



Georgia's Human Health Criteria Status

April 23, 2025

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Water Quality Standards Coordinator



Human Health Criteria



EPA updated its human health water quality criteria in 2015.



Reflected the latest scientific information and implementation of existing policies found in EPA's 2000 Methodology



Revised criteria for 94 chemicals.

$$= \frac{\text{HHC (non - carcinogens)} \left[RfD \left(\frac{mg}{kg \cdot d} \right) \times RSC \right] \times BW (kg)}{DI (L/d) + \sum_{i=2}^4 [FCR_i (kg/d) \times BAF_i (L/kg)]}$$

$$= \frac{\text{HHC (carcniogens)} \left[Risk/CSF \left(\frac{mg}{kg \cdot d} \right) \right] \times BW (kg)}{DI (L/d) + \sum_{i=2}^4 [FCR_i (kg/d) \times BAF_i (L/kg)]}$$

RfD = parameter-specific reference dose (mg/kg-day)

RSC = relative source contribution (percentage); accounts for non-water sources of exposure

BW = body weight (kg)

DI = drinking water intake (L/day)

CSF = cancer slope factor (mg/kg-day)

Risk = incremental lifetime increased cancer risk (10⁻⁶ to 10⁻⁴)

FCR_i = fish consumption rate at trophic level *i* (*i* = 2, 3, and 4)

BAF_i = bioaccumulation factor for trophic level *i* (*i* = 2, 3, and 4)

Human Health Criteria

EPA's input values

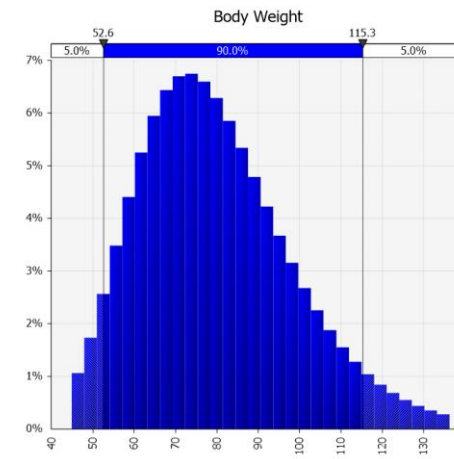
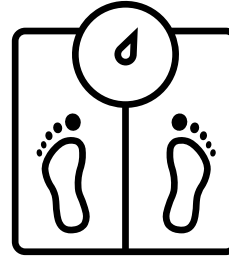
$$= \frac{\text{Toxicity Endpoints} \times \text{Body Weight}}{\text{Drinking Water Intake} + \left(\text{Fish Consumption} \times \text{Bioaccumulation Factors} \right)}$$

$$= \frac{\text{Toxicity Endpoints} \times 80 \text{ kg}}{2.4 \text{ L/day} + \left(22 \text{ g/day} \times \text{Bioaccumulation Factors} \right)}$$

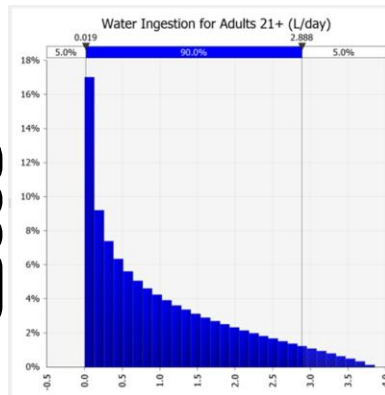
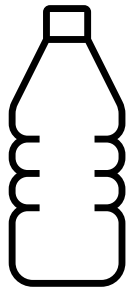
Probabilistic Risk Assessment

