ACT 126 S.B. NO. 1008

A Bill for an Act Relating to Water Quality Standards.

Be It Enacted by the Legislature of the State of Hawaii:

SECTION 1. The purpose of this Act is to revise certain state water quality standards for inland and marine waters on an interim basis to conform to levels recommended by the State and the United States Environmental Protection Agency, until the state department of health proposes, and the United States Environmental Protection Agency approves, standards for the pollutants and indicator organism identified in this Act, pursuant to the review of state water quality standards mandated under Section 303(c) of the Federal Water Pollution Control Act of 1972, as amended. The legislature finds that these revisions are important to the economic and social development of the State and that these revised standards are adequate to fully protect the designated and existing uses of the State's inland and marine waters.

SECTION 2. (a) In accordance with Section 303(c) of the Federal Water Pollution Control Act of 1972, as amended, the water quality criteria in the 2006 United States Environmental Protection Agency National Recommended Water Quality Criteria, including the applicable footnotes and appendices, for all Priority Toxic Pollutants and Non-Priority Pollutants for the protection of aquatic life in surface water (acute and chronic effects in fresh water and salt water), and for the protection of human health for consumption (organism only), are hereby adopted by the State as water quality standards and apply to all state inland and marine waters, except for:

(1) The 2006 National Recommended Water Quality Criteria for arsenic, cadmium, chromium, chromium III, chromium VI, copper, lead, mercury, nickel, selenium, silver, and zinc; and

(2) The 2006 National Recommended Water Quality Criteria for non-priority pollutants not currently listed in chapter 11-54, Hawaii Administrative Rules.

(b) When there is no nationally recommended criterion promulgated for a Priority or Non-Priority Pollutant, relevant provisions in chapter 11-54, Hawaii Administrative Rules, relating to that pollutant shall not be repealed by virtue of, or deemed as being inconsistent with, this Act and shall remain in effect.

(c) The following table of numeric standards for toxic pollutants applicable to all waters fully incorporates the water quality standards adopted by the State pursuant to subsections (a) and (b) and the relevant provisions

of chapter 11-54, Hawaii Administrative Rules, that are not repealed or not deemed inconsistent with this Act and shall remain in effect. The freshwater standards shall apply where the dissolved inorganic ion concentration is less than 0.5 parts per thousand and the saltwater standards shall apply above 0.5 parts per thousand. Values for metals refer to the dissolved fraction. All values are expressed in micrograms per liter.

Numerical Standards for Toxic Pollutants Applicable to All Waters (A)		carcinogen		Freshwater		Saltwater		Human Health for the consumption of	
EPA Priority Pollutant No. and Name[1]			CAS Number	CMC 1 (acute)	CCC 1 (chronic)	CMC 1 (acute)	CCC 1 (chronic)	Organism Only	FR Cite/ Source
1	Antimony		7440360	3000	ns	ns	ns	640 B	65FR66443
2	Arsenic		7440382	360	190	69	36	ns	
3	Beryllium	X	7440417	43	ns	ns	ns	0.038	
4	Cadmium		7440439	3*	3*	43	9.3	ns	
5b	Chromium (VI)		18540299	16	11	1100	50	ns	
6	Copper			6*	6*	2.9	2.9	ns	
7	Lead		7439921	29*	29*	140	5.6	ns	
8a	Mercury		7439976	2.4	0.55	2.1	0.025	0.047	
8b	Methylmercury		22967926	1.4 D,K,hh	0.77 D,K,hh	1.8 D,ee,hh	0.94 D,ee,hh	0.3 mg/kg J	EPA823-R-01-001
9	Nickel			5*	5*	75	8.3	33	
10	Selenium		7782492	20	5	300	71	ns	
11	Silver		7440224	1*	1*	2.3	ns	ns	
12	Thallium		7440280	470	ns	710	ns	0.47	68FR75510
13	Zinc		7440666	22*	22*	95	86	ns	
14	Cyanide		57125	22 K,Q	5.2 K,Q	1 Q,bb	1 Q,bb	140 jj	68FR75510 57FR60848 EPA820/B-96-001
15	Asbestos		1332214	ns	ns	ns	ns	ns	57FR60848
16	2,3,7,8-TCDD (Dioxin)	X	1746016	0.003	ns	ns	ns	5.1E-9 C	65FR66443
17	Acrolein		107028	23	ns	18	ns	290	65FR66443
18	Acrylonitrile	X	107131	2500	ns	ns	ns	0.25 B,C	65FR66443
19	Benzene	X	71432	1800	ns	1700	ns	51 B,C	IRIS 01/19/00 &65FR66443
20	Bromoform		75252	ns	ns	ns	ns	140 B,C	65FR66443
21	Carbon Tetrachloride	X	56235	12000	ns	16000	ns	1.6 B,C	65FR66443
22	Chlorobenzene		108907	ns	ns	ns	ns	1,600 U	68FR75510
23	Chlorodibromomethane		124481	ns	ns	ns	ns	13 B,C	65FR66443
24	Chloroethane		75003	ns	ns	ns	ns	ns	
25	2-Chloroethylvinyl Ether		110758	ns	ns	ns	ns	ns	
26	Chloroform	X	67663	9600	ns	ns	ns	470 C,P	62FR42160
27	Dichlorobromomethane		75274	ns	ns	ns	ns	17 B,C	65FR66443
28	1,1-Dichloroethane		75343	ns	ns	ns	ns	ns	

