



**Maryland**  
Department of  
the Environment

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# Triennial Review of Water Quality Standards Public Hearing

Being held virtually using GotoWebinar

Please note that this hearing is being recorded.

5pm

March 30, 2022

Maryland Department of the Environment

Matthew Stover and Kara Ogburn  
Water Quality Standards, Assessment, and Antidegradation

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# Technical Items

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- Please use the “Questions” tab for tech questions
- Recording of today's hearing and this presentation will be available at:

<https://wqs.page.link/tr2019>



# Format of Today's Hearing

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



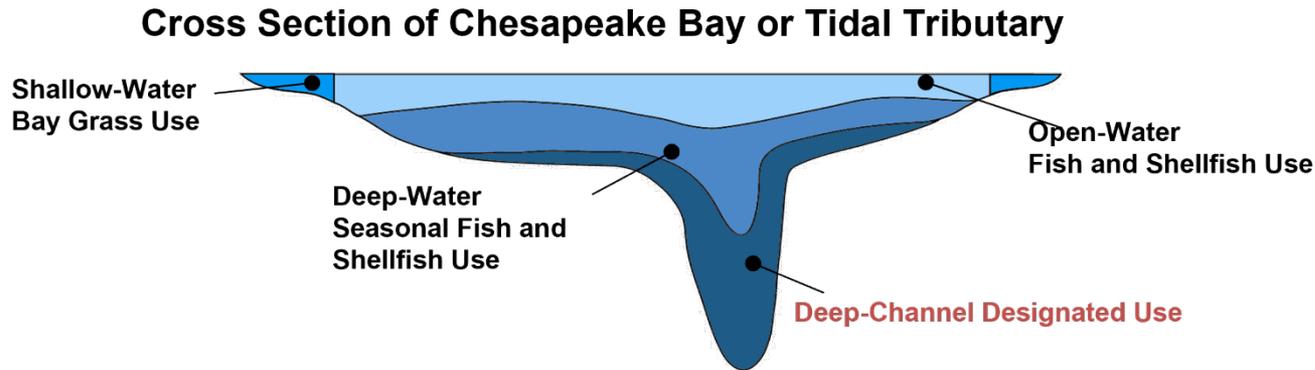
# Overview of Triennial Review of Water Quality Standards

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- COMAR 26.08.02 (Water Quality)
  - Regulations: .02-1, .07, .08, .03-2, .03-3, .04, .04-1, .04-2, and .04-3
- Summarize proposed changes to regulations
- Supporting Documentation can be found on the Triennial Review webpage at: <https://wqs.page.link/tr2019>
  - Documents incorporated by reference
  - Existing Use Determinations
  - Other explanatory documents



# Subcategory Designated Use Corrections (COMAR 26.08.02.02-1)



- Deep Water and Deep Channel areas of the Chesapeake Bay
  - amendments are proposed to clarify which designated use applies from October 1-May 31 (the open water fish and shellfish subcategory designated use)
- Does not change how the dissolved oxygen for this designated use is assessed



# Removing Unused place holder language (COMAR 26.08.02.07)

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*E. Stream segments, listed below in tabular form, shall be given the additional protection required for:*

- (1) Shellfish harvesting waters (Class II waters);*
- (2) Shallow water submerged aquatic vegetation (Class II waters);*
- (3) Migratory fish spawning and nursery (Class II waters);*
- (4) Natural trout waters (Class III and Class III-P waters);*
- (5) Recreational trout waters (Class IV and Class IV-P waters);*
- (6) Public water supply (Class I-P, II-P, III-P, and IV-P waters).*

- Language was not used, and intent was not clear
- May have been intended to serve as a place holder for existing uses
- Specific Tier I existing use protections are being proposed in 26.08.02.04-1