Toxicity
Endpoints

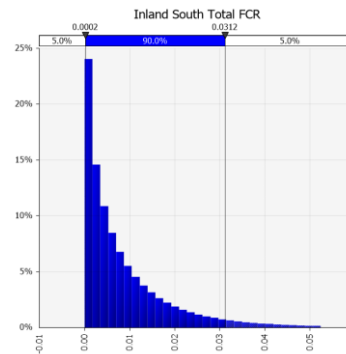
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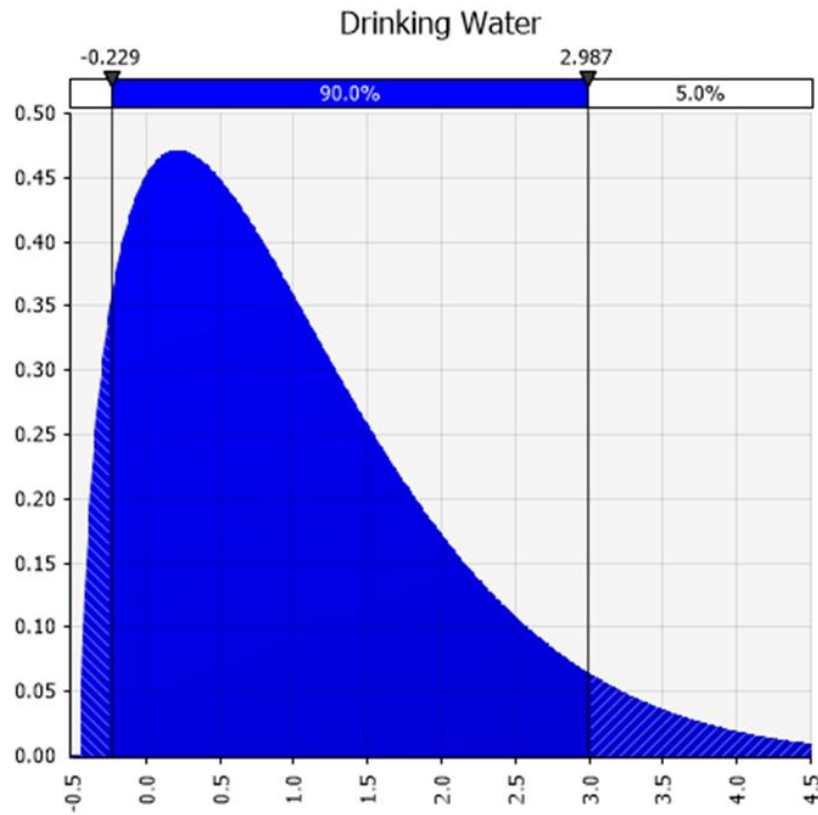
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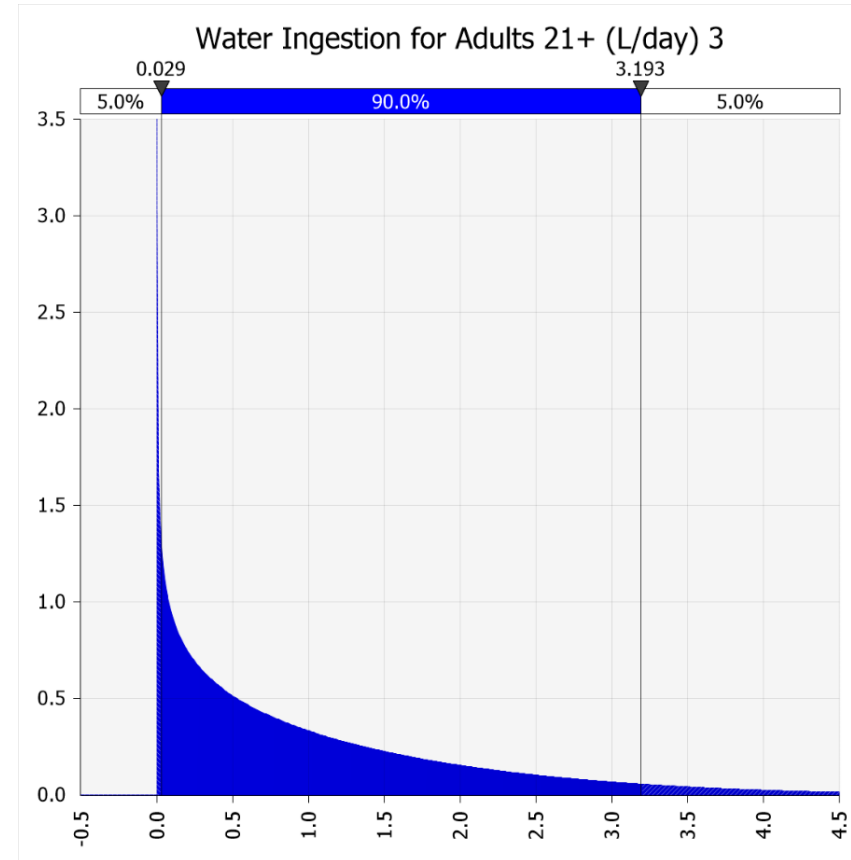
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Bioaccumulation
Factors

Updates



Previous drinking water distribution



Updated drinking water distribution

Updated Methodology



Updated fish consumption and drinking water distributions to exclude negative consumption values.