[1] Office of Science and Technology. 2006. National Recommended Water Quality Criteria. U.S. Environmental Protection Agency, Office of Water (4304T).

Numerical Standards for Toxic Pollutants Applicable to All Waters (A)				Freshwater		Saltwater		Human Health for the consumption of	
EPA Priority Pollutant No.	and Name[1]	carcinogen	CAS Number	CMC 1 (acute)	CCC 1 (chronic)	CMC 1 (acute)	CCC 1 (chronic)	Organism Only	FR Cite/ Source
29	1,2-Dichloroethane	X	107062	39000	ns	38000	ns	37 B,C	65FR66443
30	1,1-Dichloroethylene		75354	ns	ns	ns	ns	7,100	68FR75510
31	1,2-Dichloropropane		78875	ns	ns	ns	ns	15 B,C	65FR66443
32	1,3-Dichloropropene		542756	2000	ns	260	ns	21 C	68FR75510
33	Ethylbenzene		100414	11000	ns	140	ns	2,100	68FR75510
34	Methyl Bromide		74839	ns	ns	ns	ns	1,500 B	65FR66443
35	Methyl Chloride		74873	ns	ns	ns	ns	ns	65FR31682
36	Methylene Chloride		75092	ns	ns	ns	ns	590 B,C	65FR66443
37	1,1,2,2-Tetrachloroethane	X	79345	ns	ns	3000	ns	4.0 B,C	65FR66443
38	Tetrachloroethylene	X	127184	1800	ns	3400	145	3.3 C	65FR66443
39	Toluene		108883	5800	ns	2100	ns	15,000	68FR75510
40	1,2-Trans-Dichloroethylene		156605	ns	ns	ns	ns	10,000	68FR75510
41	1,1,1-Trichloroethane		71556	6000	ns	10400	ns	340,000	65FR31682
42	1,1,2-Trichloroethane	X	79005	6000	ns	ns	ns	16 B,C	65FR66443
43	Trichloroethylene	X	79016	15000	ns	700	ns	30 C	65FR66443
44	Vinyl Chloride	X	75014	ns	ns	ns	ns	2.4 C,kk	68FR75510
45	2-Chlorophenol		95578	1400	ns	ns	ns	150 B,U	65FR66443
46	2,4-Dichlorophenol		120832	670	ns	ns	ns	290 B,U	65FR66443
47	2,4-Dimethylphenol		105679	700	ns	ns	ns	850 B,U	65FR66443
48	2-Methyl-4,6-Dinitrophenol		534521	ns	ns	ns	ns	280	65FR66443
49	2,4-Dinitrophenol		51285	ns	ns	ns	ns	5,300 B	65FR66443
50	2-Nitrophenol		88755	ns	ns	ns	ns	ns	
51	4-Nitrophenol		100027	ns	ns	ns	ns	ns	
52	3-Methyl-4-Chlorophenol		59507	ns	ns	ns	ns	U	
53	Pentachlorophenol		87865	19 F,K	15 F,K	13 bb	7.9 bb	3.0 B,C,H	65FR66443 65FR31682
54	Phenol		108952	3400	ns	170	ns	1,700,000 B,U	65FR66443
55	2,4,6-Trichlorophenol	X	88062	ns	ns	ns	ns	2.4 B,C,U	65FR66443
56	Acenaphthene		83329	570	ns	320	ns	990 B,U	65FR66443
57	Acenaphthylene		208968	ns	ns	ns	ns	ns	
58	Anthracene		120127	ns	ns	ns	ns	40,000 B	65FR66443
59	Benzidine	X	92875	800	ns	ns	ns	0.00020 B,C	65FR66443
60	Benzo(a) Anthracene		56553	ns	ns	ns	ns	0.018 B,C	65FR66443
61	Benzo(a) Pyrene		50328	ns	ns	ns	ns	0.018 B,C	65FR66443
62	Benzo(b) Fluoranthene		205992	ns	ns	ns	ns	0.018 B,C	65FR66443
63	Benzo(ghi) Perylene		191242	ns	ns	ns	ns	ns	