# Changes to Designated Use Classes (COMAR 26.08.02.08)

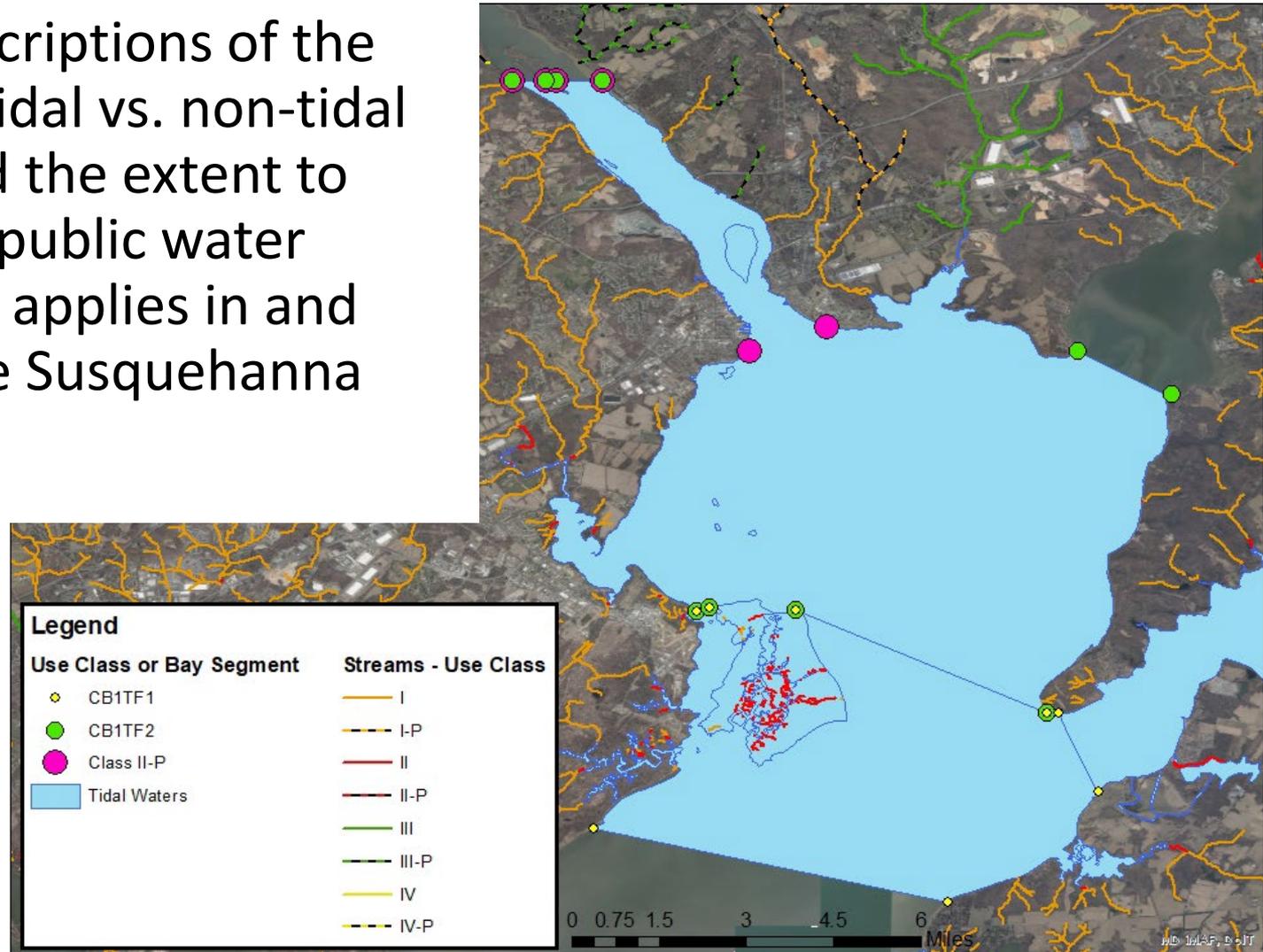
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- *“(6) Existing Uses. Several of the sub-basins in this regulation contain stream segments that support existing uses that require different water quality than the designated use. These existing uses have been determined in accordance with COMAR 26.08.02.04-1. The existing uses for these stream segments are described both in terms of the existing uses supported (e.g. naturalized reproducing brown trout population) and the water quality currently known to sustain them. For determining effluent limits, closure periods, and other regulatory protection measures, these existing uses and the water quality necessary to maintain them must be protected consistent with COMAR 26.08.02.04-1. These existing uses are maintained and can be accessed on the Department’s website.”*
- This addition:
  - Clarifies that existing uses not protected by the designated use class must still be protected
  - Provides a cross reference to Tier I Antidegradation Protections (COMAR 26.08.02.04-1) and establish location of information on existing uses



# Changes to Designated Use Classes (COMAR 26.08.02.08)

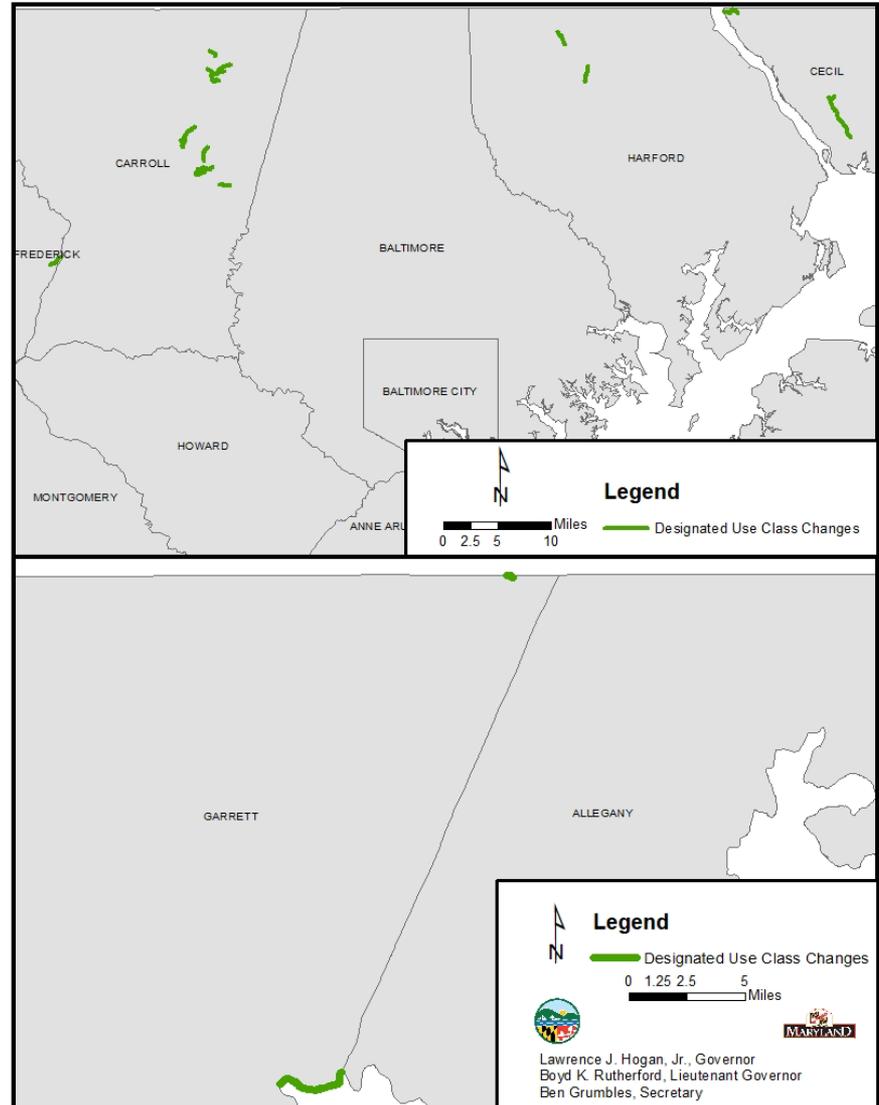
- Clarify descriptions of the extent of tidal vs. non-tidal waters and the extent to which the public water supply use applies in and around the Susquehanna River





