

**Technical Supporting Information for Proposed Revisions to the Connecticut Water Quality Standards:
Ambient Water Quality Criteria
Appendix A: Proposed Aquatic Life Criteria (ug/L) for Chemical Constituents**

Chemical Constituent	Aquatic Life Criteria				Basis/Comment	
	Freshwater		Saltwater			
	Acute	Chronic	Acute	Chronic		
Inorganic Substances⁽⁷⁾						
Aluminum (Total)	7429905	750	87		EPA	
Ammonia	7664417		calculated	233	35	EPA
Antimony	7440360	900	190			GLI
Arsenic	7440382	340	150	69	36	EPA
Asbestos	1332214					EPA
Barium	7440393	2000	220			GLI
Beryllium (Total)	7440417	30.6	3.6			GLI
Boron	7440428	8500	950			GLI
Cadmium	7440439	1	0.15	40	8.8	EPA
Chloride	16887006	860000	230000			EPA
Chlorine	7782505	19	11	13	7.5	EPA Note: Saltwater # inadvertently omitted from proposed table. Note of error will be made
Chromium, hexavalent	18540299	16	11	1100	50	EPA
Chromium, trivalent	16065831	323	42			EPA
Cobalt	7440484	220	24			GLI
Copper	7440508	14.3	4.8	4.8	3.1	CTDEP (1)
Copper (site specific)	7440508	25.7	18.1			CTDEP (2)
Cyanide	57125	22	5.2	1	1	EPA
Iron	7439896		1000			EPA
Lead	7439921	30	1.2	210	8.1	EPA
Lithium	7439932					
Manganese	7439965					
Mercury - inorganic	7487947	1.4	0.77	1.8	0.94	EPA
Nickel	7440020	260	29	74	8.2	EPA
Selenium (Total)	7782492	20	5	290	71	EPA
Silver	7440224	1	0.06	1.9		Acute: EPA / Chronic GLI
Thallium	7791120	79	17			GLI
Tin	7440315	1600	180			GLI
Uranium	7440611					
Vanadium	1314621	150	44			GLI
Zinc (Total)	7440666	65	65	90	81	EPA
Volatile Substances						
Acetone	67641	15000	1700			GLI
Acetonitrile	75058	73705	8189			CTDEP Tier 2
Acrolein	107028	0.8	0.1			CTDEP Tier 2
Acrylonitrile	107131	369	41			CTDEP Tier 2
Benzene	71432	700	160			GLI
Bromomethane	74839	0.04	0.005			CTDEP Tier 2

Chemical Constituent	Aquatic Life Criteria				Basis/Comment
	Freshwater		Saltwater		
	Acute	Chronic	Acute	Chronic	
Butanone, 2-	78933	123077	13752		CTDEP Tier 2
Butylbenzene, n-	104518				
Butylbenzene, sec-	135988				
Butylbenzene, t-	98066				
Carbon disulfide	75150	130	15		GLI
Carbon Tetrachloride	56235	2200	240		GLI
Chlorobenzene	108907	420	47		GLI
Chloroethane	75003				
Chloroethylvinyl ether, 2- (mixed)	110758				
Chloroform	67663	1300	140		GLI
Chloromethane	74873				
Chloronaphthalene, 2-	91587	79	9		CTDEP Tier 2
Chlorotoluene, 2-	95498				
Chlorotoluene, 4-	106434	64	7		CTDEP Tier 2
Cyclohexane	110827	2480	276		CTDEP Tier 2
Dibenzofuran	132649	36	4		GLI
Dichlorobenzene, 1,2-	95501	130	23		GLI
Dichlorobenzene, 1,3-	541731	79	22		GLI
Dichlorobenzene, 1,4-	106467	57	9.4		GLI
Dichlorobromomethane	75274				
Dichlorobutene, 1,4-	31423924				
Dichlorodifluoromethane	75718				
Dichloroethane, 1,1-	75343	3700	410		GLI
Dichloroethane, 1,2-	107062	9600	2000		GLI
Dichloroethene, 1,2-	540590	8800	970		GLI
Dichloroethylene, 1,1-	75354	1900	210		GLI
Dichloroethylene, cis-1,2-	156592	5500	620		GLI
Dichloroethylene, trans-1,2-	156605	5000	560		GLI
Dichloropropane, 1,2-	78875	847	94		CTDEP Tier 2
Dichloropropene, 1,3-	542756	15	1.7		GLI
Ethyl acetate	141786	14375	1597		CTDEP Tier 2
Ethylbenzene	100414	550	61		GLI
Ethylene dibromide	106934				
Hexane, n-	110543				
Isopropylbenzene	98828	193	21		CTDEP Tier 2
Isopropyltoluene, 4-	99876	148	16.5		CTDEP Tier 2
Methyl isobutyl ketone	108101				
Methyl methacrylate	80626				
Methyl tert butyl ether	1634044	151000	51000		EPA
Methylene chloride	75092	11000	1900		GLI
Methylnaphthalene, 2-	91576	42	4.7		GLI
Nitrobenzene	98953	1989	221		CTDEP Tier 2