Numerical Standards for Toxic Pollutants Applicable to All Waters (A)		carcinogen		Freshwater		Saltwater		Human Health for the consumption of	
EPA Priority Pollutant No. and Name[1]			CAS Number	CMC 1 (acute)	CCC 1 (chronic)	CMC 1 (acute)	CCC 1 (chronic)	Organism Only	FR Cite/ Source
64	Benzo(k) Fluoranthene		207089	ns	ns	ns	ns	0.018 B,C	65FR66443
65	Bis(2-Chloroethoxy) Methane		111911	ns	ns	ns	ns	ns	
66	Bis(2-Chloroethyl) Ether	X	111444	ns	ns	ns	ns	0.53 B,C	65FR66443
67	Bis(2-Chloroisopropyl) Ether		108601	ns	ns	ns	ns	65,000 B	65FR66443
68	Bis(2-Ethylhexyl) PhthalateX		117817	ns	ns	ns	ns	2.2 B,C	65FR66443
69	4-Bromophenyl Phenyl Ether		101553	ns	ns	ns	ns	ns	
70	Butylbenzyl PhthalateW		85687	ns	ns	ns	ns	1,900 B	65FR66443
71	2-Chloronaphthalene		91587	ns	ns	ns	ns	1,600 B	65FR66443
72	4-Chlorophenyl Phenyl Ether		7005723	ns	ns	ns	ns	ns	
73	Chrysene		218019	ns	ns	ns	ns	0.018 B,C	65FR66443
74	Dibenzo(a,h)Anthracene		53703	ns	ns	ns	ns	0.018 B,C	65FR66443
75	1,2-Dichlorobenzene		95501	ns	ns	ns	ns	1,300	68FR75510
76	1,3-Dichlorobenzene		541731	ns	ns	ns	ns	960	65FR66443
77	1,4-Dichlorobenzene		106467	ns	ns	ns	ns	190	68FR75510
78	3,3'-Dichlorobenzidine	X	91941	ns	ns	ns	ns	0.028 B,C	65FR66443
79	Diethyl PhthalateW		84662	ns	ns	ns	ns	44,000 B	65FR66443
80	Dimethyl PhthalateW		131113	ns	ns	ns	ns	1,100,000	65FR66443
81	Di-n-Butyl PhthalateW		84742	ns	ns	ns	ns	4,500 B	65FR66443
82	2,4-Dinitrotoluene		121142	ns	ns	ns	ns	3.4 C	65FR66443
83	2,6-Dinitrotoluene		606202	ns	ns	ns	ns	ns	
84	Di-n-Octyl Phthalate		117840	ns	ns	ns	ns	ns	
85	1,2-Diphenylhydrazine		122667	ns	ns	ns	ns	0.20 B,C	65FR66443
86	Fluoranthene		206440	1300	ns	13	ns	140 B	65FR66443
87	Fluorene		86737	ns	ns	ns	ns	5,300 B	65FR66443
88	Hexachlorobenzene	X	118741	ns	ns	ns	ns	0.00029 B,C	65FR66443
89	Hexachlorobutadiene	X	87683	30	ns	11	ns	18 B,C	65FR66443
90	Hexachlorocyclopentadiene		77474	2	ns	2	ns	1,100 U	68FR75510
91	Hexachloroethane	X	67721	330	ns	310	ns	3.3 B,C	65FR66443
92	Ideno(1,2,3-cd)Pyrene		193395	ns	ns	ns	ns	0.018 B,C	65FR66443
93	Isophorone		78591	39000	ns	4300	ns	960 B,C	65FR66443
94	Naphthalene		91203	770	ns	780	ns	ns	
95	Nitrobenzene		98953	9000	ns	2200	ns	690 B,H,U	65FR66443
96	N-Nitrosodimethylamine	X	62759	ns	ns	ns	ns	3.0 B,C	65FR66443
97	N-Nitrosodi-n-Propylamine		621647	ns	ns	ns	ns	0.51 B,C	65FR66443
98	N-Nitrosodiphenylamine	X	86306	ns	ns	ns	ns	6.0 B,C	65FR66443