# Changes to Designated Use Classes (COMAR 26.08.02.08)

- 17 Changes to Designated Use Classes
- Class I(-P) and Class IV(-P) reclassified to Class III(-P)
- 26 miles of streams





# Changes to Water Quality Criteria (COMAR 26.08.02.03-2)

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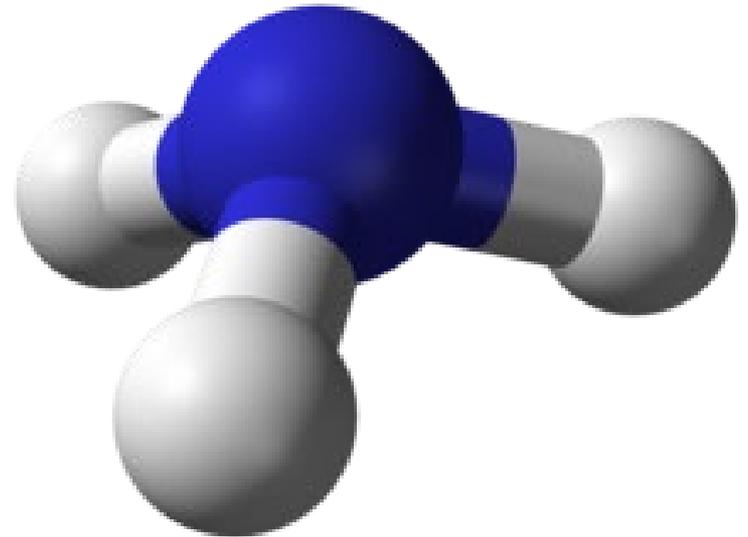
- Water Quality Criteria for ammonia to protect aquatic life in freshwater
- Water Quality Criteria for cadmium to protect aquatic life in fresh and saline water
- 69 water quality criteria to protect human health
- These proposed updates are a result of nationally recommended criteria being published by EPA



# Water Quality Criteria for Ammonia

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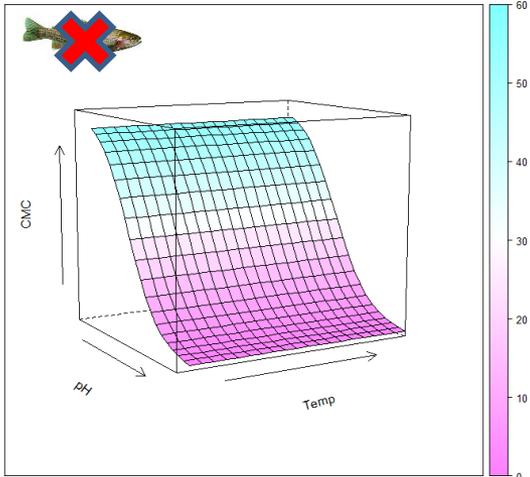
- Proposed by USEPA in 2013
- Criteria magnitude is a function of pH and temperature
- More stringent than previous version because incorporate freshwater mussel toxicity data
- MDE is proposing to codify process for using site specific criteria when appropriate



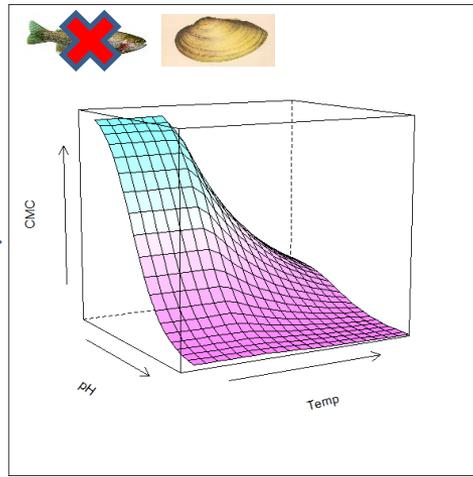


# Water Quality Criteria for Ammonia: Acute

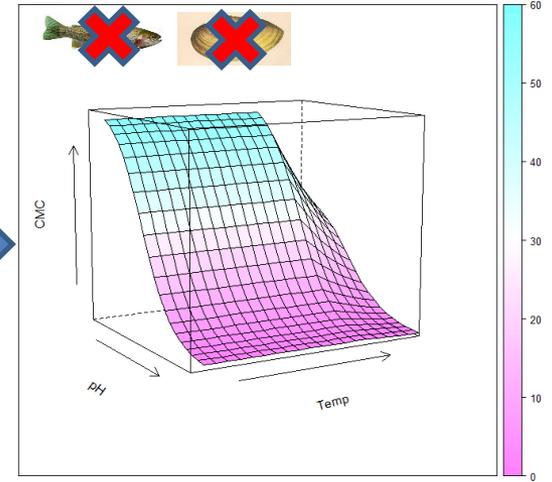
Current Acute Ammonia Criterion  
(Salmonids Absent)



