

Welcome to this Public Meeting



GEORGIA
DEPARTMENT OF NATURAL RESOURCES

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.



Human Health Criteria Probabilistic Risk Assessment Results

2/7/2024

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GEORGIA

DEPARTMENT OF NATURAL RESOURCES


ENVIRONMENTAL PROTECTION DIVISION



Probabilistic Risk Assessment (PRA) Results Meeting



- This is the 3rd meeting in a series of meetings on the topic of Georgia's proposed human health criteria.
- Prior meetings covering the criteria derivation process using PRA and risk targets associated with criteria derivation were held on [September 21, 2022](#) and [March 15, 2023](#).



2022 Triennial Review Items being considered

EPA's 2005 Aquatic Life Criteria for Diazinon and Nonylphenol

EPA's 2015 Human Health Criteria (HHC)

EPA's 2016 Aquatic Life Criteria for Selenium

EPA's 2018 Aquatic Life Criteria for Aluminum

EPA's 2019 recommended HABs Recreational Criteria and/or Swim Advisories

Site-specific Cu and Zn criteria based on a WER Study done for the City of Atlanta

Updated designated uses of waterbodies based on public recommendations

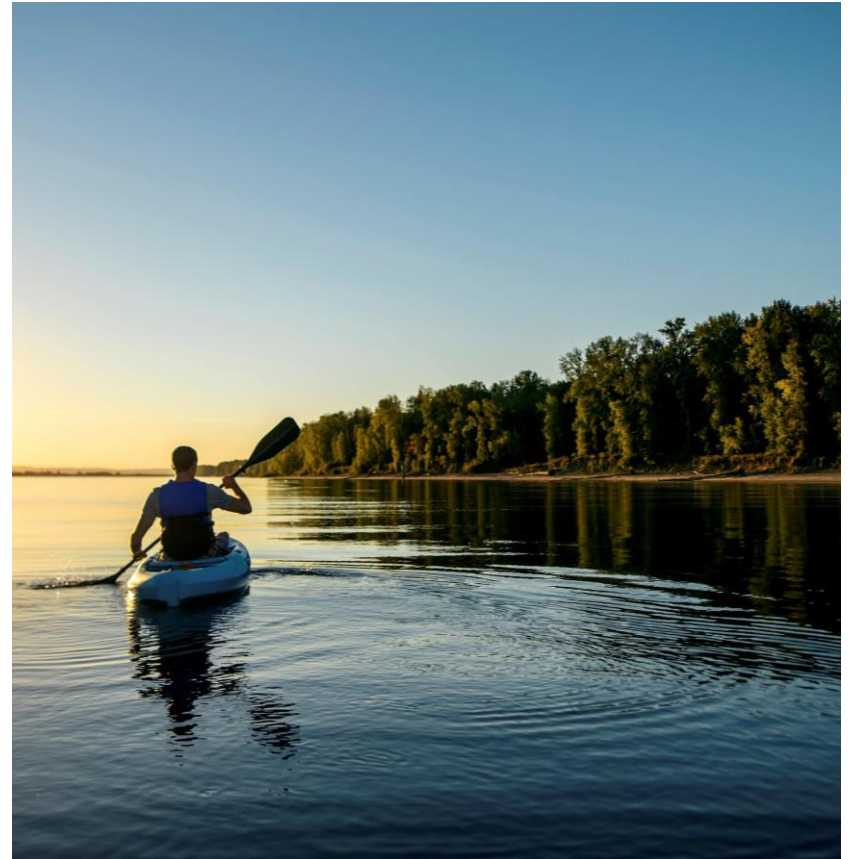
Site-specific chlorophyll *a* and pH criteria for Lakes Burton, Rabun and Tugalo

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:

- [2000 EPA Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health](#)
- [2002 National Recommended Human Health Criteria](#)
- [2015 EPA Updated Ambient Water Quality Criteria for the Protection of Human Health](#)



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.

$$AWQC = RfD \cdot RSC \cdot \left(\frac{BW}{DI + \sum_{i=2}^4 (FI_i \cdot BAF_i)} \right)$$

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

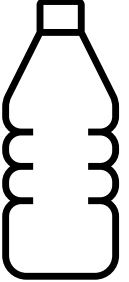

BAF = Bioaccumulation Factor (L/kg).



Derivation of Human Health Criteria

Toxicity
Endpoints \times  Body
Weight

=

 Drinking
Water
Intake $+$ $\left(\right.$  Fish
Consumption \times Bioaccumulation
Factors $\left. \right)$



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
-

A woman with voluminous curly hair is shown in profile, drinking water from a clear plastic bottle. She has a white towel draped over her shoulders. The background is bright and out of focus, suggesting an outdoor setting. A thin orange horizontal line is positioned above the title.

Updated Exposure Inputs

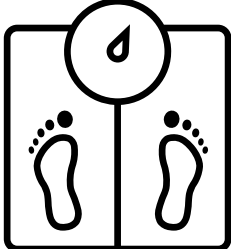
- **Body weight: 80 kg (176 lb)**
 - Previous criteria based on 70 kg
- **Drinking Water: 2.4 L/day (10 cups)**
 - Previous criteria based on 2 L/day
- **Fish Consumption: 22 g/day (0.78 oz)**
 - Previous criteria based on 17.5 g/day

Updated Exposure Inputs

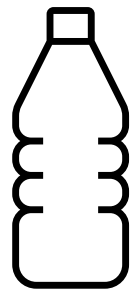
- Bioaccumulation factors (BAFs)
 - Accounts for chemical accumulation in fish from all exposure routes (water, diet, sediment, etc.)
- Updated health toxicity values
- Relative source contributions (RSCs)
 - Accounts for additional routes of exposure other than water and fish consumption