Chemical Constituent	Aquatic Life Criteria					Basis/Comment
	Freshwater		Saltwater			
	Acute	Chronic	Acute	Chronic		
Nitrophenol, 2-	88755	650	73		GLI	
Nitrophenol, 4-	100027					
Propylbenzene, n-	103651					
Pyridine	110861	236	26		CTDEP Tier 2	
Styrene	100425	214	24		CTDEP Tier 2	
Tetrachloroethane, 1,1,1,2-	630206	770	85		GLI	
Tetrachloroethane, 1,1,2,2-	79345	1155	129		CTDEP Tier 2 Note Table in WQS in error	
Tetrachloroethylene	127184	430	53		GLI	
Tetrahydrofuran	109999	74000	11000		GLI	
Toluene	108883	560	62		GLI	
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76131					
Trichlorobenzene, 1,2,4-	120821		5		GLI	
Trichloroethane, 1,1,1-	71556	690	76		GLI	
Trichloroethane, 1,1,2-	79005	3300	740		GLI	
Trichloroethylene	79016	2000	220		GLI	
Trichlorofluoromethane	75694					
Trimethylbenzene, 1,2,4-	95636	142	16		CTDEP Tier 2	
Trimethylbenzene, 1,3,5-	108678	237	26		CTDEP Tier 2	
Vinyl acetate	108054					
Vinyl chloride	75014	8400	930		GLI	
Xylenes	1330207	240	27		GLI	
Semivolatiles Substances						
Acenaphthene	83329	19	15		GLI	
Acenaphthylene	208968	120	13		GLI	
Aniline	62533	11.4	1.3		CTDEP Tier 2	
Anthracene	120127	0.18	0.02		GLI	
Benzidine	92875	38	4		CTDEP Tier 2	
Benzo(a)anthracene	56553	42	4.7		GLI	
Benzo(a)pyrene	50328	0.54	0.06		GLI	
Benzo(b)fluoranthene	205992	23	2.6		GLI	
Benzo(g,h,i)perylene	191242					
Benzo(k)fluoranthene	207089					
Benzoic Acid	65850					
Bis(2-chloroethoxy)methane	111911	7077	786		CTDEP Tier 2	
Bis(2-chloroethyl)ether	111444	9231	1026			
Bis(2-chloroisopropyl)ether	108601				CTDEP Tier 2	
Bis(2-ethylhexyl)phthalate	117817	5	1		CTDEP Tier 2	
Bromoform	75252	1115	124		CTDEP Tier 2	
Bromophenyl-phenylether, 4-	101553					
Butylbenzyl phthalate	85687	130	23		GLI	

Chemical Constituent	Aquatic Life Criteria				Basis/Comment
	Freshwater		Saltwater		
	Acute	Chronic	Acute	Chronic	
Carbazole	86748	48	5.3		CTDEP Tier 2
Chloroaniline, 4-	106478	9	1		CTDEP Tier 2
Chlorodibromomethane	124481				
Chlorophenol, 2-	95578	290	32		GLI
Chlorophenol, 3-methyl-4	59507	66	7		CTDEP Tier 2
Chlorophenyl-phenylether, 4-	7005723				
Chrysene	218019	42	4.7		GLI
Cresol, m-	108394	560	62		GLI
Dibenzo(a,h)anthracene	53703				
Dibromo-3-chloropropane, 1,2-	96128				
Dichlorobenzidine, 3,3'-	91941	40	4.5		CTDEP Tier 2
Dichlorophenol, 2,4-	120832	110	11		GLI
Dichlorotrifluoroethane	34077877				
Diethyl phthalate	84662	980	220		GLI
Dimethyl phthalate	131113	2788	310		CTDEP Tier 2
Dimethylphenol, 2,4-	105679	140	15		GLI
Di-n-butyl phthalate	84742	34	4		CTDEP Tier 2
Dinitrophenol, 2,4-	51285	199	22		CTDEP Tier 2
Dinitrophenol, 2-methyl-4,6-	534521	6.4	0.7		CTDEP Tier 2
Dinitrotoluene, 2,4-	121142	394	44		CTDEP Tier 2
Dinitrotoluene, 2,6-	606202	730	81		GLI
Di-n-octyl phthalate	117840				
Dioxane, 1,4-	123911				
Diphenylhydrazine, 1,2-	122667	10	1		CTDEP Tier 2
Ethanol	64175	20491	2277		CTDEP Tier 2
Ethylene glycol	107211	1300000	140000		GLI
Fluoranthene	206440	3.7	0.8		GLI
Fluorene	86737	110	19		GLI
Formaldehyde	50000	4580	1610		Hohreiter and Rigg Note: Table in WQS in error.
Hexachlorobenzene	118741	0.34	0.04		CTDEP Tier 2
Hexachlorobutadiene	87683				
Hexachloroethane	67721				
Indeno(1,2,3-c,d)pyrene	193395				
Isophorone	78591	7500	920		GLI
Isopropanol	67630				
Methanol	67561	3000	330		GLI
Methylphenol, 2-	95487	600	67		GLI
Methylphenol, 4-	106445	499	55.5		CTDEP Tier 2
Naphthalene	91203	170	21		GLI
Nitroaniline, 2-	88744	188	21		CTDEP Tier 2