Increased the number of simulations performed.

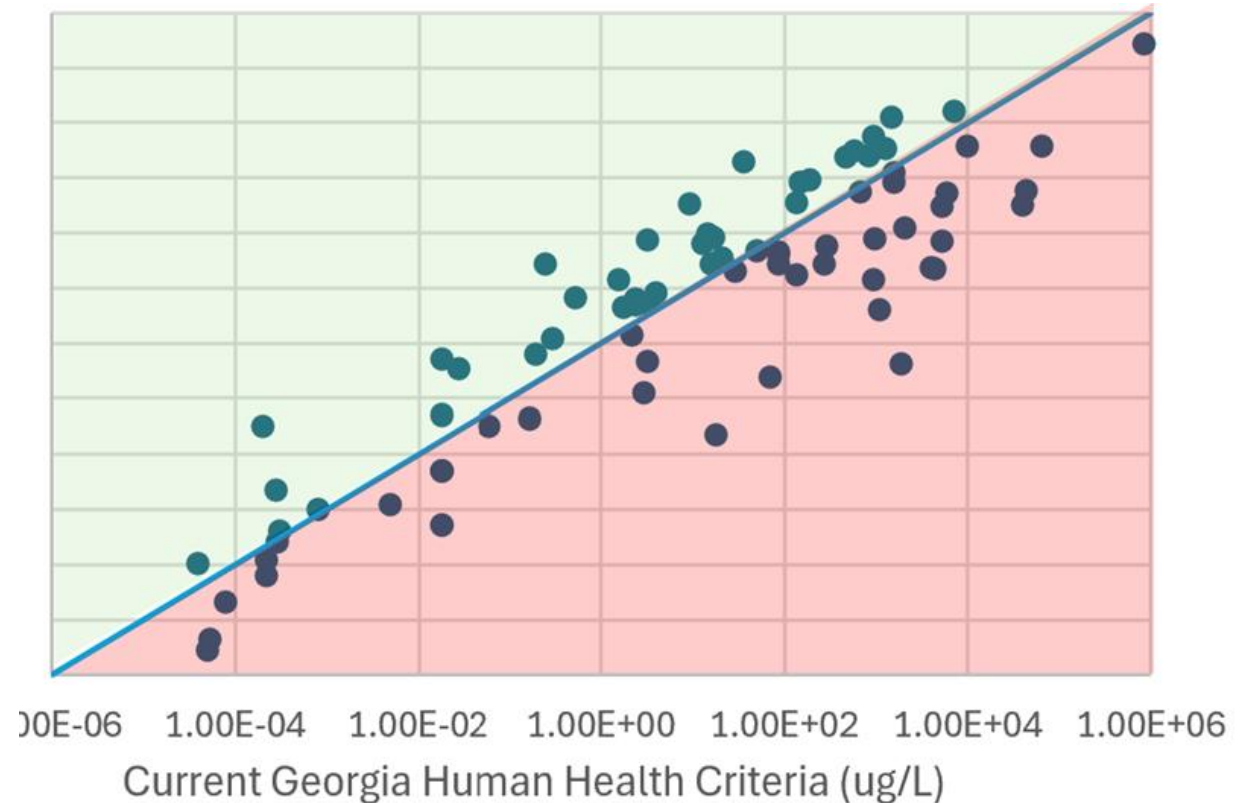