Deterministic Risk Assessment

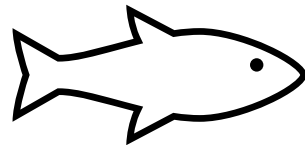
Toxicity
Endpoints X  80 kg

=



2.4
L/day

+



22 g/day

X

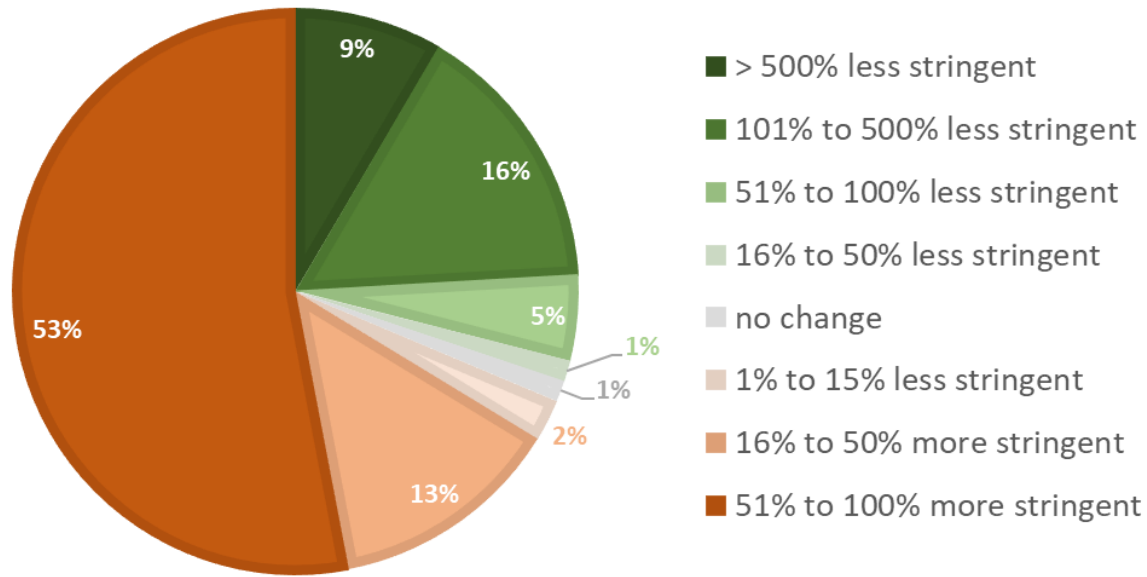
Bioaccumulation
Factors

Georgia's current HHC compared to EPA 2015 HHC

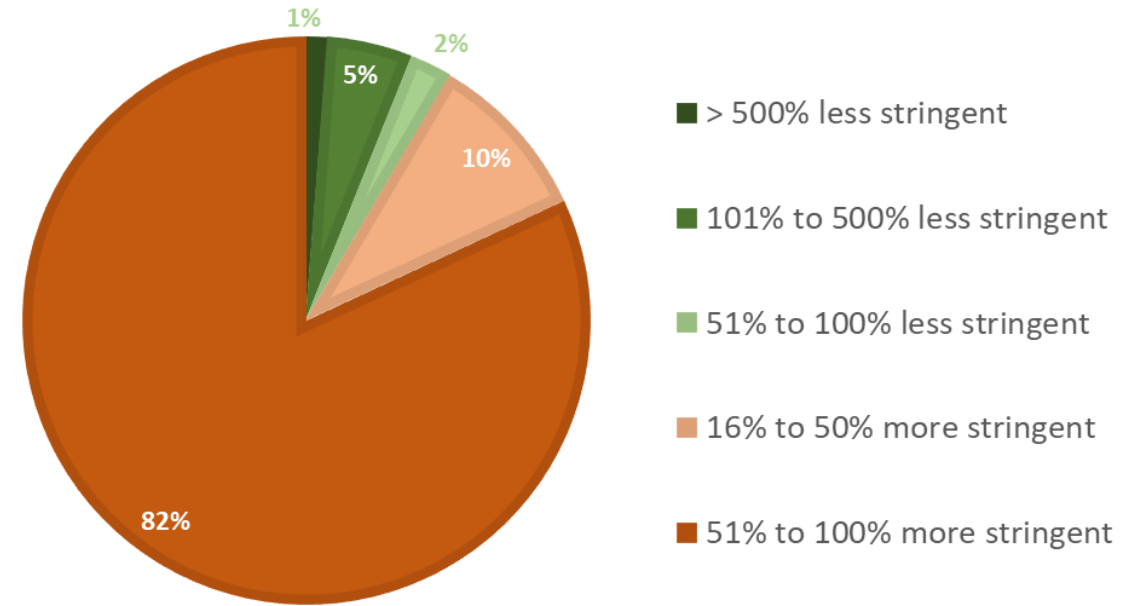
Chemical Name	Current Georgia WQS (µg/L)	EPA 2015 AWQC (µg/L)		% difference current vs EPA 2015	
		Water + Organism	Organism Only	Water + Organism	Organism Only
1,1,2,2-Tetrachloroethane	4	0.2	3	-95%	-25%
1,1,2-Trichloroethane	16	0.55	8.9	-97%	-44%
1,1-Dichloroethylene	7100	300	20000	-96%	182%
1,2,4-Trichlorobenzene	70	0.071	0.076	-100%	-100%
1,2-Dichlorobenzene	1300	1000	3000	-23%	131%
1,2-Dichloroethane	37	9.9	650	-73%	1657%
1,2-Dichloropropane	15	0.9	31	-94%	107%
1,2-Diphenylhydrazine	0.2	0.03	0.2	-85%	0%
1,3-Dichlorobenzene	960	7	10	-99%	-99%
1,3-Dichloropropene	21	0.27	12	-99%	-43%
1,4-Dichlorobenzene	190	300	900	58%	374%
2,4,6-Trichlorophenol	2.4	1.5	2.8	-38%	17%
2,4-Dichlorophenol	290	10	60	-97%	-79%
2,4-Dimethylphenol	850	100	3000	-88%	253%
2,4-Dinitrophenol	5300	10	300	-100%	-94%
2,4-Dinitrotoluene	3.4	0.049	1.7	-99%	-50%

How do EPA's criteria recommendations compare to GA's current WQS?

EPA 2015 HHC COMPARED TO CURRENT GA WQS
ORGANISM ONLY



EPA 2015 HHC COMPARED TO CURRENT GA WQS
WATER + ORGANISM



Georgia's concerns with the deterministic method

Compounded
conservatism

Does not account for
variability among the
population

Impossible to determine
the percentage of the
population being
protected

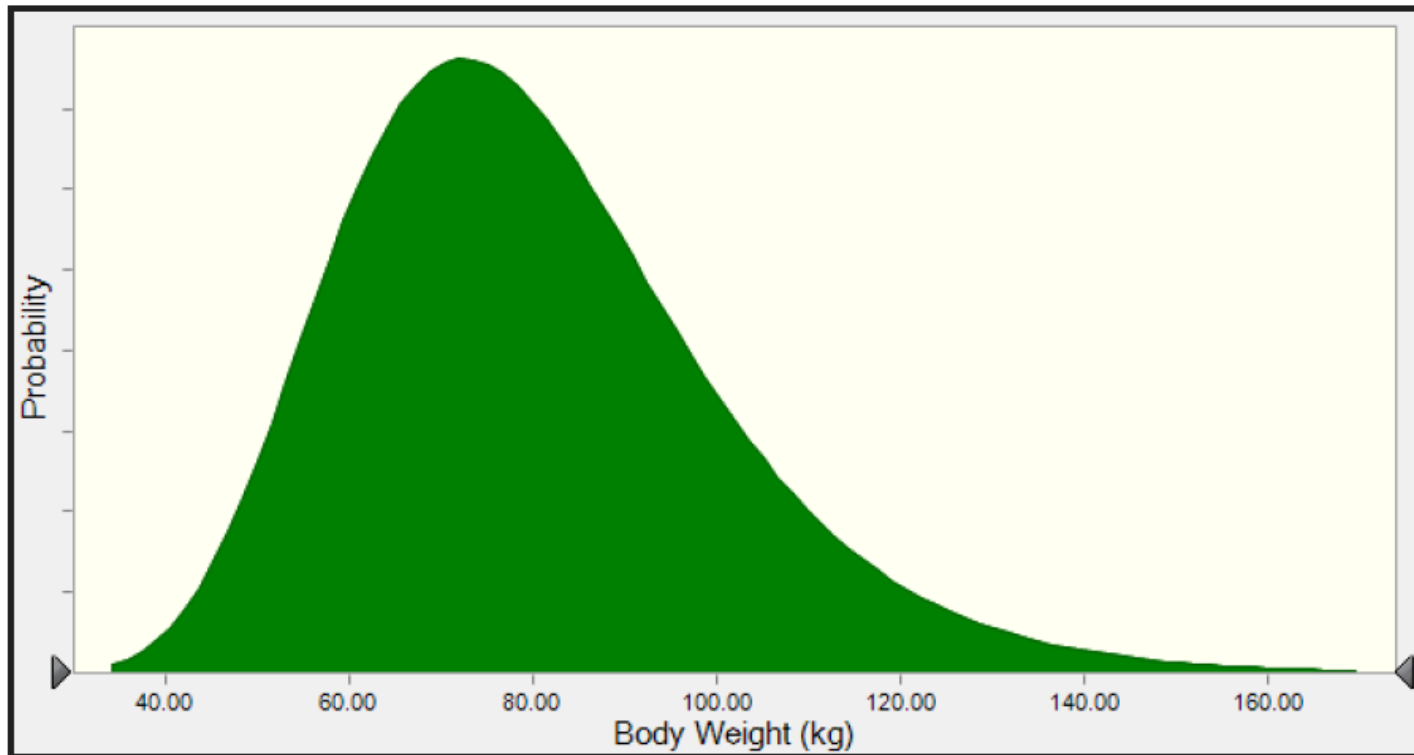
National rather than
regional fish consumption
rates



