

Table 1 Physical Characteristics of Sediment Samples from Waukegan Harbor at the Start of Whole-Sediment Tests

SAMPLE	TOTAL ORGANIC CARBON (%)	WATER (%)	PARTICLE SIZE (%)			SEDIMENT CLASS
			SAND	CLAY	SILT	
Control	1.6	31	73	17	10	Sandy Loam
WH-01	3.9	51	41	38	21	Clay Loam
WH-02 (rep 1)	3.0	55	2	38	60	Silty Clay Loam
WH-02 (rep 2)	2.7	55	3	38	56	Silty clay
WH-03	2.2	45	23	27	50	Clay Loam
WH-04	2.8	46	51	28	21	Sandy clay Loam
WH-05	3.0	52	38	33	29	Clay Loam
WH-06	3.5	57	9	36	55	Silty Clay Loam
WH-07	4.4	65	25	60	16	Clay
WH-08	7.8	47	37	28	35	Clay Loam
WH-09 (rep 1)	4.2	42	53	26	21	Sandy Clay Loam
WH-09 (rep 2)	2.7	43	34	34	32	Clay Loam
WH-10	3.1	44	45	21	34	Loam
WH-11	3.9	48	50	29	21	Sandy clay Loam
WH-11R (rep 1)	2.4	50	35	35	29	Clay Loam
WH-11R (rep 2)	4.2	49	36	35	30	Clay Loam
WH-12	5.7	65	7	58	35	Clay
WH-13	4.1	51	32	37	31	Clay Loam
WH-14	4.9	63	9	50	41	Silty Clay
WH-15	3.3	44	48	27	26	Sandy Clay Loam
WH-16	3.8	55	34	36	30	Clay Loam
WH-17	3.8	20	15	46	39	Clay
WH-18 (rep 1)	4.4	58	4	43	52	Silty Clay
WH-18 (rep 2)	4.0	58	7	47	47	Silty Clay
WH-19	4.0	56	17	24	59	Silt Loam

LIST OF TABLES

Table 2 Concentrations of acid volatile sulfides (Fmoles/g), simultaneously extracted metals (SEM in ug/g dry weight), the sum of the molar concentration of SEM, and the sum of the molar concentration of SEM subtracted from the molar concentration of AVS for the sediment samples from Waukegan Harbor

SAMPLE	AVS	Cd	Cu	Ni	Pb	Zn	3SEM	3SEM-AVS
Control	0.31	0.03	0.37	0.07	0.29	0.94	0.02	-0.29
WH-01	8.77	23.5	9.37	11.3	147	202	4.35	-4.42
WH-02	10.2	7.56	18.4	7.38	83.0	124	2.78	-7.42
WH-03	4.41	2.11	16.4	6.27	40.8	68.8	1.63	-2.78
WH-04	8.85	5.17	12.5	6.80	78.6	106	2.36	-6.49
WH-05	5.94	10.8	11.6	6.52	93.0	111	2.54	-3.40
WH-06	9.85	10.7	18.6	7.52	98.9	138	3.10	-6.75
WH-07	4.25	16.3	38.9	9.36	116	146	3.71	-0.54
WH-08	6.55	8.22	20.5	5.78	89.9	102	2.49	-4.06
WH-09	7.09	6.10	12.9	5.23	69.7	85.1	1.98	-5.11
WH-10	8.59	7.87	13.7	6.07	71.6	134	2.78	-5.81
WH-11	10.9	6.50	15.6	5.27	61.8	94.5	2.14	-8.76
WH-11R	10.6	6.77	17.0	5.73	64.4	96.8	2.22	-8.38
WH-12	39.4	6.92	6.68	7.83	77.1	167	3.23	-36.2
WH-13	8.89	7.86	21.3	6.32	83.4	113	2.64	-6.25
WH-14	20.4	8.45	16.0	7.68	84.0	170	3.46	-16.9
WH-15	8.26	6.33	10.5	5.64	82.6	98.3	2.22	-6.04
WH-16	18.5	8.07	19.3	6.92	98.6	144	3.17	-15.3
WH-17	13.8	9.55	17.5	7.74	103	133	3.02	-10.8
WH-18	9.81	12.5	26.8	7.98	111	151	3.51	-6.30
WH-19	16.2	11.6	18.1	8.22	105	150	3.33	-12.9

