



Maryland
Department of
the Environment

2023 Interim Update of Water Quality Standards Public Hearing

Being held virtually using GoogleMeets

Please note that this hearing is being recorded.

3pm
December 13, 2023
Maryland Department of the Environment

Melinda Cutler and Matthew Stover
Water Quality Standards, Assessment, and Antidegradation



Housekeeping Items

- Please use chat function for any tech questions
- Recording of today's hearing and this presentation will be available at:
<https://bit.ly/WQS-2023>



GOOGLE MEET ATTENDEE MEETING CONTROLS

Desktop View





Format of Today's Hearing

1. Powerpoint Presentation describing Proposed Changes to Maryland's Water Quality Standards

2. Opportunity for Oral Testimony
 - Please hold all questions/comments until the presentation is over.

 - Note: All comments, written or provided during this hearing will be given the same consideration.



Overview of 2023 Interim Update of Water Quality Standards

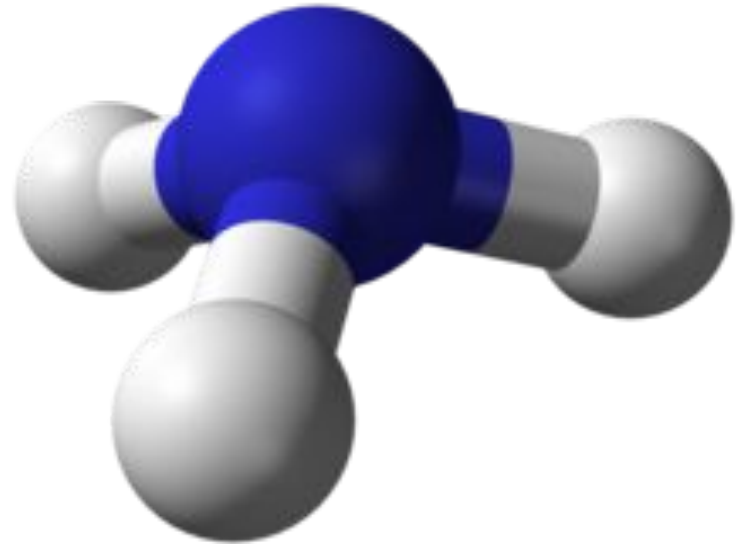
- COMAR 26.08.02.03-2 (Numerical Criteria for Toxic Substances)
- Summarize proposed changes to the regulation
- Supporting Documentation can be found on the 2023 Interim Update webpage at:

<https://bit.ly/WQS-2023>



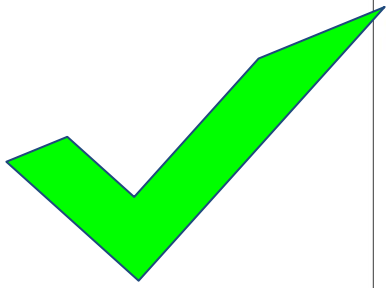
Water Quality Criteria for Ammonia

- Proposed by USEPA in 2013
- Criteria magnitude is a function of pH and temperature
- Previously included in 2019 Triennial Review (TR)
- 2023 Interim Update - Corrections to one equation and three reference tables that had errors