Numerical Standards for Toxic Pollutants Applicable to All Waters (A)		carcinogen		Freshwater		Saltwater		Human Health for the consumption of	
EPA Priority Pollutant No. and Name[1]			CAS Number	CMC 1 (acute)	CCC 1 (chronic)	CMC 1 (acute)	CCC 1 (chronic)	Organism Only	FR Cite/ Source
99	Phenanthrene		85018	ns	ns	ns	ns	ns	
100	Pyrene		129000	ns	ns	ns	ns	4,000 B	65FR66443
101	1,2,4-Trichlorobenzene		120821	ns	ns	ns	ns	70	68FR75510
102	Aldrin	X	309002	3.0 G	ns	1.3 G	ns	0.000050 B,C	65FR66443 65FR31682
103	alpha-BHC	X	319846	ns	ns	ns	ns	0.0049 B,C	65FR66443
104	beta-BHC	X	319857	ns	ns	ns	ns	0.017 B,C	65FR66443
105	gamma-BHC (Lindane)	X	58899	0.95 K	0.08	0.16 G	ns	1.8	65FR31682 68FR75510
106	delta-BHC		319868	ns	ns	ns	ns	ns	
107	Chlordane	X	57749	2.4 G	0.0043 G,aa	0.09 G	0.004 G,aa	0.00081 B,C	65FR66443 65FR31682
108	4,4'-DDT	X	50293	1.1 G,ii	0.001 G,aa,ii	0.13 G,ii	0.001 G,aa,ii	0.00022 B,C	65FR66443 65FR31682
109	4,4'-DDE		72559	ns	ns	ns	ns	0.00022 B,C	65FR66443
110	4,4'-DDD		72548	ns	ns	ns	ns	0.00031 B,C	65FR66443
111	Dieldrin	X	60571	0.24 K	0.056 K,O	0.71 G	0.0019 G,aa	0.000054 B,C	65FR66443 65FR31682
112	alpha-Endosulfan		959988	0.22 G,Y	0.056 G,Y	0.034 G,Y	0.0087 G,Y	89 B	65FR66443 65FR31682
113	beta-Endosulfan		33213659	0.22 G,Y	0.056 G,Y	0.034 G,Y	0.0087 G,Y	89 B	65FR66443 65FR31682
114	Endosulfan Sulfate		1031078	ns	ns	ns	ns	89 B	65FR66443
115	Endrin		72208	0.086 K	0.036 K,O	0.037 G	0.0023 G,aa	0.06	65FR31682 68FR75510
116	Endrin Aldehyde		7421934	ns	ns	ns	ns	0.30 B,H	65FR66443
117	Heptachlor	X	76448	0.52 G	0.0038 G,aa	0.053 G	0.0036 G,aa	0.000079 B,C	65FR66443 65FR31682
118	Heptachlor Epoxide		1024573	0.52 G,V	0.0038 G,V,aa	0.053 G,V	0.0036 G,V,aa	0.000039 B,C	65FR66443 65FR31682
119	Polychlorinated Biphenyls (PCBs)	X	-	2.0	0.014	10	0.03 N,aa	0.000064 B,C,N	65FR66443 65FR31682
120	Toxaphene	X	8001352	0.73	0.0002 aa	0.21	0.0002 aa	0.00028 B,C	65FR66443 65FR31682