Deterministic vs. Probabilistic

- Deterministic risk assessment – single value for each parameter
 - Often results in compounded conservatism
 - Can't identify target population
- Probabilistic risk assessment – distribution for one or more parameters
 - Allows for transparent risk management decisions
 - Identifies target population and level of protection

What is a distribution?

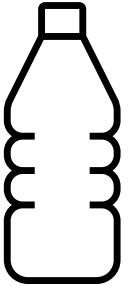


- Shows the possible values for a variable and how often they occur
- More accurately accounts for the variability in the population than selecting a single-value input

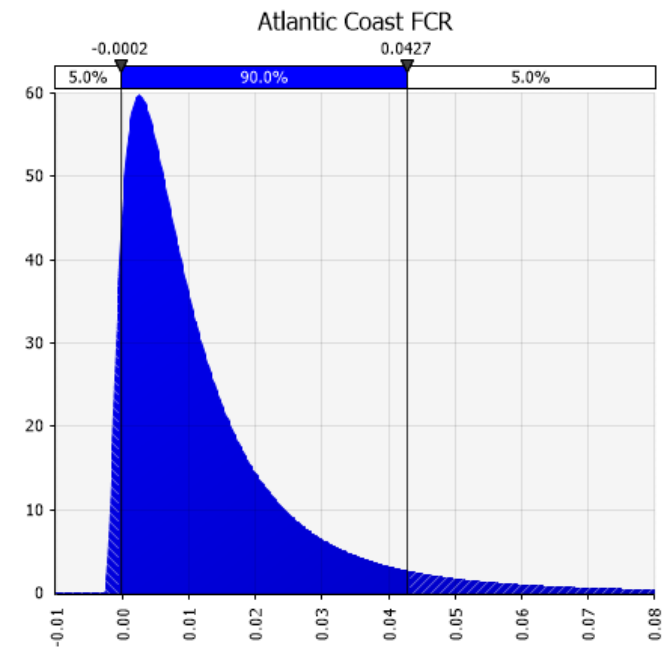
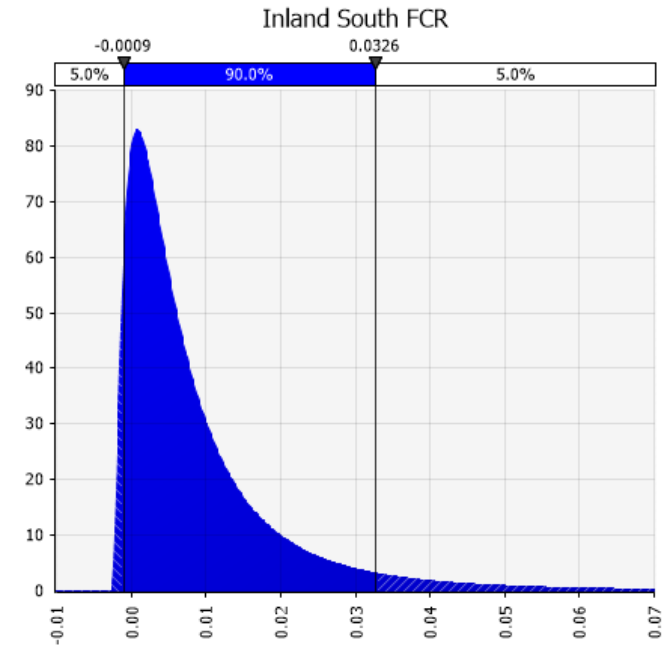
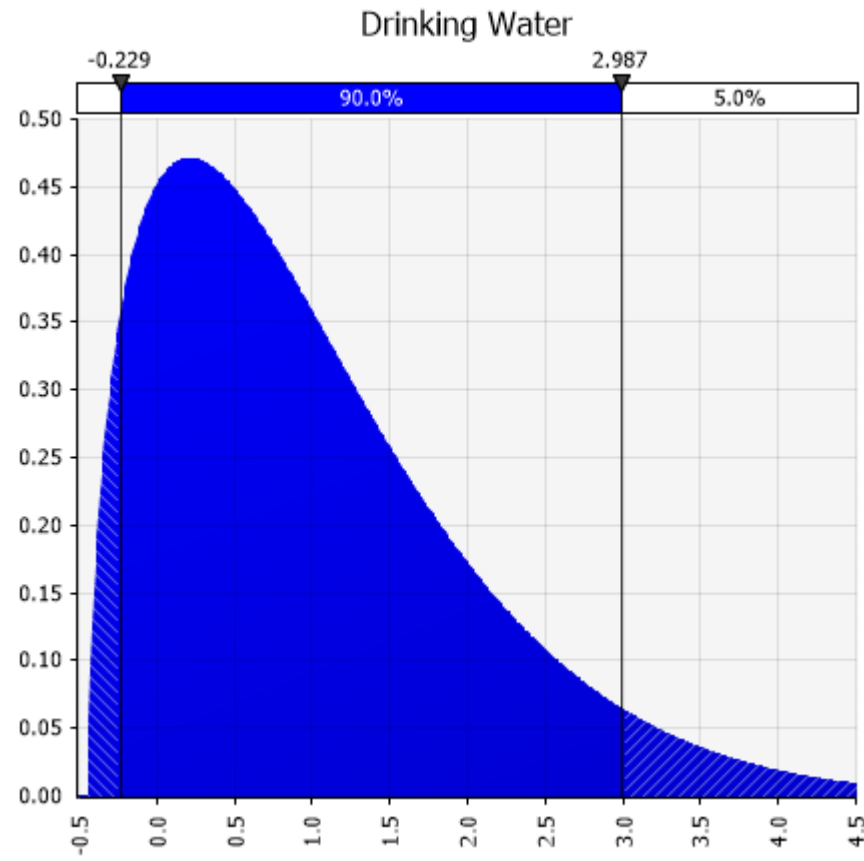
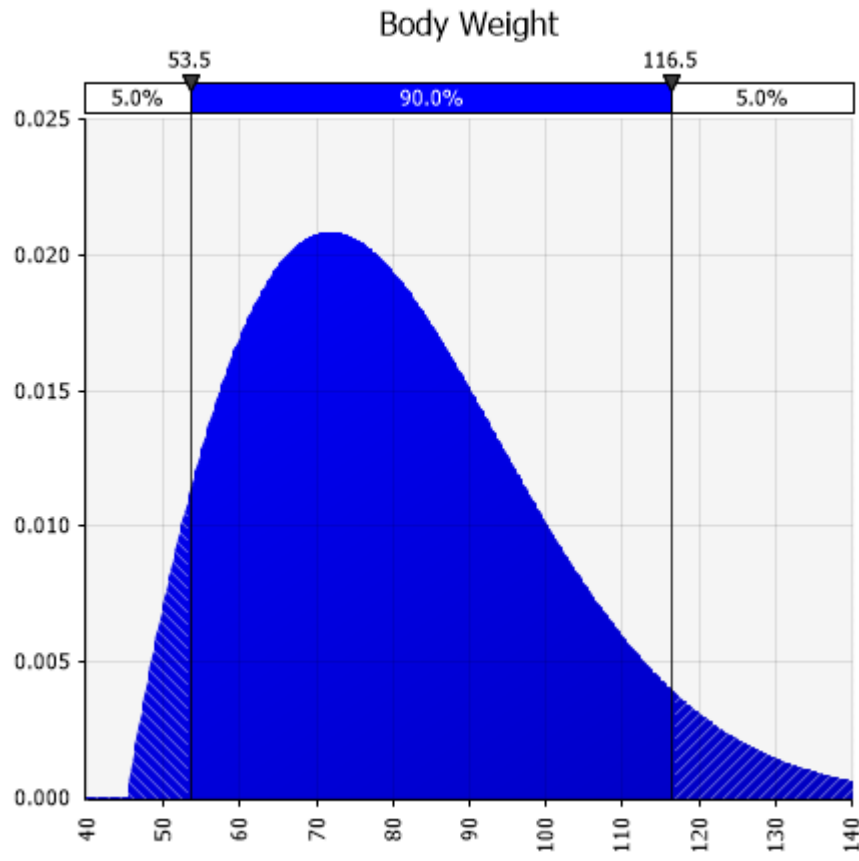
Probabilistic Risk Assessment