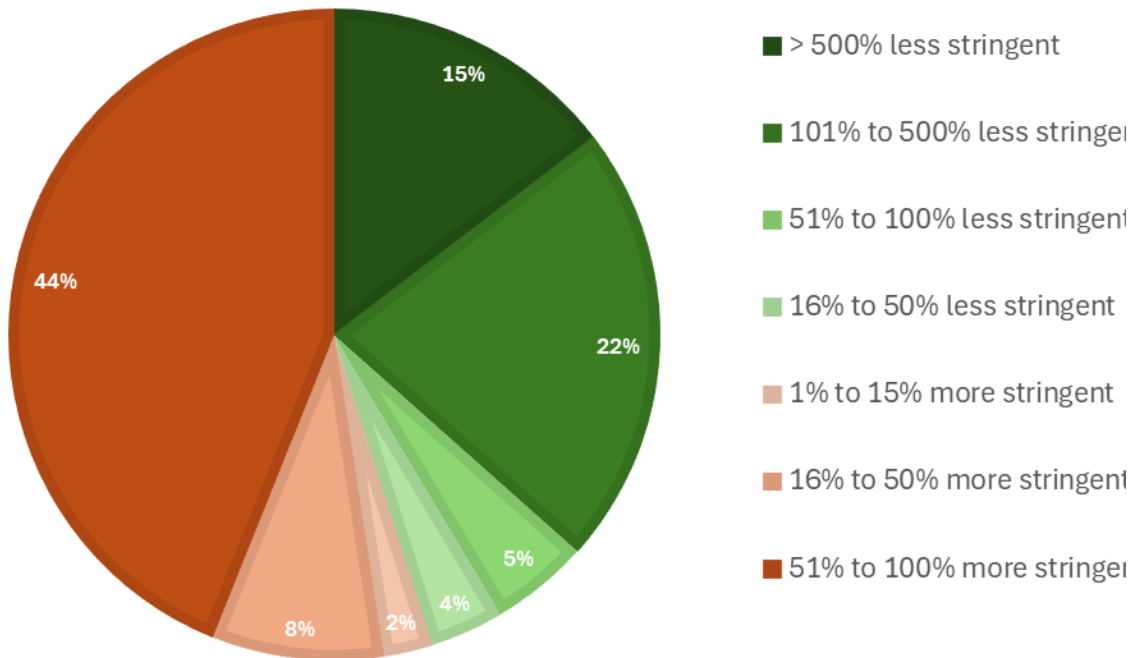
Results were based on an average of 3 runs of each scenario.