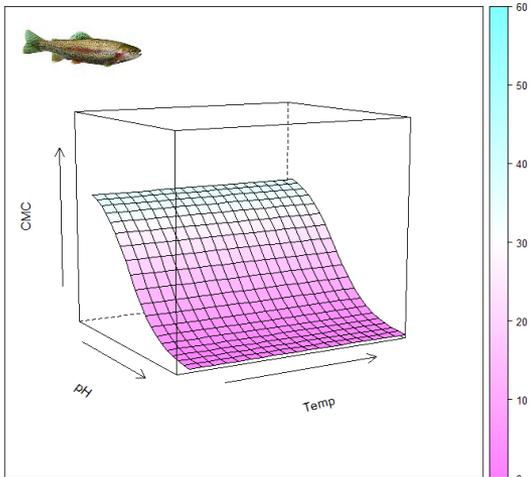
Updated Acute Ammonia Criterion  
(Salmonids Absent/Mussels Present)



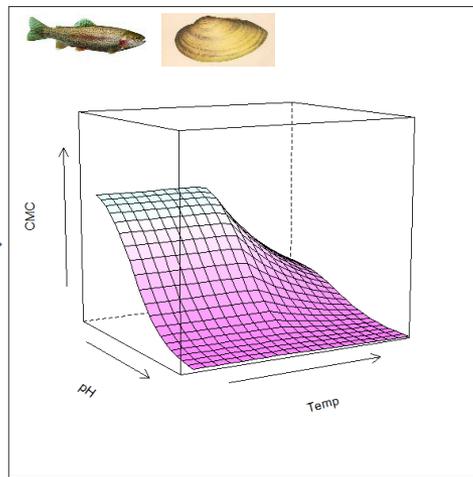
Updated Acute Ammonia Criterion  
(Salmonids Absent/Mussels Absent)



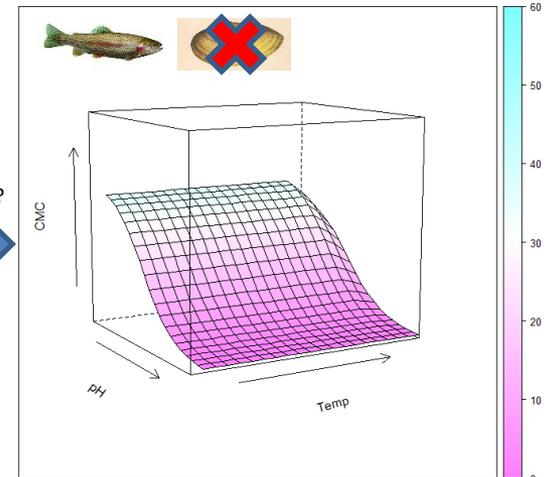
Current Acute Ammonia Criterion  
(Salmonids Present)



Updated Acute Ammonia Criterion  
(Salmonids Present/Mussels Present)



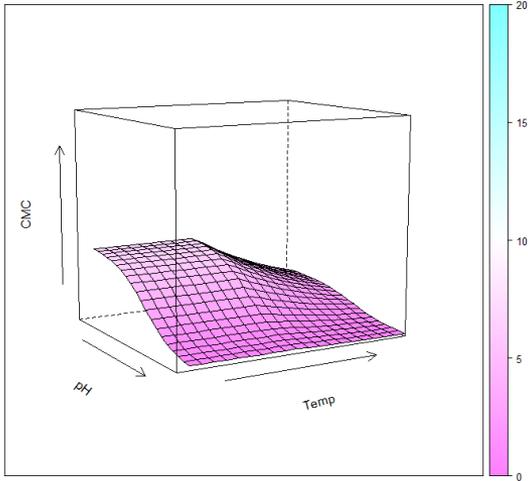
Updated Acute Ammonia Criterion  
(Salmonids Present/Mussels Absent)