Toxicity
Endpoints \times  distribution

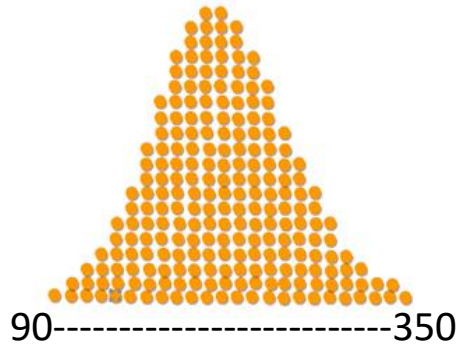
=

 distribution + $\left(\text{distribution} \times \text{Bioaccumulation Factors} \right)$

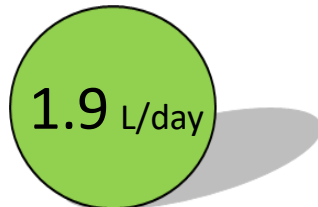
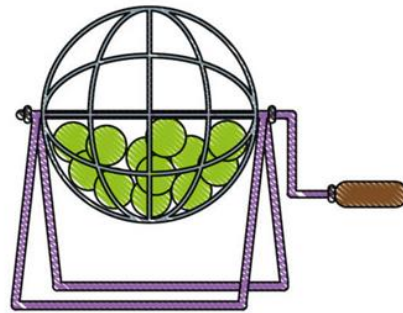
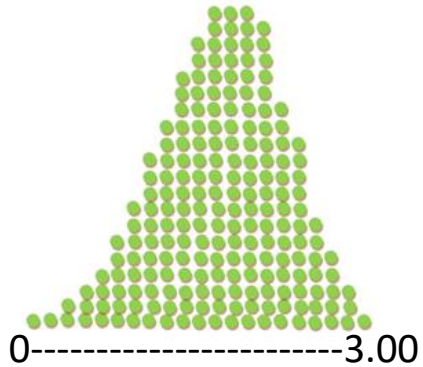
Distributions as inputs



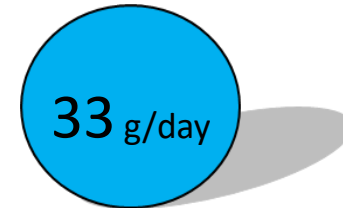
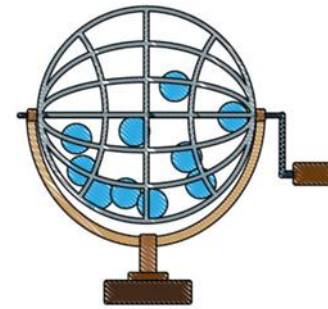
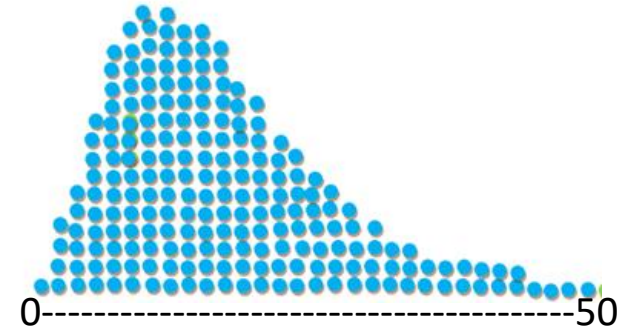
What is Monte Carlo?