LIST OF TABLES

Table 3 Total metals (ug/g dry weight) concentrations measured in sediment samples from Waukegan Harbor

SAMPLE	Ag	As	Ba	Cd	Cr	Cu	Fe	Hg	K	Mn	Ni	Pb	Zn
WH-01	<1	43	54	30	145	133	22000	0.50	1400	465	27	188	298
WH-02	<1	20	38	8	56	74	17000	0.18	1600	480	18	80	169
WH-03	<1	11	32	2	28	46	14000	0.10	1300	505	14	45	106
WH-04	<1	22	39	7	57	72	16000	0.18	1800	456	19	98	170
WH-05	<1	22	36	8	59	64	14000	0.19	1300	414	16	84	151
WH-06	<1	25	41	12	72	85	16000	0.20	1200	497	20	112	189
WH-07	<1	33	54	16	96	92	21000	0.21	1700	550	26	119	198
WH-08	<1	20	31	8	51	66	17000	0.14	1000	372	15	93	147
WH-09	<1	14	32	6	40	51	12000	0.12	1000	309	12	64	119
WH-10	<1	31	38	12	70	93	16000	0.24	1200	384	18	117	213
WH-11	<1	20	22	5	32	46	10000	0.12	1000	261	100	49	98
WH-11R	<1	31	32	7	49	68	13000	0.16	1000	320	16	77	148
WH-12	<1	120	43	6	50	228	21000	0.17	1200	447	19	82	202
WH-13	<1	28	37	9	63	82	16000	0.26	1200	426	19	96	178
WH-14	<1	100	53	9	71	170	23000	0.23	1600	492	21	105	255
WH-15	<1	18	29	9	107	57	12000	0.15	1000	341	14	89	143
WH-16	<1	40	43	8	59	148	17000	0.23	1200	353	18	106	262
WH-17	<1	32	37	10	67	96	16000	0.22	1100	402	20	105	185
WH-18	<1	24	40	11	74	87	17000	0.16	1100	490	21	12	200
WH-19	<1	27	42	13	82	98	19000	0.39	1100	540	23	130	220

Table 4 Concentrations (Fg/g dry weight) of organochlorine pesticides measured in sediment samples from Waukegan Harbor

	S A M P L E									
	WH-01	WH-02	WH-03	WH-04	WH-05	WH-06	WH-07	WH-08	WH-09	WH-10
Total PCB's	5.1	NM	6.3	0.87	3.6	5.2	4.7	4.7	5	3
Aldrin	<0.001	NM	<0.001	<0.001	<0.24	<0.4	<0.36	<0.34	<0.33	<0.21
Dieldrin	<0.019	NM	<0.022	<0.006	<0.019	<0.027	<0.02	<0.021	<0.019	<0.011
Total DDT	<0.100	NM	<0.095	<0.035	<0.076	<0.092	<0.087	<0.081	<0.101	<0.07
p,p ¹ -DDE	<0.075	NM	<0.072	<0.02	<0.056	<0.060	<0.063	<0.061	<0.07	<0.04
p,p ¹ -DDD	<0.016	NM	<0.023	<0.011	<0.013	<0.020	<0.017	<0.02	<0.018	<0.019
p,p ¹ -DDT	<0.01	NM	<0.001	<0.005	<0.007	<0.012	<0.010	<0.01	<0.013	<0.01
Total Chlordane	<0.014	NM	<0.02	<0.005	<0.012	<0.016	<0.014	<0.016	<0.015	<0.009
Chlordane, Cis Isomer	<0.002	NM	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chlordane, Trans Isomer	<0.014	NM	<0.02	<0.003	<0.012	<0.016	<0.014	<0.016	<0.015	<0.009
Endrin	<0.001	NM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Methoxychlor	<0.062	NM	<0.038	<0.025	<0.045	<0.050	<0.046	<0.044	<0.057	<0.034
Alpha-BHC	<0.001	NM	<0.001	<0.001	<0.001	<0.001	<0.002	<0.003	<0.002	<0.001
Gamma-BHC (Lindane)	<0.001	NM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Hexachlorobenzene	<0.001	NM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0012
Heptachlor	<0.001	NM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Heptachlor Epoxide	<0.001	NM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Table 4 Concentrations (Fg/g dry weight) of organochlorine pesticides measured in sediment samples from Waukegan Harbor