FOOTNOTES

Numerical Standards for Toxic Pollutants Applicable to All Waters (A)

* The Value listed is the minimum standard. Depending upon the receiving water CaCO3 hardness, higher standards may be calculated using the respective formula in the USEPA publication Quality Criteria for Water (EPA 44/5-86-001, Revised May 1, 1987)

B This criterion has been revised to reflect The Environmental Protection Agency's q1* or RfD, as contained in the Integrated Risk Information System (IRIS) as of May 17, 2002. The fish tissue bioconcentration factor (BCF) from the 1980 Ambient Water Quality Criteria document was retained in each case.

C This criterion is based on carcinogenicity of 10^{-6} risk. Alternate risk levels may be obtained by moving the decimal point (e.g., for a risk level of 10^{-5}, move the decimal point in the recommended criterion one place to the right).

D Freshwater and saltwater criteria for metals are expressed in terms of the dissolved metal in the water column. The recommended water quality criteria value was calculated by using the previous 304(a) aquatic life criteria expressed in terms of total recoverable metal, and multiplying it by a conversion factor (CF). The term "Conversion Factor" (CF) represents the recommended conversion factor for converting a metal criterion expressed as the total recoverable fraction in the water column to a criterion expressed as the dissolved fraction in the water column. (Conversion Factors

for saltwater CCCs are not currently available. Conversion factors derived for saltwater CMCs have been used for both saltwater CMCs and CCCs). See "Office of Water Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria" October 1, 1993, by Martha G. Prothro, Acting Assistant Administrator for Water, available from the Water Resource Center and 40CFR§131.36(b)(1). Conversion Factors applied in the table can be found in Appendix A to the Preamble- Conversion Factors for Dissolved Metals.

F Freshwater aquatic life values for pentachlorophenol are expressed as a function of pH, and are calculated as follows: CMC = exp(1.005(pH)-4.869); CCC = exp(1.005(pH)-5.134). Values displayed in table correspond to a pH of 7.8.

G This Criterion is based on 304(a) aquatic life criterion issued in 1980, and was issued in one of the following documents: Aldrin/Dieldrin (EPA 440/5-80-019), Chlordane EPA 440/5-80-027), DDT (EPA 440/5-80-038), Endosulfan (EPA 440/5-80-046), Endrin (EPA 440/5-80-047), Heptachlor (EPA 440/5-80-052), Hexachlorocyclohexane (EPA 440/5-80-054), Silver (EPA 440/5-80-071). The Minimum Data Requirements and derivation procedures were different in the 1980 Guidelines than in the 1985 Guidelines. For example, a "CMC" derived using the 1980 Guidelines was derived to be used as an instantaneous maximum. If assessment is to be done using an averaging period, the values given should be divided by 2 to obtain a value that is more comparable to a CMC derived using the 1985 Guidelines.

H No criterion for protection of human health from consumption of aquatic organisms excluding water was presented in the 1980 criteria document or in the *1986 Quality Criteria for Water.* Nevertheless, sufficient information was presented in the 1980 document to allow the calculation of a criterion, even though the results of such a calculation were not shown in the document.

J This fish tissue residue criterion for methylmercury is based on a total fish consumption rate of 0.0175 kg/day.

K This recommended criterion is based on a 304(a) aquatic life criterion that was issued in the 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water, (EPA-820-B-96-001, September 1996). This value was derived using the GLI Guidelines (60FR15393-15399, March 23, 1995; 40CFR132 Appendix A); the difference between the 1985 Guidelines and the GLI Guidelines are explained on page iv of the 1995 Updates. None of the decisions concerning the derivation of this criterion were affected by any considerations that are specific to the Great Lakes.

N This criterion applies to total pcbs, (e.g., the sum of all congener or all isomer or homolog or Aroclor analyses.)

O The derivation of the CCC for this pollutant (Endrin) did not consider exposure through the diet, which is probably important for aquatic life occupying upper trophic levels.