Body Weight



Water Intake



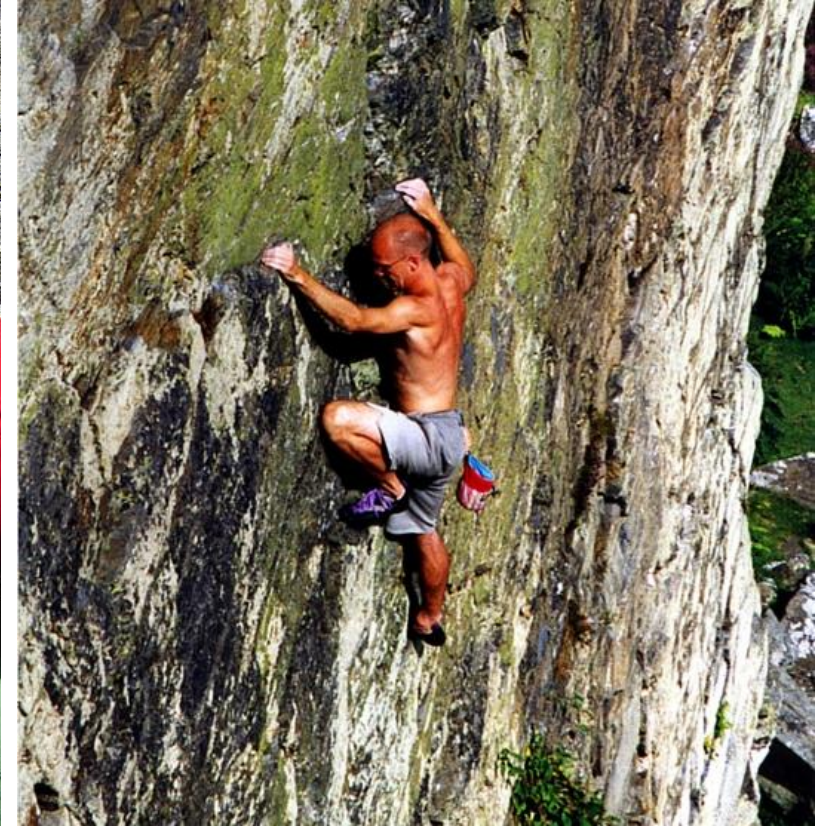
Fish Consumption



Scenario 1:
Target Risk = 0.000001, 50th
percentile



Scenario 2:
Target Risk = 0.00001, 90th
percentile



Scenario 3:
Target Risk = 0.0001, 99th
percentile

Levels of Risk

Example criteria selection

	Scenario 1				Scenario 2				Scenario 3				Final Probabalistic AWQC (mg/L)	
Summary of Final Probabilistic AWQC	Target Risk = 0.000001, Hzd = 1, %ile = 0.5				Target Risk = 0.00001, Hzd = 1, %ile = 0.9				Target Risk = 0.0001, %ile = 0.99					
	Probabalistic AWQC (mg/L)				Probabalistic AWQC (mg/L)				Probabalistic AWQC (mg/L)					
Chemical Name	Water + Organism		Organism Only		Water + Organism		Organism Only		Water + Organism		Organism Only		Water + Organism	Organism Only
	Cancer Risk	Non-cancer HQ	Cancer Risk	Non-cancer HQ	Cancer Risk	Non-cancer HQ	Cancer Risk	Non-cancer HQ	Cancer Risk	Non-cancer HQ	Cancer Risk	Non-cancer HQ	Minimum of all scenarios	Minimum of all scenarios
1,1,1-Trichloroethane	NA	3.63E+01	NA	5.39E+02	NA	1.19E+01	NA	1.78E+02	NA	#####	NA	1.78E+02	1.19E+01	1.78E+02
1,1,2,2-Tetrachloroethane	4.61E-04	3.69E-01	8.14E-03	6.51E+00	1.50E-03	1.20E-01	2.68E-02	2.15E+00	8.35E-03	1.21E-01	9.68E-02	2.15E+00	4.61E-04	8.14E-03
1,1,2-Trichloroethane	1.61E-03	7.34E-02	2.71E-02	1.23E+00	5.26E-03	2.40E-02	8.92E-02	4.07E-01	2.93E-02	2.41E-02	3.22E-01	4.08E-01	1.61E-03	2.71E-02
1,1-Dichloroethylene	NA	9.79E-01	NA	4.95E+01	NA	3.07E-01	NA	1.64E+01	NA	3.08E-01	NA	1.65E+01	3.07E-01	1.64E+01
1,2,4,5-Tetrachlorobenzene	NA	1.04E-04	NA	1.07E-04	NA	2.97E-05	NA	3.00E-05	NA	2.98E-05	NA	3.00E-05	2.97E-05	3.00E-05
1,2,4-Trichlorobenzene	2.20E-04	1.28E-02	2.41E-04	1.40E-02	7.64E-04	4.43E-03	7.91E-04	4.59E-03	3.00E-03	4.42E-03	3.04E-03	4.58E-03	2.20E-04	2.41E-04
1,2-Dichlorobenzene	NA	3.36E+00	NA	1.03E+01	NA	1.35E+00	NA	3.39E+00	NA	#####	NA	3.39E+00	1.35E+00	3.39E+00
1,2-Dichloroethane	2.99E-02	1.54E+00	1.97E+00	1.01E+02	9.33E-02	4.80E-01	6.54E+00	3.37E+01	5.13E-01	4.81E-01	2.43E+01	3.39E+01	2.99E-02	1.97E+00
1,2-Dichloropropane	2.68E-03	1.72E+00	9.38E-02	6.03E+01	8.49E-03	5.46E-01	3.10E-01	1.99E+01	4.68E-02	5.47E-01	1.13E+00	2.00E+01	2.68E-03	9.38E-02
1,2-Diphenylhydrazine	9.76E-05	NA	6.34E-04	NA	3.48E-04	NA	2.09E-03	NA	1.96E-03	NA	7.54E-03	NA	9.76E-05	6.34E-04
1,3-Dichlorobenzene	NA	1.86E-02	NA	4.70E-02	NA	7.51E-03	NA	1.39E-02	NA	7.54E-03	NA	1.39E-02	7.51E-03	1.39E-02

Criteria adoption

- Georgia's current WQS have human health criteria for 83 of the pollutants in EPA's 2015 update.
- These 83 pollutants each have a single criterion value based on the "organism only" criteria from EPA's 2002 recommendation
- There are 11 pollutants in EPA's 2015 update for which Georgia has no current human health criteria and will be adopting criteria based on our PRA results
- Our PRA analysis resulted in 2 criteria values for each pollutant; one to protect human health from exposure through fish consumption ("organism only") and one to protect human health from exposure through fish consumption and water ingestion ("water + organism").
- EPD is planning to adopt the "organism only" criteria values for all waterbodies except those designated as a Drinking Water source, which will get the "water + organism" criteria values.



Criteria adoption

- These criteria updates are for paragraph (5)(e)(iv) in our water quality standards
 - “Instream concentrations of the following chemical constituents listed by the U. S. Environmental Protection Agency as toxic priority pollutants pursuant to Section 307(a)(1) of the Federal Clean Water Act (as amended) shall not exceed criteria indicated below under annual average or higher stream flow conditions:”
- There are several pollutants in this update for which alternate criteria exist in other sub-paragraphs of our rules. For instances in which multiple criteria values are relevant for a specific pollutant, the more stringent value will apply.

