

# WATER QUALITY STANDARDS PUBLIC MEETING

MARCH 28, 2018

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LAURA COOPER

ASSISTANT DIRECTOR DWWM, WATER QUALITY STANDARDS

LAURA.K.COOPER@WV.GOV



# AGENDA

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- **Introductions – WQS Staff & Attendees**
- **WQS Update**
- **Rule Timeline**
- **Triennial Review Proposed Changes**



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# WATER QUALITY STANDARDS UPDATE

## **Since our last meeting in September 2017 in Morgantown**

- October 2017 – Presented Selenium criteria at EPA Region 3 States Meeting
- October 2017 – Reported public comments regarding stringency of WQS rules to Legislature
- November 2017 – Presented at national workshop on WQS Variances
- December 2017 – Presented at EPA Region 3 Harmful Algal Blooms and Nutrients Conference

# WATER QUALITY STANDARDS UPDATE

## **So far in 2018...**

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- January 26 – EPA approved of Harmonic Mean & Mixing Zone Legislative changes
- Researching and working on WQS Rule updates
- Pursuing approval from EPA for our aluminum criteria submitted in 2015
- February 21 – EPA approved Sandy Creek variance

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# STATUS & TIMELINE: 2019 TRIENNIAL REVIEW

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## Propose Rule 2018

**March** – WQS Public Meeting: discuss potential revisions

**May** – Put out rule for 45-day public comment

**June** – Advisory Council review and comment

**Early July** – Hearing and end of 45-day public comment period

**July** – Review public comments, make any changes to rule

**End of July** – Submit Agency-Approved rule to Secretary of State

**Fall 2018** – Rule goes to LRMRC

## Legislative Review 2019

**Legislative Session 2019** – review of proposed rule

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# HUMAN HEALTH CRITERIA

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## What are human health criteria?

*Human health ambient water quality criteria represent specific levels of chemicals or conditions in a water body that are not expected to cause adverse effects to human health.*

## In West Virginia, these use categories are called:

Category C – Water Contact Recreation

Category A – Water Supply, Public

# NEW FEDERALLY-RECOMMENDED CRITERIA

## Changes made to the recommended concentration

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- Body weight from 70 kg (154.3 lbs) to 80 kg (176.4 lbs) to reflect an avg. increase
- Fish consumption rate changed from 17.5 grams/day to 22 grams/day
- Water intake increase from 2 L/day to 2.4 L/day
- Bioconcentration Factors changed to Bioaccumulation Factors
- New studies and/or reinterpretation of older studies changed safe concentrations



# EPA CHANGES COMPARED TO EXISTING WV STANDARDS

## DEP considering adopting human health criteria changes

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- Of the 95 changes EPA made, 53 changes to existing WV criteria are being proposed
- Some criteria become more stringent, some less

### ***Why not the others?***

- They are not currently in WV standards
- They are not known to occur in WV permittees' processes
- Will look closer at these in the future to determine which ones may need added

# HUMAN HEALTH CRITERIA CHANGES

<b>Current Category A Criteria (in µg/L)</b>	<b>Chemical Name</b>	<b>Recommended Criteria (in µg/L)</b>
0.17	1,1,2,2-Tetrachloroethane	0.2
0.035	1,2-Dichloroethane	9.9
2.1	2,4,6-Trichlorophenol	1.5
1000	2-Chloronaphthalene	800
670	Acenaphthene	70
7.1E-05	Aldrin	7.7E-07
8,300	Anthracene	300

*All concentrations in µg/L, or parts per billion (ppb)*

# HUMAN HEALTH CRITERIA CHANGES

<b>Current Category A Criteria (in µg/L)</b>	<b>Chemical Name</b>	<b>Recommended Criteria (in µg/L)</b>
0.0038	Benzo(a)anthracene	0.0012
0.0038	Benzo(a)pyrene	0.00012
0.0038	Benzo(b)fluoranthene	0.0012
0.0038	Benzo(k)fluoranthene	0.012
0.014	beta-Hexachlorocyclohexane	0.008
4.3	Bromoform	7
0.25	Carbon Tetrachloride	0.4
0.00046	Chlordane	0.00031

*All concentrations in µg/L, or parts per billion (ppb)*

# HUMAN HEALTH CRITERIA CHANGES

<b>Current Category A Criteria (in µg/L)</b>	<b>Chemical Name</b>	<b>Recommended Criteria (in µg/L)</b>
0.0038	Chrysene	0.12
5	Cyanide	4
0.000024	p,p'-Dichlorodiphenyltrichloroethane (DDT)	0.00003
0.0038	Dibenzo(a,h)anthracene	0.00012
0.55	Dichlorobromomethane	0.95
0.000071	Dieldrin	0.0000012
0.0023	Endrin	0.03
3,100	Ethylbenzene	68