	S A M P L E									
	WH-11	WH-11R	WH-12	WH-13	WH-14	WH-15	WH-16	WH-17	WH-18	WH-19
Total PCB's	4.3	5.8	8.9	7.4	7.7	4.9	7.3	7.3	4.4	5.2
Aldrin	<0.33	<0.45	<0.65	<0.52	<0.6	<0.37	<0.58	<0.52	<0.32	<0.33
Dieldrin	<0.028	<0.03	<0.062	<0.078	<0.053	<0.025	<0.045	<0.047	<0.026	<0.028
Total DDT	<0.08	<0.11	<0.17	<0.17	<0.14	<0.01	<0.13	<0.15	<0.01	<0.12
p,p ¹ -DDE	<0.054	<0.069	<0.098	<0.13	<0.097	<0.074	<0.084	<0.11	<0.07	<0.084
p,p ¹ -DDD	<0.01	<0.015	<0.011	<0.022	<0.013	<0.01	<0.012	<0.02	<0.011	<0.014
p,p ¹ -DDT	<0.016	<0.024	<0.063	<0.014	<0.035	<0.014	<0.037	<0.017	<0.01	<0.023
Total Chlordane	<0.016	<0.02	<0.032	<0.031	<0.029	<0.02	<0.027	<0.03	<0.17	<0.02
Chlordane, Cis Isomer	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chlordane, Trans Isomer	<0.016	<0.02	<0.032	<0.031	<0.029	<0.02	<0.027	<0.03	0.017	<0.02
Endrin	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Methoxychlor	<0.035	<0.04	<0.08	<0.064	<0.1	<0.057	<0.06	<0.057	<0.055	<0.04
Alpha-BHC	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Gamma-BHC (Lindane)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Hexachlorobenzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.014
Heptachlor	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Heptachlor Epoxide	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

LIST OF TABLES

Table 5 Concentrations ($\mu\text{g/g}$ dry weight) of polynuclear aromatic hydrocarbons (PAHs) in sediment samples from Waukegan Harbor