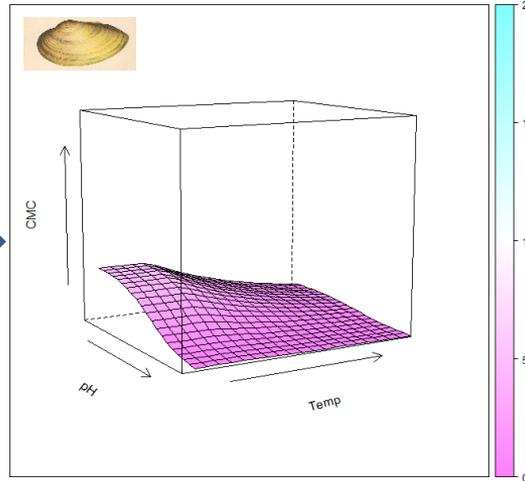


# Water Quality Criteria for Ammonia: Chronic

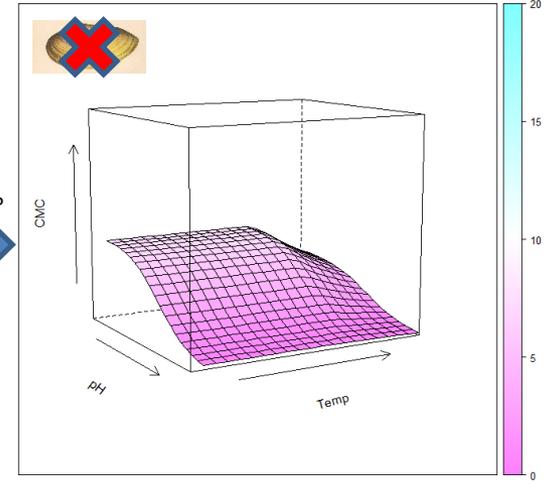
Current Chronic Ammonia Criterion  
(ELS Present)



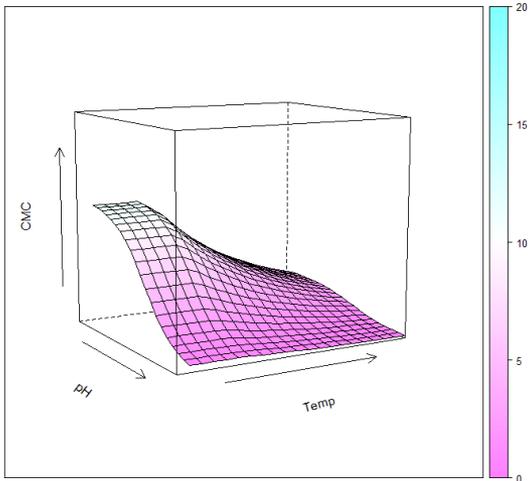
Updated Chronic Ammonia Criterion  
(ELS Present/Mussels Present)



Updated Chronic Ammonia Criterion  
(ELS Present/Mussels Absent)

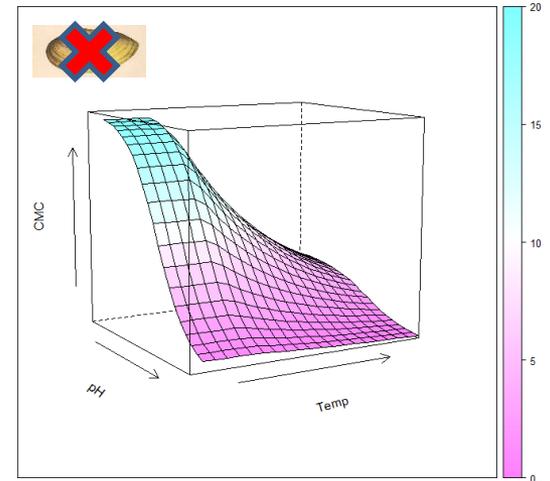


Current Chronic Ammonia Criterion  
(ELS Absent)



No  
Mussels?

Updated Chronic Ammonia Criterion  
(ELS Absent/Mussels Absent)





## Procedures for Applying the Mussel-Absent Ammonia Criteria to Maryland Surface Waters

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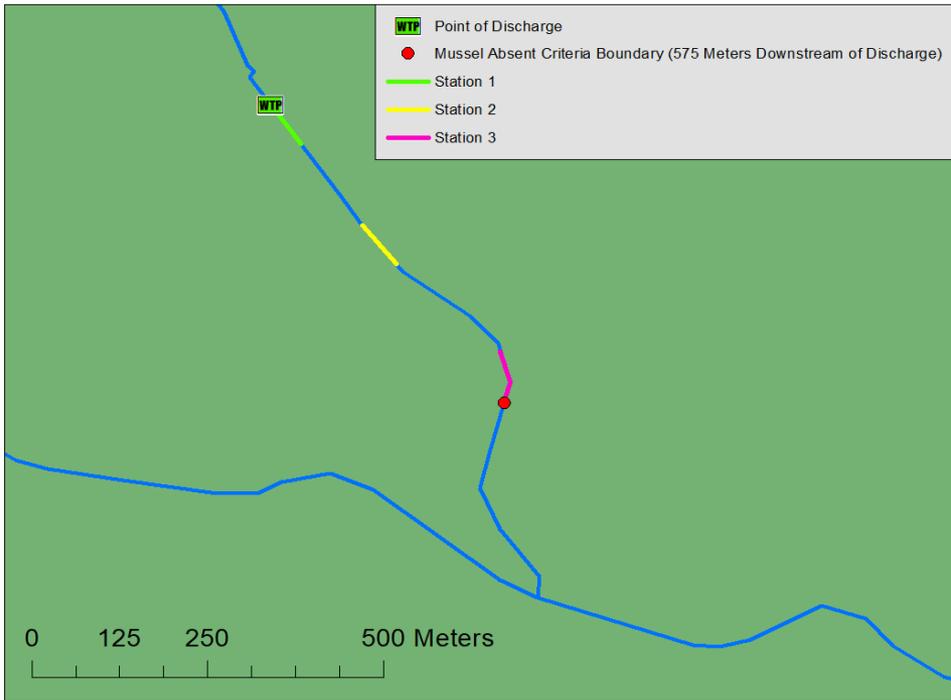


Photo courtesy of Matthew Ashton, MDNR

- [Document](#) codifies procedure for justifying use of mussel-absent criteria is proposed to be incorporated by reference
- Procedure entails collecting abiotic stream characteristics to predict likelihood of mussel habitat being present
- Streams that are associated with “mussel-absent” criteria will be identified on MDE webpage and displayed on interactive online map
  - Will not be specified in regulations