Added additional details and clarification to our TSD

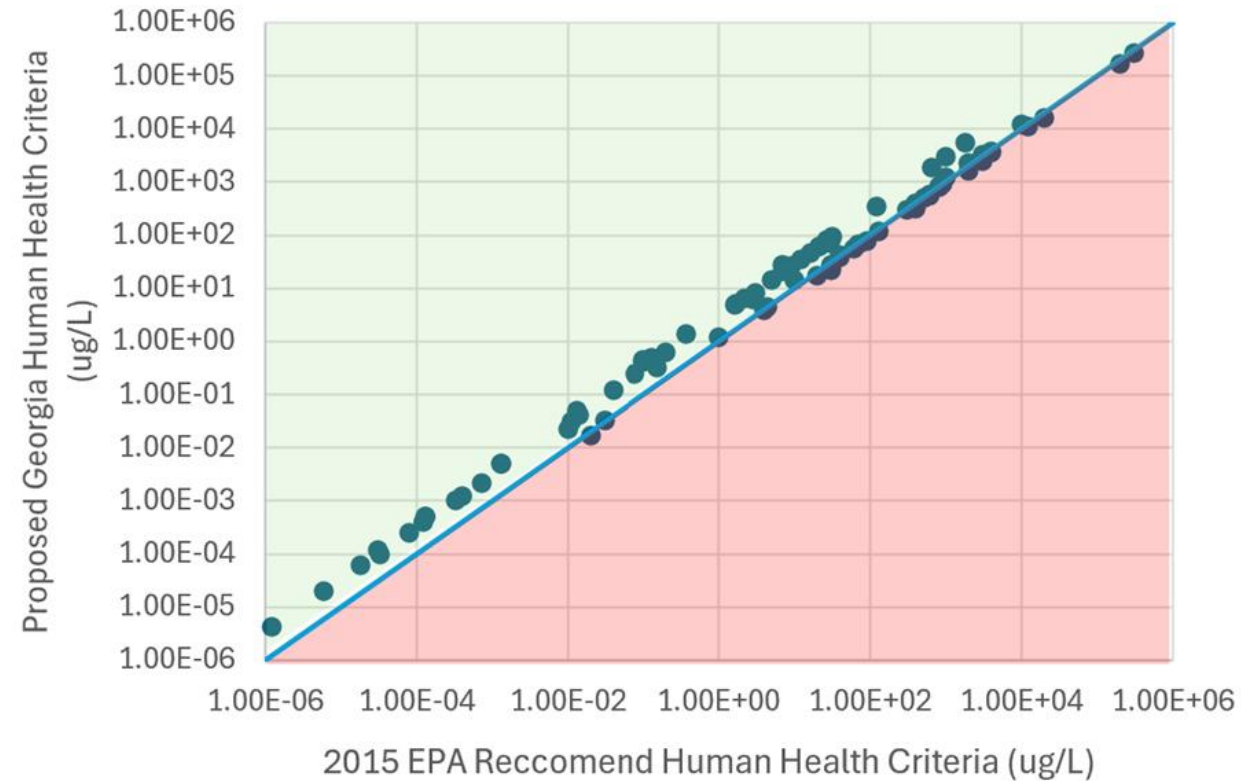
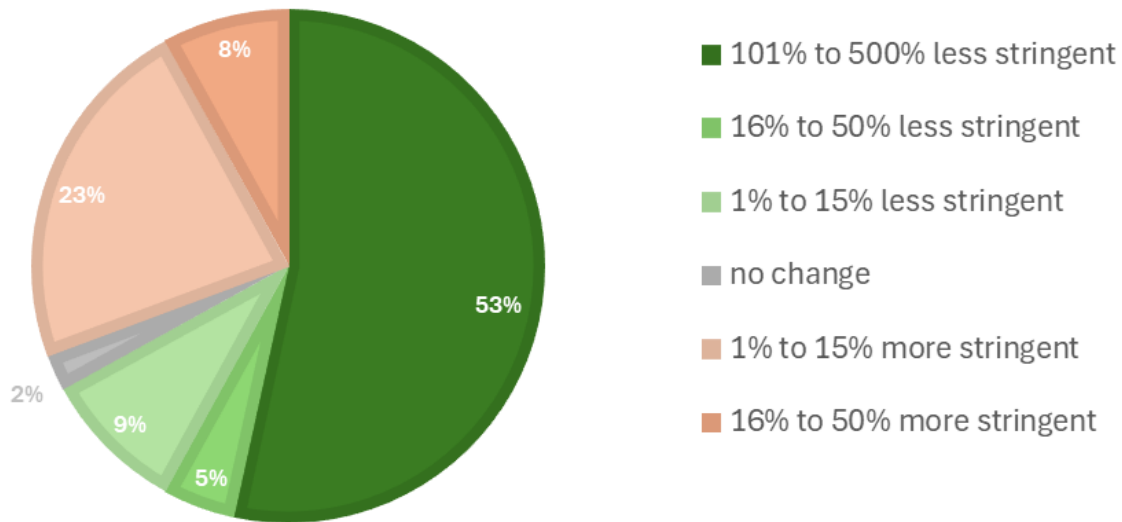
GA's updated criteria compared to current