	S A M P L E									
	WH-01	WH-02	WH-03	WH-04	WH05	WH-06	WH-07	WH-08	WH-09	WH-10
Naphthalene	0.30	0.38	0.16	0.30	0.24	0.41	0.35	0.50	0.32	0.67
2-methylnaphthalene	0.28	0.48	0.17	0.43	0.28	0.57	0.42	0.69	0.46	0.43
1-methylnaphthalene	0.12	0.20	0.08	0.19	0.12	0.21	0.18	0.26	0.20	0.18
biphenyl	0.03	0.03	<0.01	0.02	<0.01	0.02	0.04	0.04	0.26	0.05
2,6-dimethylnaphthalene	0.13	0.23	0.08	0.24	0.13	0.24	0.17	0.38	0.22	0.23
Acenaphthalene	0.05	0.04	0.02	0.03	0.03	0.04	0.03	0.03	0.04	0.09
Acenaphthene	0.05	0.05	0.06	0.04	0.03	0.04	0.04	0.04	0.14	0.25
2,3,5-trimethylnaphthalene	0.07	0.06	0.04	0.06	0.04	0.08	0.06	0.07	0.09	0.11
Fluorene	0.08	0.07	0.08	0.06	0.05	0.09	0.06	0.06	0.18	0.43
Dibenzothiophene	0.04	0.04	0.03	0.03	0.02	0.03	0.03	0.05	0.08	1.13
Phenanthrene	0.42	0.50	0.65	0.37	0.29	0.42	0.36	0.57	1.59	1.51
Anthracene	0.17	0.10	0.27	0.08	0.07	0.10	0.08	0.14	0.35	0.82
1-methylphenanthrene	0.09	0.08	0.07	0.07	0.05	0.07	0.05	0.08	0.14	0.24
Fluoranthene	0.58	0.80	0.96	0.57	0.46	0.68	0.59	0.92	1.83	1.45
Pyrene	0.51	0.68	0.89	0.48	0.38	0.56	0.45	0.76	1.50	1.20
1,2-benzanthracene	0.36	0.42	0.39	0.26	0.23	0.28	0.26	0.37	0.74	0.65
Chrysene	0.33	0.35	0.44	0.26	0.22	0.30	0.27	0.54	1.14	0.47
Benzo(b)fluoranthene	0.14	0.19	0.40	0.17	0.22	0.21	0.26	0.30	1.49	0.30
Benzo(k)fluoranthene	0.28	0.14	0.06	0.13	0.13	0.14	0.13	1.04	0.13	0.16
Benzo(b)pyrene	0.21	0.12	0.12	0.10	0.18	0.15	0.18	0.77	1.10	0.18
Benzo(a)pyrene	0.20	0.29	0.24	0.19	0.21	0.28	0.18	0.83	1.46	0.38
Perylene	0.06	0.09	0.83	0.07	0.04	0.07	0.06	0.24	0.16	0.11
Indeno(1,2,3-cd)pyrene	0.39	0.11	0.09	0.07	0.09	0.10	0.09	0.42	<0.01	0.13
1,2,5,6-dibenzanthracene	0.05	0.04	0.05	<0.01	<0.01	0.04	<0.01	<0.01	0.08	0.05
Benzo(g,h,i)perylene	0.13	0.10	0.10	0.08	0.06	<0.01	0.07	0.30	0.23	0.12

LIST OF TABLES

Table 5 Concentrations ($\mu\text{g/g}$ dry weight) of polynuclear aromatic hydrocarbons (PAHs) in sediment samples from Waukegan Harbor