*All concentrations in µg/L, or parts per billion (ppb)*

# HUMAN HEALTH CRITERIA CHANGES

<b>Current Category A Criteria (in µg/L)</b>	<b>Chemical Name</b>	<b>Recommended Criteria (in µg/L)</b>
300	Fluoranthene	20
1100	Fluorene	50
0.00021	Heptachlor	0.000006
0.0038	Indeno(1,2,3-cd)pyrene	0.0012
0.03	Methoxychlor	0.02
3 (sum of all phthalates)	Butylbenzyl Phthalate	0.1
3 (sum of all phthalates)	Diethyl Phthalate	600
3 (sum of all phthalates)	Dimethyl Phthalate	2,000
3 (sum of all phthalates)	Di-n-Butyl Phthalate	20
3 (sum of all phthalates)	Bis(2-Ethylhexyl) Phthalate	0.32

*All concentrations in µg/L, or parts per billion (ppb)*

# HUMAN HEALTH CRITERIA CHANGES

<b>Current Category A Criteria (in µg/L)</b>	<b>Chemical Name</b>	<b>Recommended Criteria (in µg/L)</b>
0.0039	alpha-Hexachlorocyclohexane (HCH)	0.00036
0.019	gamma-Hexachlorocyclohexane (HCH)	4.2
47	Methyl Bromide	100
12,000	1,1,1-Trichloroethane (P)	10,000
0.03	1,1-Dichloroethylene (P)	300
2,700	1,2-Dichlorobenzene (P)	1,000
400	1,3-Dichlorobenzene (P)	7
400	1,4-Dichlorobenzene (P)	300
93	2,4-Dichlorophenol (P)	10
540	2,4-Dimethylphenol (P)	100

*All concentrations in µg/L, or parts per billion (ppb)*



# HUMAN HEALTH CRITERIA CHANGES

<b>Current Category A Criteria (in µg/L)</b>	<b>Chemical Name</b>	<b>Recommended Criteria (in µg/L)</b>
70	2,4-Dinitrophenol	10
0.11	2,4-Dinitrotoluene	0.049
120	2-Chlorophenol	30
13.4	2-Methyl-4,6-Dinitrophenol	2
0.059	Acrylonitrile	0.061
680	Chlorobenzene	100
5.7	Chloroform	60
0.00072	Hexachlorobenzene	0.000079
4.6	Methylene Chloride	20
0.28	Pentachlorophenol	0.03

*All concentrations in µg/L, or parts per billion (ppb)*

# OVERLAPPING MIXING ZONES

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Adding language to 5.2.h.5:

Mixing zones shall not:

“Overlap one another, except that the secretary may allow mixing zones for human health criteria to overlap, if the overlapping mixing zones comply with all guidelines and conditions of this subsection.”

## ***Why this change?***

WQS changes made via House Bill 2506 to §22-11-7b(c), approved by EPA January 2018

# HARMONIC MEAN

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- Changing language in 8.2.b
- Replacing whole paragraph with:

“The critical design flow for human health criteria effluent limits shall be the long-term harmonic mean flow.”
- This includes both carcinogens and noncarcinogens

## ***Why this change?***

WQS changes made via House Bill 2506 to §22-11-7b(c), approved by EPA January 2018

# COPPER WATER EFFECT RATIO AND BIOTIC LIGAND MODEL

Adding 8.5.a and 8.5.b, just as was proposed in 2016

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- Site-specific numeric criterion may be established
- Part of the NPDES permitting process
- May use Water Effect Ratio or Biotic Ligand Model
- *May use other methods with prior approval, but* other methods would have to go through the usual legislative rulemaking process (ie, not via NPDES permitting)

## ***Why this change?***

Makes EPA-approved processes for establishing copper-specific criteria easier to pursue while preserving more rigorous legislative process for any other methods

# “CONCENTRATION NOT TO BE EXCEEDED”

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Removing language from footnotes of Appendix E, Table I for human health criteria which states:

“Concentration not to be exceeded, unless otherwise noted”

## ***Why this change?***

Language is misleading because concentration may be exceeded in certain circumstances like in mixing zones or during drought conditions

# CHANGES WE ARE **NOT** PURSUING AT THIS TIME

## Not pursuing *E. coli* to replace fecal coliform

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### *Why not E. coli?*

- NPDES permits, WV lab techniques and TMDLs are all based on fecal coliform
- *E. coli* 126/410 comparable to fecal coliform 200/400
- EPA conducting 5-year review of the 2012 recreational criteria—could propose additional changes

# CHANGES WE ARE **NOT** PURSUING AT THIS TIME

## **Aquatic life additions proposed in 2016 not being pursued**

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5 new chemical criteria—acrolein, carbaryl, diazinon, nonylphenol, and tributyltin—are not being pursued this year

### ***Why not?***

- Comments from EPA in 2016 brought into question acute vs. chronic criteria for 3 of these (EPA recommends same concentration for both acute & chronic)
- The other 2 are not known to occur in WV permittees' processes

# What questions do you have?

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**Reach me at:**

Laura Cooper

Office: 304-926-0499 x1110

Email: [Laura.K.Cooper@wv.gov](mailto:Laura.K.Cooper@wv.gov)