Chemical Constituent		Aquatic Life Criteria				Basis/Comment
		Freshwater		Saltwater		
		Acute	Chronic	Acute	Chronic	
Nitroaniline, 3-	99092	61	7			CTDEP Tier 2
Nitroaniline, 4-	100016	1063	118			CTDEP Tier 2
Nitrosodimethylamine, N-	62759					
Nitrosodi-n-propylamine, N-	621647					
Nitrosodiphenylamine, N-	86306	220	25			GLI
Nonylphenol	84852153	28	6.6	7	1.7	EPA
Pentachloronitrobenzene	82688	22	2.5			CTDEP Tier 2
Pentachlorophenol	87865	19	15	13	7.9	EPA
Phenanthrene	85018	31	2.3			GLI
Phenol	108952	4700	160			GLI
Propylene glycol	57556	640	71			GLI
Pyrene	129000	42	4.6			GLI
Sodium acetate	127093					
Tert-butyl alcohol	75650	211692	23521			CTDEP Tier 2
Tetrachlorobenzene, 1,2,4,5-	95943	18	2			CTDEP Tier 2
Tetrachlorodibenzo-p-dioxin, 2,3,7,8-						
Trichlorophenol, 2,4,5-	95954	25	2.8			CTDEP Tier 2
Trichlorophenol, 2,4,6-	88062	30	3.3			CTDEP Tier 2
Pesticides and PBCs						
Alachlor	15972608	294	33			CTDEP Tier 2
Aldicarb	116063	11.4	1.3			CTDEP Tier 2
Aldrin	309002	0.45	0.05	0.65		CTDEP Tier 2
Atrazine	1912249	14.5	1.6			CTDEP Tier 2
Chlordane	12789036	1.2	0.00215	0.045	0.0045	EPA
Chlorpyrifos	2921882	0.083	0.041	0.011	0.0056	EPA
D, 2,4-	94757	47	5			EPA
DDD, 4,4-	72548					
DDE, 4,4-	72559					
DDT, 4,4- (total)	50293	0.55	0.005	0.065	0.001	EPA
Diazinon	333415	0.17	0.17	0.82	0.82	EPA
Dicamba	1918009	1619	180			CTDEP Tier 2
Dichloroprop	120365	105	12			CTDEP Tier 2
Dieldrin	60571	0.24	0.056			EPA
Endosulfan	115297	0.11	0.028	0.017	0.0087	EPA
Endosulfan sulfate	1031078					
Endrin	72208	0.086	0.036	0.0185	0.0023	EPA
Endrin aldehyde	7421934	0.086	0.036			EPA
Endrin ketone	53494705	0.086	0.036			EPA
Heptachlor	76448	0.26	0.0019	0.0265	0.0036	EPA
Heptachlor epoxide	1024573	0.26	0.0019	0.0265	0.0036	EPA
Hexachlorocyclohexane, alpha	319846					
Hexachlorocyclohexane, beta-	319857					
Hexachlorocyclohexane, delta-	319868					
Hexachlorocyclopentadiene	77474	2.8	0.3			CTDEP Tier 2
Lindane	58899	0.95	0.057	0.08		Acute: EPA / Chronic GLI

Aquatic Life Criteria						
Chemical Constituent		Freshwater		Saltwater		Basis/Comment
		Acute	Chronic	Acute	Chronic	
Methoxychlor	72435		0.03			EPA
Simazine	122349	5	1			CTDEP Tier 2
Toxaphene	8001352	0.73	0.002	0.21	7.5	EPA
Polychlorinated biphenyls	1336363		0.014		0.03	EPA
Radionuclides						
Alpha particles	12587461					
Beta Particles	12587472					

References:

CTDEP 1 CTDEP 1990. Numerical Water Quality Criteria for Dissolved Copper
CTDEP 2 CTDEP 1990. derivation of a Site-Specific Dissolved Copper Criteria for Selected Freshwater Streams in Connecticut
CTDEP Tier 2 See Appendix B
EPA EPA National Recommended Water Quality Criteria
GLI USEPA. Great Lakes Initiative Clearinghouse
Hohreiter and Rigg Chemosphere 2001. 45(4-5) 471-86.