	S A M P L E									
	WH-11	WH-11R	WH-12	WH-13	WH-14	WH-15	WH-16	WH-17	WH-18	WH-19
Naphthalene	0.55	0.62	0.30	0.50	1.74	0.46	0.89	0.51	0.58	0.31
2-methylnaphthalene	0.86	0.97	0.42	0.63	1.52	0.63	1.28	0.81	0.89	0.47
1-methylnaphthalene	0.31	0.34	0.34	0.25	0.68	0.25	0.56	0.30	0.30	0.18
biphenyl	0.04	0.03	0.14	0.03	0.09	0.03	0.05	0.03	0.03	0.03
2,6-dimethylnaphthalene	0.38	0.43	0.36	0.25	0.69	0.27	0.80	0.37	0.38	0.22
Acenaphthalene	0.07	0.04	0.28	0.05	0.12	0.04	0.09	0.05	0.05	0.05
Acenaphthene	0.06	0.06	0.94	0.08	0.27	0.19	0.11	0.06	0.07	0.04
2,3,5-trimethylnaphthalene	0.09	0.10	0.15	0.06	0.18	0.08	0.24	0.09	0.09	0.06
Fluorene	0.11	0.08	1.53	0.07	0.29	0.23	0.12	0.07	0.07	0.08
Dibenzothiophene	0.04	0.04	0.34	0.03	0.09	0.13	0.08	0.04	0.05	0.04
Phenanthrene	0.64	0.40	4.25	0.98	1.16	2.37	0.85	0.49	1.05	0.44
Anthracene	0.18	0.12	1.64	0.19	0.37	0.49	0.26	0.12	0.17	0.12
1-methylphenanthrene	0.11	0.08	0.35	0.10	0.17	0.19	0.19	0.08	0.10	0.07
Fluoranthene	1.04	0.56	3.93	1.30	1.46	2.88	1.21	0.87	1.14	0.84
Pyrene	0.87	0.48	3.15	1.13	1.48	2.28	1.08	0.68	0.95	0.51
1,2-benzanthracene	0.50	0.21	1.30	0.52	0.53	1.06	0.51	0.40	0.50	0.38
Chrysene	0.38	0.27	2.43	0.48	0.62	1.44	0.45	0.38	0.35	0.38
Benzo(b)fluoranthene	0.30	0.22	1.35	0.36	0.40	1.51	0.54	0.28	0.33	0.30
Benzo(k)fluoranthene	0.14	0.17	0.22	0.16	0.25	0.13	1.07	0.47	0.18	0.13
Benzo(b)pyrene	0.20	0.15	0.56	0.21	0.36	1.10	0.94	0.42	0.24	0.23
Benzo(a)pyrene	0.30	0.13	1.31	0.37	0.47	1.23	1.02	0.61	0.41	0.40
Perylene	0.09	0.07	0.31	0.11	0.13	0.31	0.33	0.19	0.11	0.11
Indeno(1,2,3-cd)pyrene	0.10	0.11	0.31	0.16	0.24	0.35	0.65	0.24	0.18	0.18
1,2,5,6-dibenzanthracene	<0.01	0.03	0.16	0.08	<0.01	0.11	<0.01	0.10	<0.01	<0.01
Benzo(g,h,i)perylene	0.09	0.67	0.29	0.12	0.19	0.80	0.56	0.25	0.14	0.15

Table 6 Response of *Hyalella azteca* in 28-d exposures to sediment samples from Waukegan harbor and to a formulated control sediment

Means (*standard error of the means in parentheses*) with an asterisk within a column for each sediment type are significantly different than the control ($p < 0.05$)