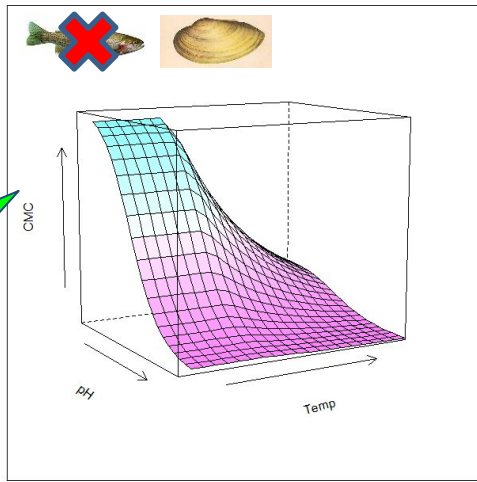




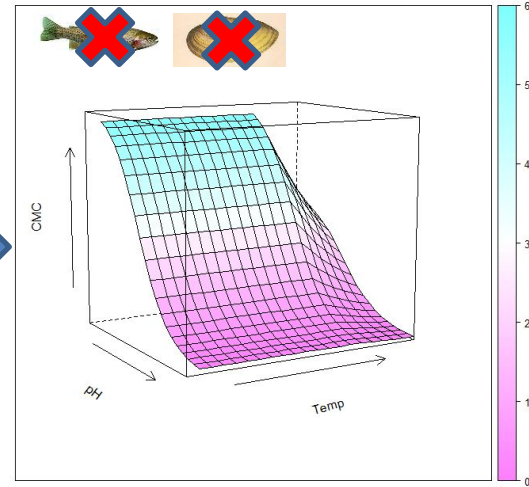
Water Quality Criteria for Ammonia: Acute



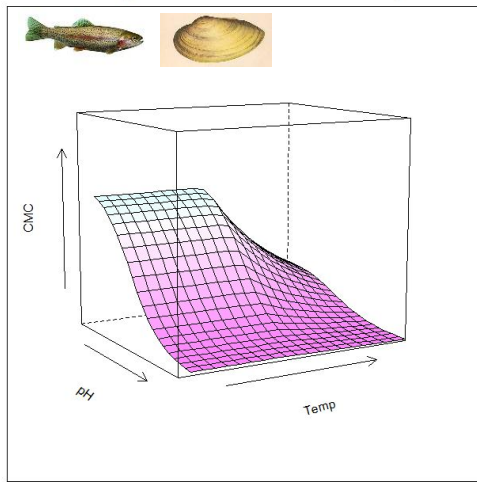
Updated Acute Ammonia Criterion
(Samolnids Absent/Mussels Present)



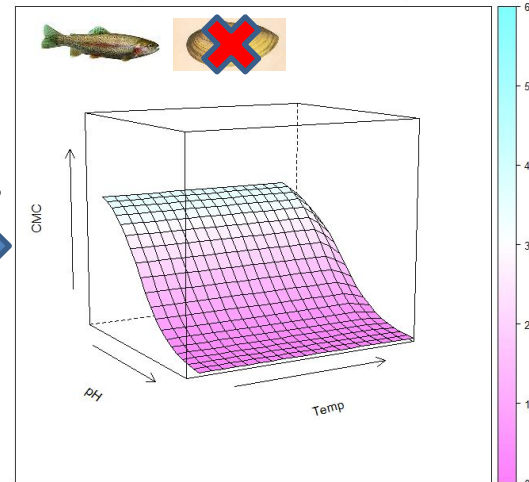
Updated Acute Ammonia Criterion
(Samolnids Absent/Mussels Absent)



Updated Acute Ammonia Criterion
(Samolnids Present/Mussels Present)