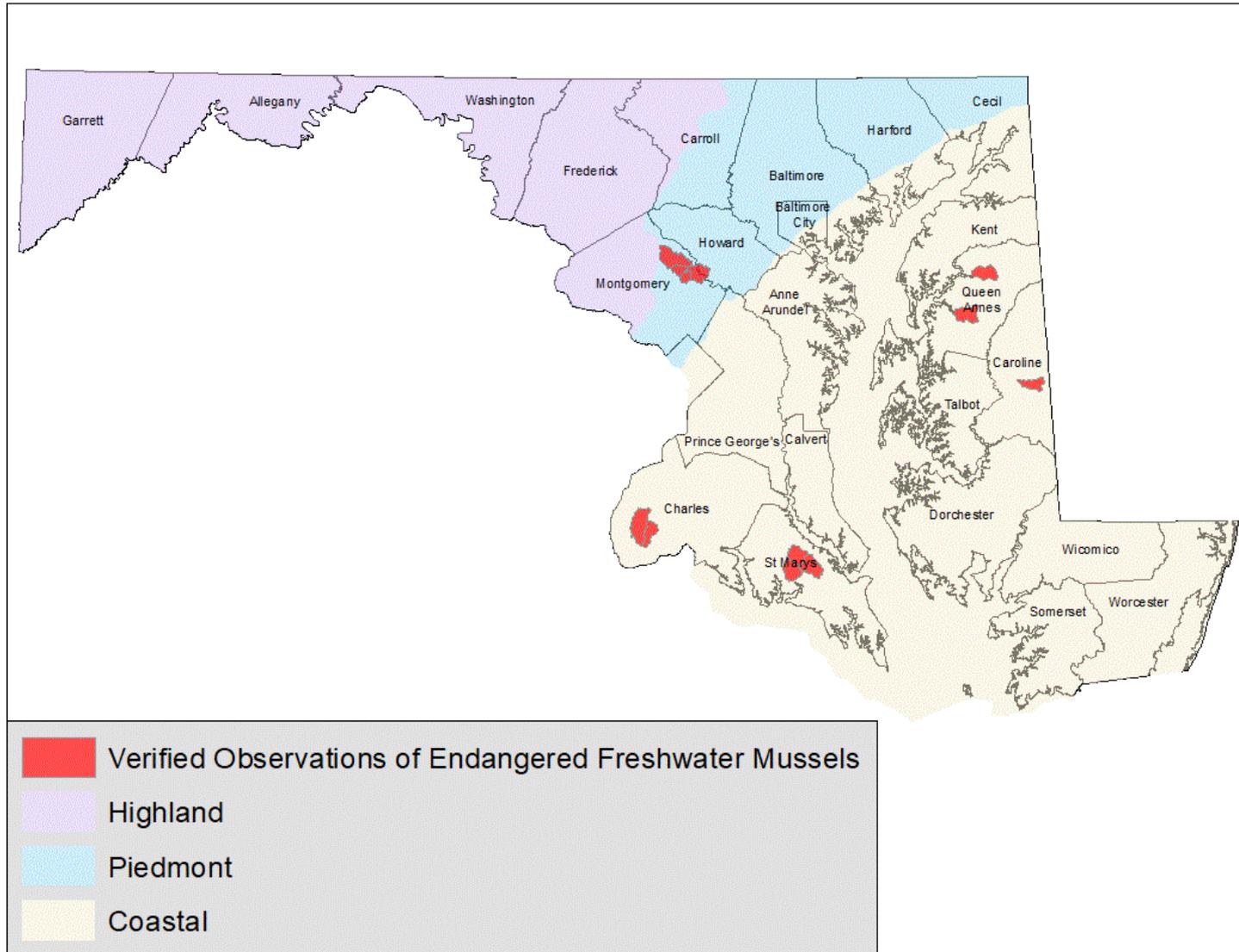


# Use of “mussel-absent” criteria





# Areas where use of “mussel-absent” criteria will prohibited





# Revised Water Quality Criteria for Cadmium

- Proposed by EPA in 2016
- Incorporate new toxicity information

Freshwater ( $\mu\text{g/L}$ )		
Year	Acute	Chronic
2001	2	0.25
2016	1.8	0.72

Saltwater ( $\mu\text{g/L}$ )		
Year	Acute	Chronic
2001	40	8.8
2016	33.13	7.9



# Adopting 69 of 94 Updated Human Health Criteria

1,1,1-Trichloroethane	Benzidine	Ethylbenzene
1,1,2,2-Tetrachloroethane	Benzo(a)anthracene	Fluoranthene
1,1,2-Trichloroethane	Benzo(a)pyrene	Fluorene
1,1-Dichloroethylene	Benzo(b)fluoranthene	gamma-Hexachlorocyclohexane (HCH)
1,2,4,5-Tetrachlorobenzene	Benzo(k)fluoranthene	Heptachlor
1,2,4-Trichlorobenzene	beta-Hexachlorocyclohexane	Heptachlor Epoxide
1,2-Dichlorobenzene	beta-Endosulfan	Hexachlorobenzene
1,2-Dichloroethane	Bis(2-Chloro-1-Methylethyl) Ether	Hexachlorobutadiene
1,2-Dichloropropane	Bis(2-Chloroethyl) Ether	Hexachlorocyclohexane (HCH)
1,2-Diphenylhydrazine	Bis(2-Ethylhexyl) Phthalate	Hexachlorocyclopentadiene
1,3-Dichlorobenzene	Bis(Chloromethyl) Ether	Hexachloroethane
1,3-Dichloropropene	Bromoform	Indeno(1,2,3-cd)pyrene
1,4-Dichlorobenzene	Butylbenzyl Phthalate	Isophorone
2,4,5-Trichlorophenol	Carbon Tetrachloride	Methoxychlor
2,4,6-Trichlorophenol	Chlordane	Methyl Bromide
2,4-Dichlorophenol	Chlorobenzene	Methylene Chloride
2,4-Dimethylphenol	Chlorodibromomethane	Nitrobenzene
2,4-Dinitrophenol	Chloroform	Pentachlorobenzene
2,4-Dinitrotoluene	Chlorophenoxy Herbicide	Pentachlorophenol
2-Chloronaphthalene	Chlorophenoxy Herbicide (2,4,5-TP)	Phenol
2-Chlorophenol	Chrysene	p,p'-Dichlorodipenyldichloroethane
2-Methyl-4,6-Dinitrophenol	Cyanide	p,p'-Dichlorodipenyldichloroethylene (DDE)
3,3'-Dichlorobenzidine	Dibenzo(a,h)anthracene	p,p'-Dichlorodipenyltrichloroethane (DDT)
3-Methyl-4-Chlorophenol	Dichlorobromomethane	Pyrene
Acenaphthene	Dieldrin	Tetrachloroethylene (Perchloroethylene)
Acrolein	Diethyl Phthalate	Toluene
Acrylonitrile	Dimethyl Phthalate	Toxaphene
Aldrin	Di-n-Butyl Phthalate	trans-1,2-Dichloroethylene (DCE)
alpha-Hexachlorocyclohexane	Dinitrophenols	Trichloroethylene (TCE)
alpha-Endosulfan	Endosulfan Sulfate	Vinyl Chloride
Anthracene	Endrin	
Benzene	Endrin Aldehyde	