GA's Current and Proposed Human Health Criteria

Proposed Criteria updates for 391-3-6-.03(5)(e)(iv)

# in WQS	Pollutant and CAS #	Current criteria for all designated uses (µg/L)	New criteria for drinking water designated use (µg/L)	New criteria for all other designated uses (µg/L)
1	Acenaphthene (CAS RN ¹ 83329)	990	71	78
3	Acrolein (CAS RN ¹ 107028)	9.3	3.1	330
4	Acrylonitrile (CAS RN ¹ 107131)	0.25	0.18	27
5	Aldrin (CAS RN ¹ 309002)	0.00005	0.0000028	0.0000028
6	Anthracene (CAS RN ¹ 120127)	40000	300	325
9	Benzidine (CAS RN ¹ 92875)	0.0002	0.00043	0.032
10	Benzo(a)Anthracene (CAS RN ¹ 56553)	0.018	0.0049	0.0051
11	Benzo(a)Pyrene (CAS RN ¹ 50328)	0.018	0.00049	0.00051
12	3,4-Benzofluoranthene (CAS RN ¹ 205992)	0.018	0.0049	0.0051
13	Benzene (CAS RN ¹ 71432)	51	1.7 - 3.0	48 - 88
15	Benzo(k)Fluoranthene (CAS RN ¹ 207089)	0.018	0.049	0.051
17	a-BHC-Alpha (CAS RN ¹ 319846)	0.0049	0.0011	0.0012
18	b-BHC-Beta (CAS RN ¹ 319857)	0.017	0.021	0.043
19	Bis(2-Chloroethyl)Ether (CAS RN ¹ 111444)	0.53	0.09	6.7
20	Bis(2-Chloroisopropyl)Ether (CAS RN ¹ 108601)	65000	240	3600
21	Bis(2-Ethylhexyl)Phthalate (CAS RN ¹ 117817)	2.2	1.1	1.5
22	Bromoform (Tribromomethane) (CAS RN ¹ 75252)	140	21	360
23	Butylbenzyl Phthalate (CAS RN ¹ 85687)	1900	0.4	0.4
24	Carbon Tetrachloride (CAS RN ¹ 56235)	1.6	1.3	14
25	Chlorobenzene (CAS RN ¹ 108907)	1600	110	840
26	Chlorodibromomethane (CAS RN ¹ 124481)	13	2.4	63
28	Chlordane (CAS RN ¹ 57749)	0.00081	0.0010	0.0011
29	Chloroform (Trichloromethane) (CAS RN ¹ 67663)	470	61	2300
30	2-Chloronaphthalene (CAS RN ¹ 91587)	1600	880	1200
31	2-Chlorophenol (CAS RN ¹ 95578)	150	30	830
32	Chrysene (CAS RN ¹ 218019)	0.018	0.49	0.51
33	Dibenzo(a,h)Anthracene (CAS RN ¹ 53703)	0.018	0.00049	0.00051
34	Dichlorobromomethane (CAS RN ¹ 75274)	17	2.8	82
35	1,2-Dichloroethane (CAS RN ¹ 107062)	37	30	2000
36	1,1-Dichloroethylene (CAS RN ¹ 75354)	7100	310	16000
37	1,2-Dichloropropane (CAS RN ¹ 78875)	15	2.7	94
38	1,3-Dichloropropylene (CAS RN ¹ 542756)	21	0.8	36
39	2,4-Dichlorophenol (CAS RN ¹ 120832)	290	15	57
40	1,2-Dichlorobenzene (CAS RN ¹ 95501)	1300	1400	3400

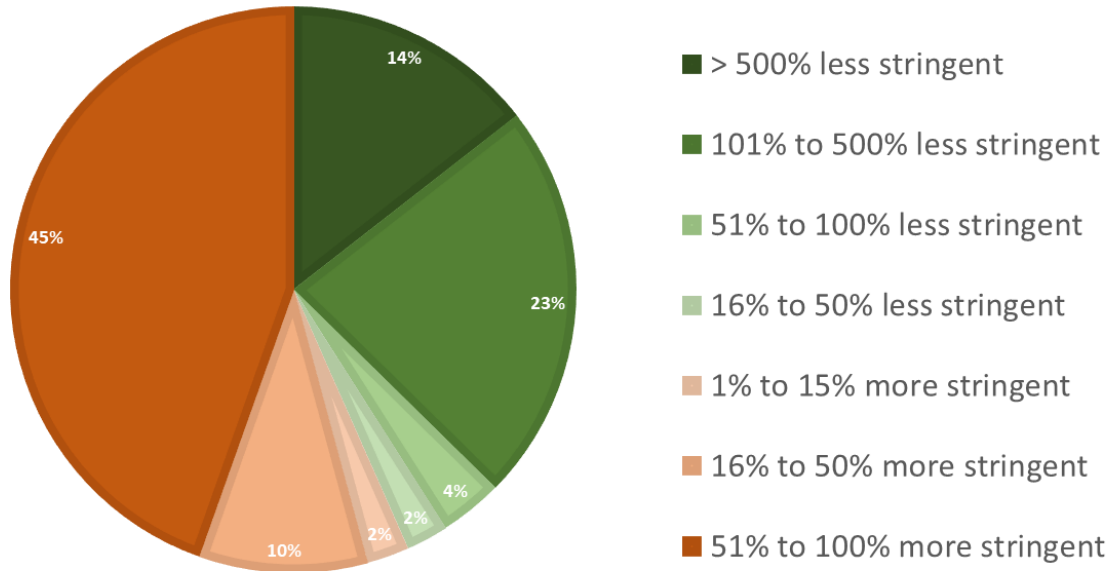
# in WQS	Pollutant and CAS #	Current criteria for all designated uses (µg/L)	New criteria for drinking water designated use (µg/L)	New criteria for all other designated uses (µg/L)
41	1,3-Dichlorobenzene (CAS RN ¹ 541731)	960	7.5	14
42	1,4-Dichlorobenzene (CAS RN ¹ 106467)	190	330	920
43	3,3'-Dichlorobenzidine (CAS RN ¹ 91941)	0.028	0.13	0.45
44	4,4'-DDT (CAS RN ¹ 50293)	0.00022	0.00012	0.00012
45	4,4'-DDD (CAS RN ¹ 72548)	0.00031	0.00042	0.00042
46	4,4'-DDE (CAS RN ¹ 72559)	0.00022	0.000063	0.000063
47	Dieldrin (CAS RN ¹ 60571)	0.000054	0.0000044	0.0000044
48	Diethyl Phthalate (CAS RN ¹ 84662)	44000	550	570
49	Dimethyl Phthalate (CAS RN ¹ 131113)	1100000	1600	1700
50	2,4-Dimethylphenol (CAS RN ¹ 105679)	850	120	2600
51	2,4-Dinitrophenol (CAS RN ¹ 51285)	5300	12	300
52	Di-n-Butyl Phthalate (CAS RN ¹ 84742)	4500	22	23
53	2,4-Dinitrotoluene (CAS RN ¹ 121142)	3.4	0.15	5.15
54	1,2-Diphenylhydrazine (CAS RN ¹ 122667)	0.2	0.1	0.64
55	Endrin (CAS RN ¹ 72208)	0.06	0.032	0.032
56	Endrin Aldehyde (CAS RN ¹ 7421934)	0.3	1.1	1.2
57	alpha-Endosulfan (CAS RN ¹ 959988)	89	18	27
58	beta-Endosulfan (CAS RN ¹ 33213659)	89	23	44
59	Endosulfan Sulfate (CAS RN ¹ 1031078)	89	22	40
60	Ethylbenzene (CAS RN ¹ 100414)	2100	76	130
61	Fluoranthene (CAS RN ¹ 206440)	140	17	18
62	Fluorene (CAS RN ¹ 86737)	5300	60	69
63	Heptachlor (CAS RN ¹ 76448)	0.000079	0.000021	0.000021
64	Heptachlor Epoxide (CAS RN ¹ 1024573)	0.000039	0.00011	0.00011
65	Hexachlorobenzene (CAS RN ¹ 118741)	0.00029	0.00026	0.00026
66	Hexachlorobutadiene (CAS RN ¹ 87683)	18	0.023	0.023
67	Hexachlorocyclopentadiene (CAS RN ¹ 77474)	1100	3.8	4
68	Hexachloroethane (CAS RN ¹ 67721)	3.3	0.36	0.45
69	Indeno(1,2,3-cd)Pyrene (CAS RN ¹ 193395)	0.018	0.0049	0.0051
70	Isophorone (CAS RN ¹ 78591)	960	100	5600
71	Lindane [Hexachlorocyclohexane (g-BHC-Gamma)] (CAS RN ¹ 58899)	1.8	4.3	4.4
72	Methyl Bromide (Bromomethane) (CAS RN ¹ 74839)	1500	120	12000
74	Methylene Chloride (CAS RN ¹ 75092)	590	37	3100
75	2-Methyl-4,6-Dinitrophenol (CAS RN ¹ 534521)	280	1.8	27
76	3-Methyl-4-Chlorophenol (CAS RN ¹ 59507)	**	530	2400

