Welcome to this Public Meeting



ENVIRONMENTAL PROTECTION DIVISION

- Please note that everyone is entering the meeting with their microphones muted.
- Please **keep your microphones muted** except when you are speaking. This will help us minimize background noise and feedback.
- Please take a moment to open the Participants list and rename yourself to show your full name and affiliation, so we have that for our records. You should see a "Rename" option next to your name (or click on "More" to find this option).
- This meeting is being recorded to document any questions or comments received during our time together.
- To make a comment or ask a question, please either:
 - Indicate you would like to make a comment using the Chat feature.
 - In the "Reactions" menu, select the "raise hand" option. The host will call on you to ask your question or make your comment.

2022 Triennial Review Human Health Criteria Public Meeting

March 15, 2023

Gillian Batson

Water Quality Standards Coordinator



ENVIRONMENTAL PROTECTION DIVISION



Triennial Review

- 40 CFR 131.20 requires states to review and revise water quality standards from time to time, but at least once every three years
- 40 CFR 131.20 (b) requires states to hold one or more public hearings for the purpose of reviewing and revising water quality standards
- Updates to water quality standards may be needed if there is:
 - Change in water quality conditions
 - Change in water body uses
 - New scientific information



Background

- A HHC is the highest concentration of a pollutant in water that is not expected to pose a significant risk to human health over a lifetime.
 - Humans can be exposed to these pollutants through ingestion of treated drinking water or consumption of contaminated fish and shellfish.

EPA's recommendations:

- <u>2000 EPA Methodology for Deriving Ambient Water Quality</u> <u>Criteria for the Protection of Human Health</u>
- 2002 National Recommended Human Health Criteria
- <u>2015 EPA Updated Ambient Water Quality Criteria for the</u> <u>Protection of Human Health</u>
- <u>Table comparing EPA's updated 2015 final human health criteria</u> <u>to previous criteria</u>



Human Health Criteria

- EPA finalized updates to the ambient water quality criteria for the protection of human health in 2015.
- Reflected the latest scientific information and implementation of existing EPA policies found in Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (2000).
- Revised criteria for 94 chemicals.



Exposure

RSC = Relative Source Contribution (%, to account for other sources of exposure).

BW = Human Body Weight (70 kg for average adult).

DI = Drinking Water Intake (2 L/day for average adult).

FI = Fish Intake (kg/day).

Bioaccumulation

BAF = Bioaccumulation Factor (L/kg).



Derivation of Human Health Criteria





Toxicity Endpoints

- The Hazard Quotient (HQ) is the toxicity endpoint for non carcinogens and is determined based on the parameter-specific reference dose (RfD) and relative source contribution (RSC), which accounts for non water sources of exposure.
- Incremental life-time increased cancer risk is the toxicity endpoint for carcinogens. It is determined based on the parameter-specific cancer slope factor (CSF).
 - Represents one's risk of developing cancer (in addition to background cancer risk) if exposed to the criterion level over a lifetime.
 - Ex: 10⁻⁶ = 1 in 1 million, 10⁻⁵ = 1 in 100,000, 10⁻⁴ = 1 in 10,000

Deterministic Risk Assessment





What is a distribution?



- Shows the possible values for a variable and how often they occur
- More accurately accounts for the variability in the population than selecting a singlevalue input

Probabilistic Risk Assessment





What is Monte Carlo?









Water Intake







Fish Consumption



Levels of risk

Next Steps

- EPD is continuing to run simulations using a probabilistic risk assessment program.
- EPD will analyze outputs and select appropriate criteria based on risk management decisions.
- Resulting criteria and an accompanying technical support document will be made available for public review and comment.
- EPD will hold another public meeting to discuss the proposed criteria.
- Additional public meetings and a public hearing regarding all triennial review updates will be held, allowing additional opportunities for public comment.

Questions?

Comments, Contacts, and WQS Webpage

- If you would like to submit official comments for any of the materials in this presentation, please send them in an email to: epd.comments@dnr.ga.gov with the subject of 2022 Triennial Review
- Questions regarding Water Quality Standards and the Triennial Review Process can be sent to Gillian Batson at: <u>Gillian.Wason@dnr.ga.gov</u>
- The EPD webpage dedicated to Water Quality Standards can be found at: <u>https://epd.georgia.gov/watershed-protection-branch/georgia-</u> <u>water-quality-standards</u>