# Adopting 69 of the Updated Human Health Criteria

1,1,1-Trichloroethane	<b>Benzidine</b>	Ethylbenzene
1,1,2,2-Tetrachloroethane	<b>Benzo(a)anthracene</b>	<b>Fluoranthene</b>
1,1,2-Trichloroethane	<b>Benzo(a)pyrene</b>	<b>Fluorene</b>
<b>1,1-Dichloroethylene</b>	<b>Benzo(b)fluoranthene</b>	<b>gamma-Hexachlorocyclohexane (HCH)</b>
<b>1,2,4,5-Tetrachlorobenzene</b>	<b>Benzo(k)fluoranthene</b>	<b>Heptachlor</b>
1,2,4-Trichlorobenzene	<b>beta-Hexachlorocyclohexane</b>	<b>Heptachlor Epoxide</b>
<b>1,2-Dichlorobenzene</b>	<b>beta-Endosulfan</b>	<b>Hexachlorobenzene</b>
<b>1,2-Dichloroethane</b>	<b>Bis(2-Chloro-1-Methylethyl) Ether</b>	Hexachlorobutadiene
1,2-Dichloropropane	<b>Bis(2-Chloroethyl) Ether</b>	<b>Hexachlorocyclohexane (HCH)</b>
<b>1,2-Diphenylhydrazine</b>	<b>Bis(2-Ethylhexyl) Phthalate</b>	<b>Hexachlorocyclopentadiene</b>
1,3-Dichlorobenzene	<b>Bis(Chloromethyl) Ether</b>	Hexachloroethane
1,3-Dichloropropene	Bromoform	<b>Indeno(1,2,3-cd)pyrene</b>
<b>1,4-Dichlorobenzene</b>	<b>Butylbenzyl Phthalate</b>	<b>Isophorone</b>
<b>2,4,5-Trichlorophenol</b>	<b>Carbon Tetrachloride</b>	<b>Methoxychlor</b>
2,4,6-Trichlorophenol	<b>Chlordane</b>	<b>Methyl Bromide</b>
2,4-Dichlorophenol	Chlorobenzene	<b>Methylene Chloride</b>
<b>2,4-Dimethylphenol</b>	<b>Chlorodibromomethane</b>	<b>Nitrobenzene</b>
2,4-Dinitrophenol	<b>Chloroform</b>	<b>Pentachlorobenzene</b>
2,4-Dinitrotoluene	<b>Chlorophenoxy Herbicide</b>	Pentachlorophenol
<b>2-Chloronaphthalene</b>	<b>Chlorophenoxy Herbicide (2,4,5-TP)</b>	<b>Phenol</b>
2-Chlorophenol	Chrysene	<b>p,p'-Dichlorodipenyldichloroethane</b>
<b>2-Methyl-4,6-Dinitrophenol</b>	Cyanide	<b>p,p'-Dichlorodipenyldichloroethylene (DDE)</b>
<b>3,3'-Dichlorobenzidine</b>	<b>Dibenzo(a,h)anthracene</b>	<b>p,p'-Dichlorodipenyltrichloroethane (DDT)</b>
<b>3-Methyl-4-Chlorophenol</b>	Dichlorobromomethane	<b>Pyrene</b>
<b>Acenaphthene</b>	<b>Dieldrin</b>	<b>Tetrachloroethylene (Perchloroethylene)</b>
Acrolein	<b>Diethyl Phthalate</b>	Toluene
<b>Acrylonitrile</b>	<b>Dimethyl Phthalate</b>	<b>Toxaphene</b>
<b>Aldrin</b>	<b>Di-n-Butyl Phthalate</b>	<b>trans-1,2-Dichloroethylene (DCE)</b>
<b>alpha-Hexachlorocyclohexane</b>	<b>Dinitrophenols</b>	<b>Trichloroethylene (TCE)</b>
<b>alpha-Endosulfan</b>	<b>Endosulfan Sulfate</b>	<b>Vinyl Chloride</b>
<b>Anthracene</b>	Endrin	
Benzene	<b>Endrin Aldehyde</b>	