P Although a new RfD is available in IRIS, the surface water criteria will not be revised until the National Primary Drinking Water Regulations: Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR) is completed, since public comment on the relative source contribution (RSC) for chloroform is anticipated.

Q This recommended water quality criterion is expressed as g free cyanide (as CN)/L.

U The organoleptic effect criterion is more stringent than the value for priority toxic pollutants.

Y This value was derived from data for endosulfan and is most appropriately applied to the sum of alpha-endosulfan and beta-endosulfan.

aa This criterion is based on a 304(a) aquatic life criterion issued in 1980 or 1986, and was issued in one of the following documents: Aldrin/Dieldrin (EPA 440/5-80-019), Chlordane (EPA 440/5-80-027), DDT (EPA 440/5-80-038), Endrin (EPA 440/5-80-047), Heptachlor (EPA 440/5-80-052), Polychlorinated biphenyls (EPA 440/5-80-068), Toxaphene (EPA 440/5-86-006). This CCC is currently based on the Final Residue Value (FRV) procedure. Since the publication of the Great Lakes Aquatic Life Criteria Guidelines in 1995 (60FR15393-15399, March 23, 1995), the Agency no longer uses the Final Residue Value procedure for deriving CCCs for new or revised 304(a) aquatic life criteria. Therefore, the Agency anticipates that future revisions of this CCC will not be based on the FRV procedure.

bb This water quality criterion is based on a 304(a) aquatic life criterion that was derived using the 1985 Guidelines *(Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses, PB85-227049, January 1985)* and was issued in one of the following criteria documents: Arsenic (EPA 440/5-84-033), Cadmium (EPA-822-R-01-001), Chromium (EPA 440/5-84-029), Copper(EPA 440/5-84-031), Cyanide(EPA 440/5- 84-028), Lead (EPA 440/5-84-027), Nickel (EPA 440/5-86-004), Pentachlorophenol (EPA 440/5-86-009), Toxaphene, (EPA 440/5-86-006), Zinc (EPA 440/5-87- 003).

ee This recommended water quality criterion was derived on page 43 of the mercury criteria document (EPA 440/5-84-026, January 1985). The saltwater CCC of 0.025 ug/L given on page 23 of the criteria document is based on the Final Residue Value procedure in the 1985 Guidelines. Since the publication of the Great Lakes Aquatic Life Criteria Guidelines in 1995 (60FR15393-15399, March 23, 1995), the Agency no longer uses the Final Residue Value procedure for deriving CCCs for new or revised 304(a) aquatic life criteria.

hh This recommended water quality criterion was derived from data for inorganic mercury (II), but is applied here to total mercury. If a substantial portion of the mercury in the water column is methylmercury, this criterion will probably be under protective. In addition, even though inorganic mercury is converted to methylmercury and methylmercury bioaccumulates to a great extent, this criterion does not account for uptake via the food chain because sufficient data were not available when the criterion was derived.

jj This recommended water quality criterion is expressed as total cyanide, even though the IRIS RFD we used to derive the criterion is based on free cyanide. The multiple forms of cyanide that are present in ambient water have significant differences in toxicity due to their differing abilities to liberate the CN-moiety. Some complex cyanides require even more extreme conditions than refluxing with sulfuric acid to liberate the CN-moiety. Thus, these complex cyanides are expected to have little or no 'bioavailability' to humans. If a substantial fraction of the cyanide present in a water body is present in a complexed form (e.g., $Fe_4[Fe(CN)_6]_3$), this criterion may be over conservative.