# in WQS	Pollutant and CAS #	Current criteria for all designated uses (µg/L)	New criteria for drinking water designated use (µg/L)	New criteria for all other designated uses (µg/L)
77	Nitrobenzene (CAS RN ¹ 98953)	690	12	560
82	Pentachlorophenol (CAS RN ¹ 87865)	3	0.073	0.12
84	Phenol (CAS RN ¹ 108952)	857000	3700	270000
85	Pyrene (CAS RN ¹ 129000)	4000	22	23
86	1,1,2,2-Tetrachloroethane (CAS RN ¹ 79345)	4	0.46	8.2
87	Tetrachloroethylene (CAS RN ¹ 127184)	3.3	27	73
89	Toluene (CAS RN ¹ 108883)	5980	56	520
90	Toxaphene (CAS RN ¹ 8001352)	0.00028	0.0022	0.0022
91	1,2-Trans-Dichloroethylene (CAS RN ¹ 156605)	10000	120	3800
92	1,1,2-Trichloroethane (CAS RN ¹ 79005)	16	1.6	27
93	Trichloroethylene (CAS RN ¹ 79016)	30	1.8	21
94	2,4,6-Trichlorophenol (CAS RN ¹ 88062)	2.4	3.6	6.2
95	1,2,4-Trichlorobenzene (CAS RN ¹ 120821)	70	0.22	0.24
96	Vinyl Chloride (CAS RN ¹ 75014)	2.4	0.066	4.9
NEW	1,1,1-Trichloroethane (CAS RN ¹ 71-55-6)		12000	180000
NEW	1,2,4,5-Tetrachlorobenzene (CAS RN ¹ 95-94-3)		0.03	0.03
NEW	2,4,5-Trichlorophenol (CAS RN ¹ 95-95-4)		350	580
NEW	Bis(Chloromethyl) Ether (CAS RN ¹ 542-88-1)		0.00045	0.066
NEW	Chlorophenoxy Herbicide (2,4,5-TP) [Silvex] (CAS RN ¹ 93-72-1)		150	360
NEW	Chlorophenoxy Herbicide (2,4-D) (CAS RN ¹ 94-75-7)		1200	11000
NEW	Cyanide (CAS RN ¹ 57-12-5)		3.7	400
NEW	Methoxychlor (72-43-5)		0.017	0.017
NEW	Dinitrophenols (CAS RN ¹ 25550-58-7)		12	880
NEW	Hexachlorocyclohexane (HCH)-Technical (CAS RN ¹ 608-73-1)		0.017	0.031
NEW	Pentachlorobenzene (CAS RN ¹ 608-93-5)		0.11	0.11

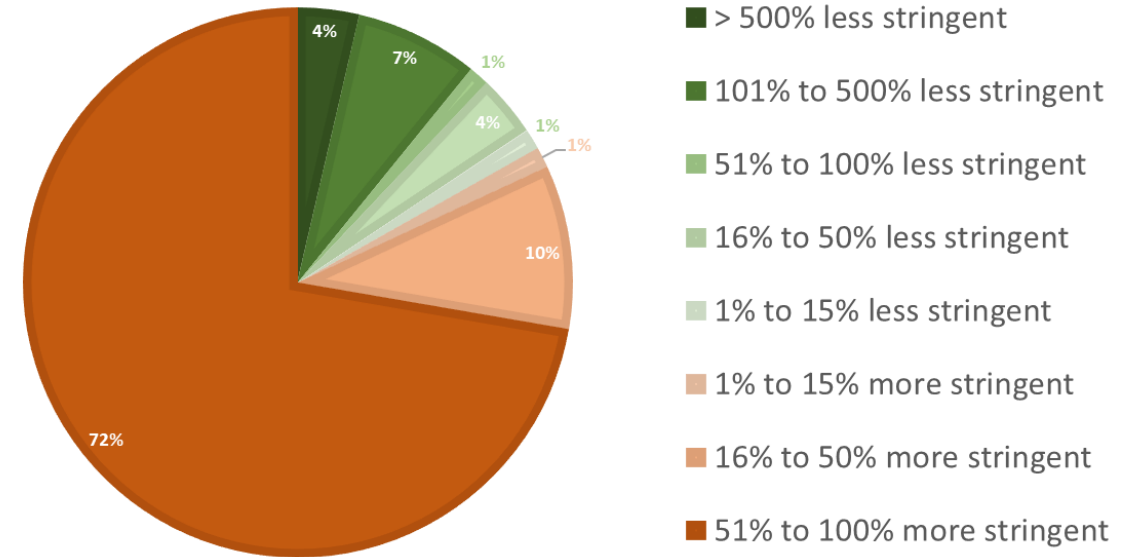
** In the current criteria this pollutant is addressed in 391-3-6-.06. The updated criteria will replace this reference.

How do the updated criteria values compare to our current criteria?