# Revisions to COMAR 26.08.02.03-3

- Clarifies that the 7-day average dissolved oxygen criterion only applies to the Seasonal and Migratory Fish Spawning Nursery subcategory designated use for surface waters with salinity less than or equal to 0.5 parts per thousand
- [Changes to Dissolved Oxygen Restoration Variances:](#)

Chesapeake Bay or Tributary Segments	Subcategory Designated Use	Current Restoration Variance	Proposed Restoration Variance
Chesapeake Bay Mainstem 4 Mesohaline (CB4MH)	Deep Channel Refuge	2%	6%
Chesapeake Bay Mainstem 4 Mesohaline (CB4MH)	Deep-water Fish and Shellfish	7%	5%
Chester River Mesohaline (CHSMH)	Deep Channel Refuge	16%	0%, Removed
Patapsco River Mesohaline (PATMH)	Deep-water Fish and Shellfish	7%	0%, Removed



# Revisions to COMAR 26.08.02.03-3

- Incorporate by reference the 2017 addendum to “Ambient Water Quality Criteria for Dissolved Oxygen, Water Clarity and Chlorophyll a for the Chesapeake Bay and its Tidal Tributaries” *(section that discusses implementing dissolved oxygen standard)*

United States  
Environmental Protection  
Agency

Region III  
Chesapeake Bay  
Program Office

Region III  
Water Protection  
Division

EPA 903-R-17-002  
CBP/TRS 320-17  
November 2017

In coordination with the Office of Water/Office of Science and Technology, Washington, D.C., and the states of Delaware, Maryland, New York, Pennsylvania, Virginia, and West Virginia and the District of Columbia



## Ambient Water Quality Criteria for Dissolved Oxygen, Water Clarity and Chlorophyll a for the Chesapeake Bay and Its Tidal Tributaries

2017 Technical Addendum

November 2017



# Revisions to MD's Antidegradation Policy

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- COMAR 26.08.02.04 Antidegradation Policy
  - Clarify the Department's responsibility and authority to protect existing uses
- COMAR 26.08.02.04-1 (Tier II) and 26.08.02.04-2 (Tier III) shifted in the regulations
  - 26.08.02.04-1 – Tier I - Existing Uses and Designated Uses
  - 26.08.02.04-2 – Tier II – High Quality Waters
  - 26.08.02.04-3 – Tier III – Outstanding National Resource Waters
- [Redline Revisions Document](#)



# Tier I Antidegradation – Existing and Designated Uses

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- COMAR 26.08.02.04-1
  - Move regulatory language associated with Tier II to COMAR 26.08.02.04-2
  - New regulations codify procedures for implementing Tier I Antidegradation protections
  - Incorporate by reference “[Cold Water Existing use Determinations: Policy and Procedures](#)”
    - Document resulted from collaboration of the Maryland Cold Water Advisory Committee
    - Describes procedures for protecting cold water obligate species when not protected by designated use class
  - MDE is also accepting comments on the existing uses identified with this Triennial Review of WQS



## Tier II Antidegradation – High Quality Waters

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- COMAR 26.08.02.04-2
  - Tier II Antideg. Procedures moved to this regulation
  - Tier III Outstanding National Resource Waters regs being moved to 26.08.02.04-3 (with no substantive changes)
  - The proposed regulatory changes to Tier II consist of reorganizing existing language and adding clarifying language where we felt it was helpful.
  - None of the language changes will result in changes to the way Tier II Antidegradation Policy is currently implemented.



# Changes to List of Tier II waters

- COMAR 26.08.02.04-2: Table of Tier II waters
  - Eleven Tier II stream segments were added to the Table
    - Based on recently assessed data that demonstrated high biotic integrity scores
  - One Tier II stream segment removed
    - Based on locational error
  - Baseline scores of three Tier II stream segments were corrected
  - Two Tier II stream segments that were erroneously removed are re-included
  - [Documentation of Changes Document](#)



# Triennial Review Timeline

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- Dates: The Public comment period which began on March 11, 2022, will end on April 11, 2022.
- Following the close of the public comment period, the Department will develop a response, prepare a notice of final action, and submit Triennial Review to USEPA for final approval



# Submitting comments

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- Please submit comments by April 11, 2022 to:

**Matthew Stover**

**[matthew.stover@maryland.gov](mailto:matthew.stover@maryland.gov)**

**Maryland Department of the Environment**

**1800 Washington Blvd.**

**Baltimore, MD 21230**

For more information please visit:

**<https://wqs.page.link/tr2019>**



# Opportunity for Public Comment

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- Raise your hand virtually using the button on the GotoWebinar Menu
- Please state your name and affiliation
- Please limit speaking to no longer than 3-5 minutes.