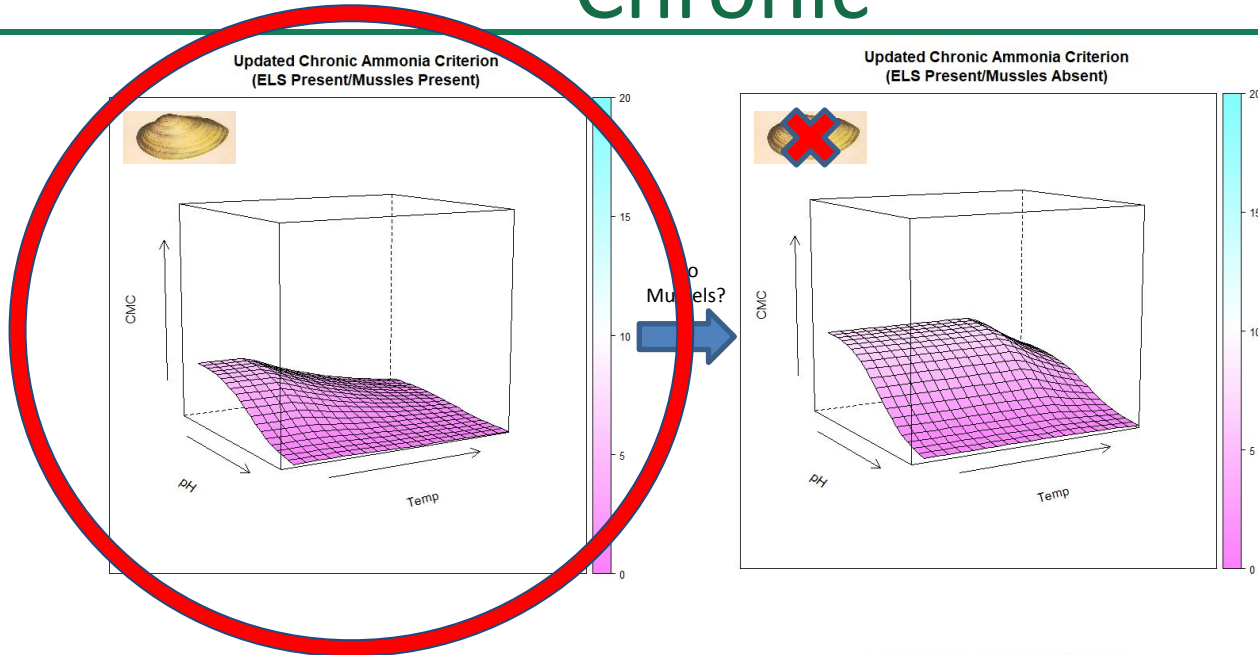


Updated Acute Ammonia Criterion
(Samolnids Present/Mussels Absent)

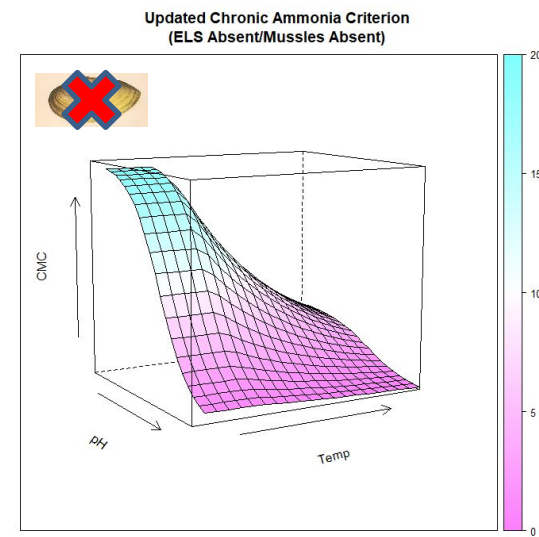




Water Quality Criteria for Ammonia: Chronic



- Equation incorrectly proposed in 2019 TR
- Updated chronic criteria look-up tables





Water Quality Criteria for Ammonia: Equation & Table Corrections

- Freshwater chronic water quality criterion for ammonia (fish early life stages + mussels present)
 - Updating with correct equation:

$$CCC = \left[0.8876 * \left(\frac{0.0278}{1 + 10^{7.688 - pH}} + \frac{1.1994}{1 + 10^{pH - 7.688}} \right) * \left(2.126 * 10^{0.028 * (20 - MAX(T, 7))} \right) \right]$$

- Corrections to all three chronic criteria reference tables
 - Example excerpt of look-up table:

	Temperature (°C)																													
pH	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30						
6.5	4.92	4.61	4.33	4.06	3.80	3.57	3.34	3.13	2.94	2.75	2.58	2.42	2.27	2.13	2.00	1.87	1.75	1.64	1.54	1.45	1.36	1.27	1.19	1.12						
6.6	4.85	4.54	4.26	3.99	3.75	3.51	3.29	3.09	2.89	2.71	2.54	2.38	2.24	2.10	1.97	1.84	1.73	1.62	1.52	1.42	1.33	1.25	1.17	1.10						
6.7	4.76	4.46	4.18	3.92	3.68	3.45	3.23	3.03	2.84	2.66	2.50	2.34	2.19	2.06	1.93	1.81	1.70	1.59	1.49	1.40	1.31	1.23	1.15	1.08						
6.8	4.65	4.36	4.08	3.83	3.59	3.37	3.16	2.96	2.77	2.60	2.44	2.29	2.14	2.01	1.88	1.77	1.66	1.55	1.46	1.37	1.28	1.20	1.13	1.05						
6.9	4.52	4.23	3.97	3.72	3.49	3.27	3.07	2.88	2.70	2.53	2.37	2.22	2.08	1.95	1.83	1.72	1.61	1.51	1.42	1.33	1.24	1.17	1.09	1.03						
7	4.36	4.09	3.84	3.60	3.37	3.16	2.96	2.78	2.60	2.44	2.29	2.15	2.01	1.89	1.77	1.66	1.56	1.46	1.37	1.28	1.20	1.13	1.06	0.99						



