio study pursuant to the procedures described in U.S. EPA’s “Interim Guidance on the Determination and Use of Water-Effect Ratios for Metals” (February 1994); or a site-specific numeric criterion for copper may be established by use of a Biotic Ligand Model analysis pursuant to the procedures described in U.S. EPA’s “Aquatic Life Ambient Freshwater Quality Criteria – Copper” (February 2007).

8.5.b. Using other methods with prior approval by the Secretary: Provided, that the requirements for revision of water quality standards set forth in 47 CSR 6 shall be followed.



# *E. Coli* Human Health Criterion

## 47 CSR 2 Section 8.13

### **Replace fecal coliform with *E. coli* as fecal indicator bacteria for Human Health Categories**

#### ~~8.13 Fecal Coliform:~~

~~Maximum allowable level of fecal coliform content for Water Contact Recreation (either MPN or MF) shall not exceed 200/100 ml as a monthly geometric mean based on not less than 5 samples per month; nor to exceed 400/100 ml in more than ten percent of all samples taken during the month.~~

#### 8.13 *E. coli*:

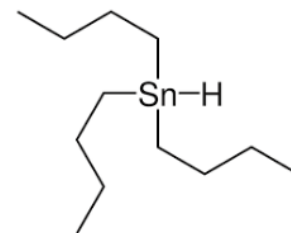
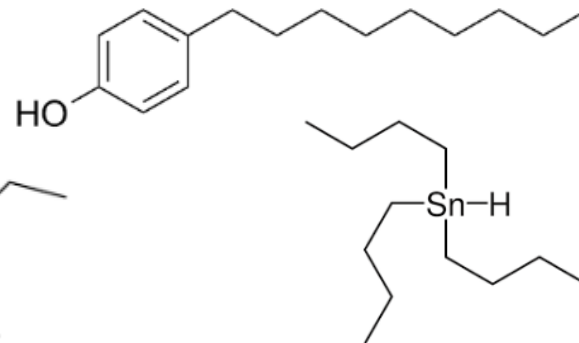
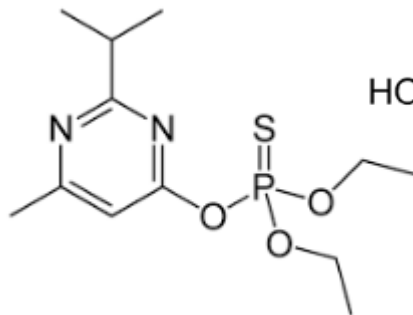
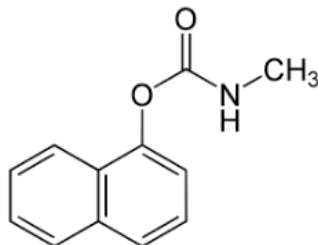
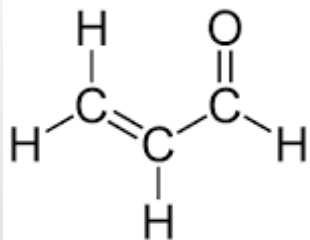
Maximum allowable level of *E. coli* content for Water Contact Recreation (either MPN or MF) shall not exceed 126 cfu/100 ml as a monthly geometric mean based on not less than 3 samples per month; nor shall *E. coli* concentration exceed 410 cfu/100 ml in more than ten percent of all samples taken during the same year.

# Additional Organic Chemicals

## 47 CSR 2 Section 8.23 Organics

**Adding relatively recent organic chemicals for which EPA added aquatic life criteria**

Parameter	Acute (warmwater & coldwater)	Chronic (warmwater & coldwater)
<u>Acrolein (ug/l)</u>	<u>3</u>	
<u>Carbaryl (ug/l)</u>	<u>2.1</u>	
<u>Diazinon (ug/l)</u>	<u>0.17</u>	
<u>Nonylphenol (ug/l)</u>	<u>28</u>	<u>6.6</u>
<u>Tributyltin (TBT) (ug/l)</u>	<u>0.46</u>	<u>0.072</u>



# Time for a Break?

**Let's take a 10-minute break to digest,  
Have a cookie,  
Then get back together to discuss...**



# Next WQS Meeting

- **Hearing will be in July, corresponding with public comment period**

## Further Discussion



**What questions  
do you have?**

Reach me at:

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