PRA RESULTS COMPARED TO CURRENT GA WQS
ALL DESIGNATED USES
(ORGANISM ONLY)



PRA RESULTS COMPARED TO CURRENT GA WQS
DRINKING WATER DESIGNATED USE
(WATER + ORGANISM)

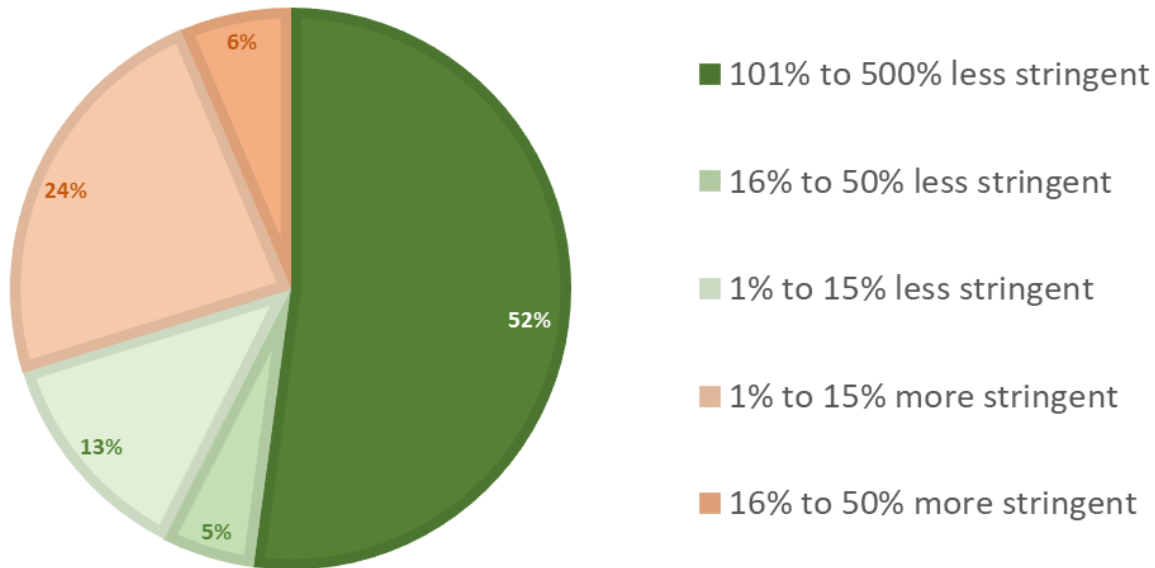


GA's proposed HHC compared to 2015 EPA HHC

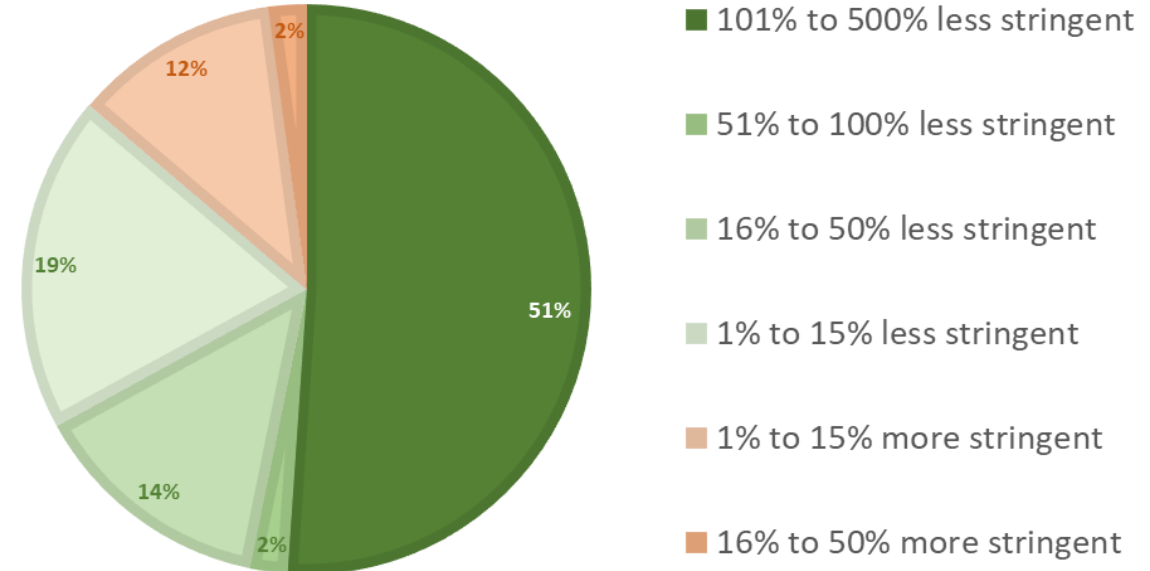
Chemical Name	Final Probabalistic AWQC (µg/L)		EPA 2015 AWQC (µg/L)		% difference final HHC vs 2015	
	Water + Organism	Organism Only	Water + Organism	Organism Only	Water + Organism	Organism Only
1,1,1-Trichloroethane	1.20E+04	1.78E+05	1.00E+04	2.00E+05	20%	-11%
1,1,2,2-Tetrachloroethane	4.63E-01	8.16E+00	2.00E-01	3.00E+00	132%	172%
1,1,2-Trichloroethane	1.62E+00	2.71E+01	5.50E-01	8.90E+00	194%	205%
1,1-Dichloroethylene	3.07E+02	1.64E+04	3.00E+02	2.00E+04	2%	-18%
1,2,4,5-Tetrachlorobenzene	2.96E-02	2.98E-02	3.00E-02	3.00E-02	-1%	-1%
1,2,4-Trichlorobenzene	2.20E-01	2.41E-01	7.10E-02	7.60E-02	210%	217%
1,2-Dichlorobenzene	1.36E+03	3.39E+03	1.00E+03	3.00E+03	36%	13%
1,2-Dichloroethane	2.99E+01	1.97E+03	9.90E+00	6.50E+02	202%	204%
1,2-Dichloropropane	2.69E+00	9.41E+01	9.00E-01	3.10E+01	199%	203%
1,2-Diphenylhydrazine	9.80E-02	6.35E-01	3.00E-02	2.00E-01	227%	218%
1,3-Dichlorobenzene	7.54E+00	1.39E+01	7.00E+00	1.00E+01	8%	39%
1,3-Dichloropropene	8.01E-01	3.57E+01	2.70E-01	1.20E+01	197%	197%
1,4-Dichlorobenzene	3.30E+02	9.17E+02	3.00E+02	9.00E+02	10%	2%
2,4,5-Trichlorophenol	3.47E+02	5.79E+02	3.00E+02	6.00E+02	16%	-3%
2,4,6-Trichlorophenol	3.59E+00	6.20E+00	1.50E+00	2.80E+00	139%	122%

How do our PRA results compare to EPA's 2015 HHC recommendations?

PRA RESULTS COMPARED TO 2015 EPA ORGANISM ONLY




PRA RESULTS COMPARED TO 2015 EPA WATER + ORGANISM



Tentative Triennial Review Timeline

- Comment period for HHC closes February 23, 2024
- Public meeting for Triennial Review wrap-up: summer 2024
- DNR Board Briefing: Fall 2024
- Final Public Hearing: Fall 2024
- DNR Board Adoption: late 2024/early 2025
- Kickoff Hearing for 2025 Triennial Review: early 2025

A close-up photograph of a fishing rod and reel. The rod is held by a hand, and the reel is a modern, metallic spinning reel. The background is a soft-focus sunset over a body of water, with trees and buildings reflected in the calm surface. The overall mood is peaceful and serene.

Questions/Comments

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