Pentachlorophenol (PCP) Footnote

- §G, Table 6. Toxic Substances for Ambient Water Quality Criteria — Pesticides and Chlorinated Compounds.
- EPA's CWA 304(a) recommendation for PCP
 - PCP influenced by pH, but not hardness
- 2019 TR - Removed table footnote
- 2023 Interim Update - Reinstating & amending table footnote for PCP to provide clarification
 - Proposed new footnote:

Pentachlorophenol (PCP) ¹	87865	19	15	13	7.9	2.7 ^a	30 ^a	0.001
--------------------------------------	-------	----	----	----	-----	------------------	-----------------	-------

¹The freshwater aquatic life criteria for PCP are expressed as a function of pH. Refer to §D of this regulation.



Table Reference Corrections

Title 26. DEPARTMENT OF THE ENVIRONMENT

Subtitle 8. WATER POLLUTION

Chapter 1. WATER QUALITY

Authority: Environment Article, §9-303.1, 9-313—9-316, 9-319, 9-320—9-325, 9-327, and 9-328, Annotated Code of Maryland

.03-2 Numerical Criteria for Toxic Substances in Surface Waters.

A.—C. (text unchanged.)

D. The toxicity of certain substances in Tables 1 and [4]6 of §G of this regulation is increased or decreased by hardness or pH. For these toxic substances:

(1)—(4) (text unchanged.)

E. (text unchanged.)

F. Acute and chronic numeric toxic substance criteria for fresh, estuarine, and salt water aquatic life protection and for human health protection are shown in Tables 1—[4]6 of §G. For the instream application of the acute and chronic criteria for the protection of aquatic life in Tables 1—[4]6 of §G of this regulation:

(1)—(3) (text unchanged.)



Table Reference Corrections

- 2019 Triennial Review – Added two new tables to §G of regulation
- Shifted table numbering in §G
 - Toxic Substances for Ambient Water Quality Criteria — Pesticides and Chlorinated Compounds.
 - Used to be Table 4, changed to Table 6
- 2023 Interim Update: fixing table references in §D and §F to reflect appropriate table number



Triennial Review Timeline

- Dates: The Public comment period which began on November 17, 2023, will end on December 22, 2023.
- Following the close of the public comment period, the Department will consider and respond to comments. Depending on any substantive comments, MDE will prepare a notice of final action, and submit the 2023 Interim Update to USEPA for final approval.



Submitting comments

- Please submit comments by **December 22, 2023** to:

Melinda Cutler

melinda.cutler@maryland.gov

Maryland Department of the Environment

1800 Washington Blvd.

Baltimore, MD 21230

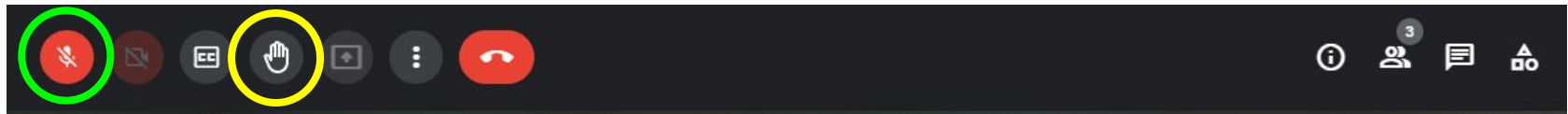
For more information please visit:

<https://bit.ly/WQS-2023>



Opportunity for Oral Testimony

- Raise your hand virtually using the button on the GoogleMeet activity Menu
- Please state your name and affiliation. Please limit speaking to 3-5 minutes.
- Written comments may be sent to melinda.cutler@maryland.gov



Mic off

Hand not
raised



Mic on

Hand
raised