Numerical Standards for Toxic Pollutants Applicable to All Waters (B)		carcinogen		Freshwater		Saltwater		Human Health for the consumption of	
EPA Non-Priority Pollutant No.	and Name[2]		CAS Number	CMC 1 (acute)	CCC 1 (chronic)	CMC 1 (acute)	CCC 1 (chronic)	Organism Only	FR Cite/ Source
2	Aluminum pH 6.5 – 9.0		7429905	750 G,I	87 G,I,L	ns	ns	ns	53FR33178
9	Chlorine		7782505	19	11	13	7.5	ns	Gold Book
12	Chloropyrifos		2921882	0.083 G	0.041 G	0.011 G	0.0056 G	ns	Gold Book
14	Demeton		8065483	ns	0.1 F	ns	0.1 F	ns	Gold Book
15	Ether, Bis(Chloromethyl)	X	542881	ns	ns	ns	ns	0.00029 E,H	65FR66443
17	Guthion		86500	ns	0.01 F	ns	0.01 F	ns	Gold Book
19	Hexachlorocyclo-hexane-Technical	X	608731	ns	ns		ns	0.0414	Gold Book
21	Malathion		121755	ns	0.1 F	ns	0.1 F	ns	Gold Book
23	Methoxychlor		72435	ns	0.03 F	ns	0.03 F	ns	Gold Book
24	Mirex		2385855	ns	0.001 F	ns	0.001 F	ns	Gold Book
26	Nitrosamines	X	—	1950	ns	ns	ns	1.24	Gold Book
29	Nitrosodibutylamine, N	X	924163	ns	ns	ns	ns	0.22 A,H	65FR66443
30	Nitrosodiethylamine, N	X	55185	ns	ns	ns	ns	1.24 A,H	Gold Book
31	Nitrosopyrrolidine, N	X	930552	ns	ns	ns	ns	34 H	65FR66443
35	Parathion		56382	0.065 J	0.013 J	ns	ns	ns	Gold Book
36	Pentachlorobenzene		608935	ns	ns	ns	ns	1.5 E	65FR66443
45	Tetrachlorobenzene,1,2,4,5		95943	ns	ns	ns	ns	1.1 E	65FR66443
46	Tributyltin (TBT)		—	0.46 Q	0.072 Q	0.42 Q	0.0074 Q	ns	69FR342

[2] Office of Science and Technology. 2006. National Recommended Water Quality Criteria. U.S. Environmental Protection Agency, Office of Water (4304T).

FOOTNOTES

Numerical Standards for Toxic Pollutants Applicable to All Waters (B)

A This human health criterion is the same as originally published in the Red Book which predates the 1980 methodology and did not utilize the fish ingestion BCF approach. This same criterion value is now published in the Gold Book.

E This criterion has been revised to reflect EPA's q1* or RfD, as contained in the Integrated Risk Information System (IRIS) as of May 17, 2002. The fish tissue bioconcentration factor (BCF) used to derive the original criterion was retained in each case.

F The derivation of this value is presented in the Red Book (EPA 440/9-76-023, July, 1976).

G This value is based on a 304(a) aquatic life criterion that was derived using the 1985 Guidelines *(Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses, PB85-227049, January 1985)* and was issued in one of the following criteria documents: Aluminum (EPA 440/5-86-008); Chloride (EPA 440/5-88-001); Chloropyrifos (EPA 440/5-86-005).

H This criterion is based on carcinogenicity of 10^{-6} risk. Alternate risk levels may be obtained by moving the decimal point (e.g., for a risk level of 10^{-5}, move the decimal point in the recommended criterion one place to the right).

I This value for aluminum is expressed in terms of total recoverable metal in the water column.

J This value is based on a 304(a) aquatic life criterion that was issued in the *1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water* (EPA-820-B-96-001). This value was derived using the GLI Guidelines (60FR15393-15399, March 23, 1995; 40CFR132 Appendix A); the differences between the 1985 Guidelines and the GLI Guidelines are explained on page iv of the 1995 Updates. No decision concerning this criterion was affected by any considerations that are specific to the Great Lakes.

L There are three major reasons why the use of Water-Effect Ratios might be appropriate.

1. The value of 87 µg/l is based on a toxicity test with the striped bass in water with pH = 6.5–6.6 and hardness <10 mg/L. Data in "Aluminum Water-Effect Ratio for the 3M Plant Effluent Discharge, Middleway, West Virginia" (May 1994) indicate that aluminum is substantially less toxic at higher pH and hardness, but the effects of pH and hardness are not well quantified at this time.

2. In tests with the brook trout at low pH and hardness, effects increased with increasing concentrations of total aluminum even though the concentration of dissolved aluminum was constant, indicating that total recoverable is a more appropriate measurement than dissolved, at least when particulate aluminum is primarily aluminum hydroxide particles. In surface waters, however, the total recoverable procedure might measure aluminum associated with clay particles, which might be less toxic than aluminum associated with aluminum hydroxide.