PROPOSED CRITERIA COMPARED TO CURRENT GA WQS
ORGANISM ONLY



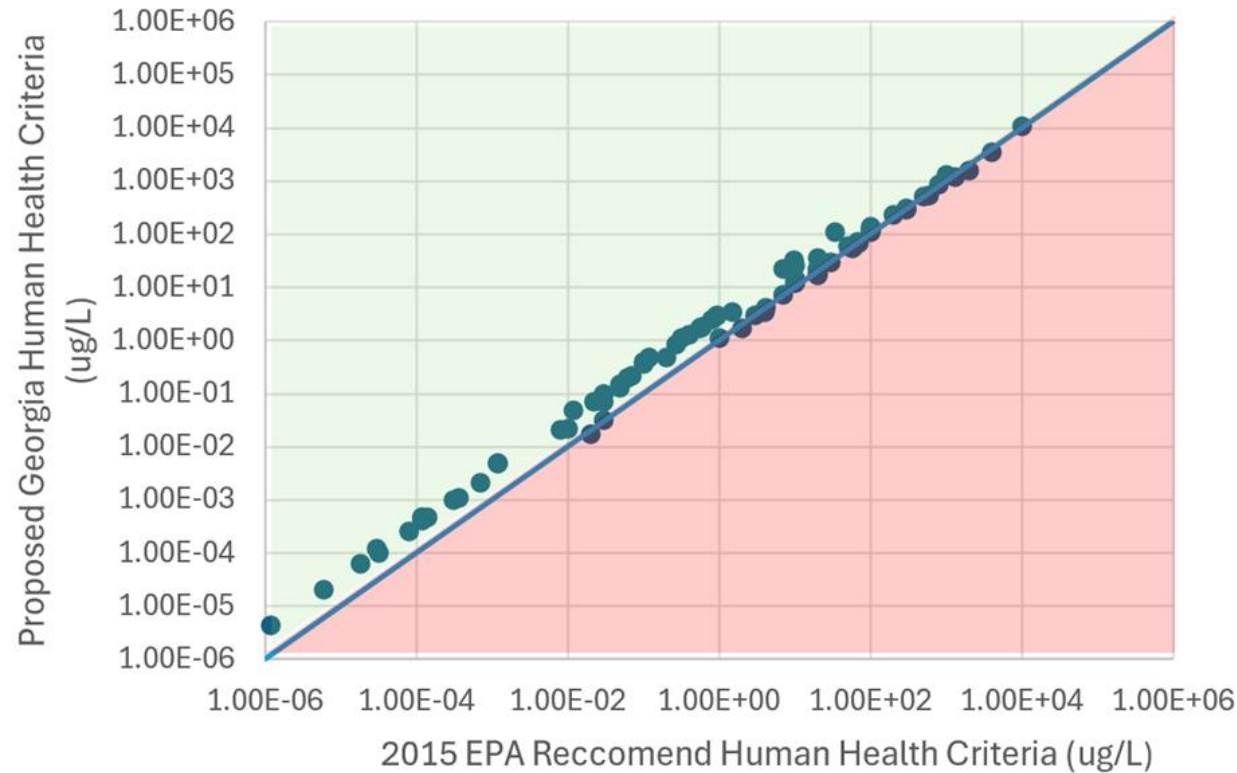
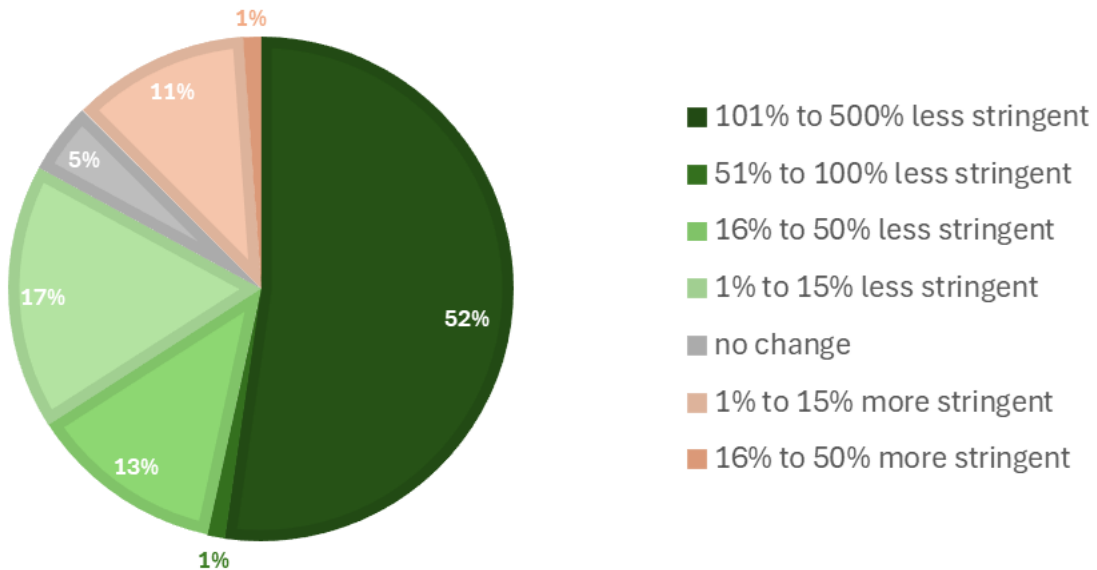
Compared to EPA (organism only)

GA PROPOSED HHC COMPARED TO 2015 EPA HHC
(ORGANISM ONLY)



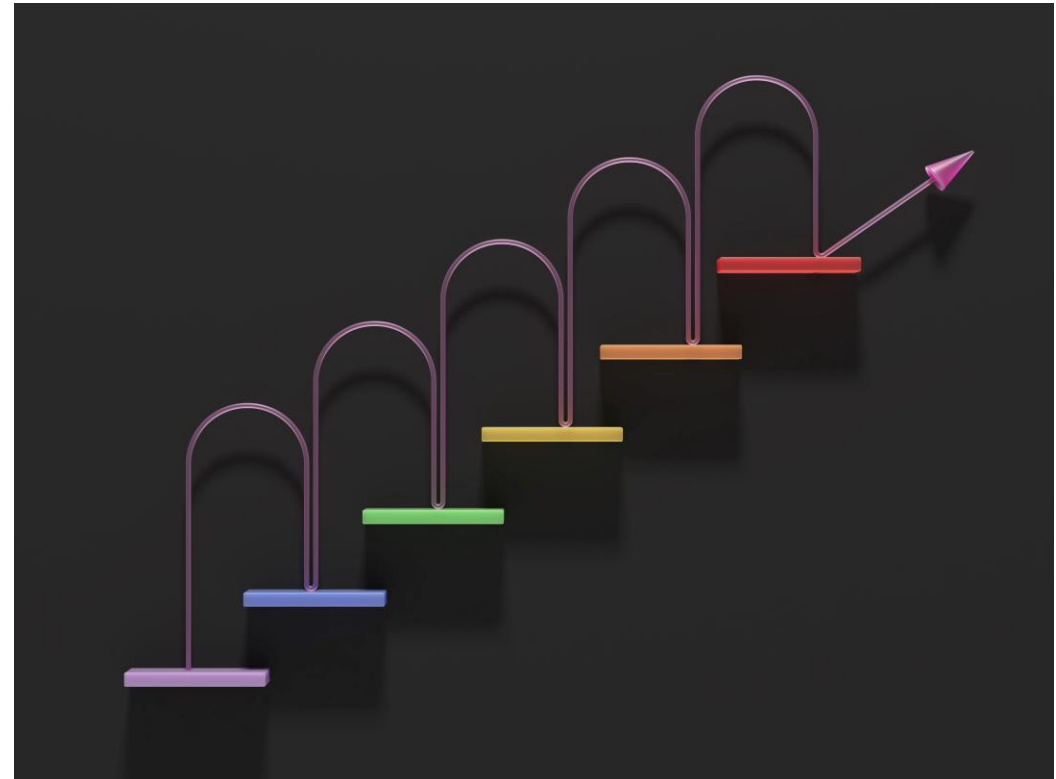
Compared to EPA (water + organism)

GA PROPOSED HHC COMPARED TO 2015 EPA HHC
(WATER + ORGANISM)



Next Steps

- DNR Board Briefing – May 20, 2025
- Public Hearing – mid July 2025 (with 45 day public notice)
- DNR Board adoption of rule change – August 26, 2025
- Internal certification process (approx. 60 days)
- Submit to EPA for approval (November 2025)
- EPA response (approve within 60 days or disapprove within 90 days)
- Rule is not enforceable until approved by EPA



Comments, Contacts, and WQS Webpage



The deadline for comments regarding the proposed rule change is April 23, 2025. Comments can be emailed to EPD.Comments@dnr.ga.gov or sent to Gillian Batson at: Gillian.Batson@dnr.ga.gov. Please include “2022 Triennial Review Comments” in the subject line.



The EPD webpage dedicated to Water Quality Standards can be found at: <https://epd.georgia.gov/watershed-protection-branch/georgia-water-quality-standards>