3. EPA is aware of field data indicating that many high quality waters in the U.S. contain more than 87 g aluminum/L, when either total recoverable or dissolved is measured.

Q EPA announced the availability of a draft updated tributyltin (TBT) document on August 7, 1997 (62FR42554). The Agency has reevaluated this document and anticipates releasing an updated document for public comment in the near future.

Numerical Standards for Toxic Pollutants Applicable to All Waters (C)			Freshwater		Saltwater		Human Health for the consumption of	
Pollutant Name	carcinogen	CAS Number	CMC 1 (acute)	CCC 1 (chronic)	CMC 1 (acute)	CCC 1 (chronic)	Organism Only	FR Cite/ Source
DDT - metabolite TDE	X		0.03	ns	1.2	ns	ns	
Dichlorobenzenes	X		370	ns	660	ns	850	
Dichloropropanes			7700	ns	3400	ns	ns	
Dinitrotoluenes	X		110	ns	200	ns	3	
Endosulfan			0.22	0.056	0.034	0.0087	52	
Nitrophenols	X		77	ns	1600	ns	ns	
Pentachloroethanes			2400	ns	130	ns	ns	
Polynuclear aromatic hydrocarbons	X		ns	ns	ns	ns	0.01	
Tetrachloroethanes			3100	ns	ns	ns	ns	
Tetrachlorophenol(2,3,5,6)		58902	ns	ns	ns	440	ns	

Note – Compounds listed in the plural in the Pollutant column represent complex mixtures of isomers. Numbers listed to the right of these compounds refer to the total allowable concentration of any combination of isomers of the compound, not only to concentrations of individual isomers.

SECTION 3. (a) In accordance with 40 Code of Federal Regulations, Section 131.41, the State designates as coastal recreation waters all waters up to three miles from shore to a depth of thirty-three meters, excluding areas where water contact recreational activities are prohibited by state or federal law or regulation.

(b) In coastal recreation waters within five hundred meters from the shoreline, enterococcus content shall not exceed a geometric mean of thirty-five colony forming units per one hundred milliliters in no fewer than five samples, which shall be spaced to cover a period between twenty-five and thirty days. No single sample shall exceed the single sample maximum of one hundred and four colony forming units per one hundred milliliters or the site-specific one-sided seventy-five per cent confidence limit.

(c) Coastal recreation waters between five hundred meters and three miles from shore shall be designated as infrequent use coastal recreation waters, and enterococcus content in these waters shall not exceed a geometric mean of thirty-five colony forming units per one hundred milliliters in no fewer than five samples, which shall be spaced to cover a period between twenty-five and thirty days. No single sample shall exceed the single sample maximum of five hundred and one colony forming units per one hundred milliliters or the site-specific one-sided ninety-five per cent confidence limit.

(d) At locations where samples are taken less frequently than five samples for each twenty-five to thirty days, no single sample shall exceed the single sample maximum nor shall the geometric mean of these samples taken during the twenty-five to thirty-day period exceed thirty-five colony forming units per one hundred milliliters.

SECTION 4. Except as provided in section 2(b) of this Act, to the extent any provision in chapter 11-54, Hawaii Administrative Rules, is inconsistent with this Act, that provision shall be superseded upon approval by the United States Environmental Protection Agency of a corresponding provision or standard. Water quality standards not inconsistent with this Act shall remain in effect.

SECTION 5. If any provision of this Act, or the application thereof to any person or circumstances is held invalid, the invalidity does not affect other provisions or applications of the Act which can be given effect without the invalid provision or application, and to this end the provisions of this Act are severable.

SECTION 6. This Act shall take effect upon approval; provided that:

(1) The specific water quality standards prescribed in this Act shall take effect upon their approval by the United States Environmental Protection Agency;

(2) Any water quality standard adopted in section 2 or section 3 of this Act shall be repealed upon a same or corresponding standard being adopted, amended, or repealed by rules adopted under chapter 91, Hawaii Revised Statutes, by the department of health, and the rule being approved by the United States Environmental Protection Agency; provided further that the remaining standards specified in this Act shall remain in effect; and

(3) This Act shall be repealed on June 30, 2011.

(Approved June 16, 2009.)