SITE	SURVIVAL (%)			LENGTH ¹		WEIGHT ²		NUMBER OF YOUNG/FEMALE DAY 28 TO 42	FEMALES ³ (%)
	DAY 28	DAY 35	DAY 42	DAY 28 (mm)	DAY 42 (mm)	DAY 28 (mg)	DAY 42 (mg)		
Control	100 (0.0)	95 (2.9)	95 (2.9)	4.6 (0.08)	5.1 (0.08)	0.52 (0.04)	0.53 (0.04)	4.7 (1.66)	67
WH-01	*79 (6.9)	93 (4.8)	93 (4.8)	*3.8 (0.07)	*4.4(0.05)	*0.39 (0.02)	*0.35(0.01)	3.8 (0.19)	53
WH-02	90 (5.4)	80 (10.8)	80 (10.8)	*3.6 (0.06)	*4.3(0.05)	*0.30 (0.04)	*0.35 (0.03)	*1.9 (0.95)	51
WH-03	*88 (3.7)	85 (6.5)	80 (9.1)	*3.8 (0.05)	*4.4(0.05)	*0.27 (0.02)	*0.38 (0.03)	4.5 (1.32)	42
WH-04	90 (3.3)	98 (2.5)	98 (2.5)	*4.0 (0.05)	*4.4 (0.04)	*0.29 (0.02)	*0.35 (0.01)	5.5 (0.65)	38
WH-05	93 (4.1)	90 (5.8)	90 (5.8)	*3.9 (0.05)	*4.4 (0.05)	*0.34 (0.04)	*0.37 (0.03)	4.7 (0.43)	46
WH-06	99 (1.3)	93 (2.5)	90 (0.0)	*3.6 (0.05)	*4.2 (0.05)	*0.25 (0.02)	*0.33 (0.02)	4.3 (0.71)	25
WH-07	100 (0.0)	98 (2.5)	98 (2.5)	*4.1 (0.04)	*4.3 (0.06)	*0.33 (0.02)	*0.37 (0.01)	6.2 (0.98)	40
WH-08	*84 (4.2)	90 (7.1)	88 (6.3)	*3.8 (0.10)	*4.3 (0.04)	*0.29 (0.06)	*0.34 (0.02)	4.3 (0.71)	31
WH-09	95 (2.7)	93 (7.5)	93 (7.5)	*3.6 (0.04)	*4.2 (0.08)	*0.36 (0.02)	*0.32 (0.03)	4.3 (0.82)	41
WH-10	100 (0.0)	93 (4.8)	88 (4.6)	*3.5 (0.05)	*4.3 (0.06)	*0.29 (0.02)	*0.31 (0.03)	2.6 (0.27)	49
WH-11	94 (5.0)	86 (8.8)	86 (8.8)	*4.0 (0.06)	*4.3 (0.08)	*0.34 (0.03)	*0.40 (0.06)	*1.6 (0.87)	48
WH-11R	96 (2.6)	95 (5.0)	95 (5.0)	*3.9 (0.06)	*4.2 (0.05)	*0.31 (0.03)	*0.35 (0.01)	2.0 (1.03)	39
WH-12	*66 (7.1)	*63 (6.3)	*63 (6.3)	*3.9 (0.08)	*4.4 (0.08)	*0.27 (0.04)	0.43 (0.01)	4.6 (1.06)	36
WH-13	93 (4.1)	95 (5.0)	95 (5.0)	4.3 (0.05)	*4.4 (0.05)	*0.36 (0.03)	*0.38 (0.03)	3.2 (0.70)	57
WH-14	90 (3.8)	85 (2.9)	78 (2.5)	*4.1 (0.05)	*4.5 (0.04)	*0.25 (0.02)	*0.39 (0.01)	5.1 (1.08)	50
WH-15	96 (2.6)	100 (0.0)	100 (0.0)	*3.6 (0.09)	*4.1 (0.04)	*0.23 (0.02)	*0.28 (0.01)	2.2 (0.35)	52
WH-16	*88 (3.1)	80 (4.1)	78 (6.3)	*3.8 (0.06)	*4.6 (0.02)	*0.25 (0.02)	*0.36 (0.03)	3.4 (0.95)	59
WH-17	93 (4.1)	88 (7.5)	88 (4.8)	*4.1 (0.06)	*4.5 (0.04)	*0.28 (0.04)	*0.30 (0.03)	3.1 (1.51)	57
WH-18	93 (3.1)	93 (4.8)	90 (4.1)	*4.0 (0.04)	*4.5 (0.06)	*0.26 (0.01)	0.42 (0.02)	4.1 (1.44)	49
WH-19	*88 (2.5)	90 (0.0)	90 (0.0)	*4.1 (0.06)	*4.3 (0.05)	*0.25 (0.02)	*0.33 (0.03)	3.4 (1.24)	50

¹ starting body length of amphipods was 1.32 mm (0.02), n=4 for all samples except Day 28 survival where n=8

² starting weight of amphipods was 0.02 mg

³ percentage females not analyzed statistically

LIST OF TABLES

Table 7 Sediment toxicity profile of samples from Waukegan Harbor using the Microtox Basic test

SAMPLE	EC50 ^A		TOXICITY REFERENCE INDEX ^B
	MEAN	CI	PENTA
Control	0.5	0.3 - 0.8	1.0
WH-01	3.3	2.6 - 3.5	0.15
WH-02	1.4	0.97 - 2.0	0.36
WH-03	1.5	0.7 - 2.0	0.33
WH-04	2.4	2.2 - 2.7	0.21
WH-05	2.7	2.1 - 3.0	0.19
WH-06	2.3	2.5 - 3.6	0.21
WH-07	3.4	3.4 - 4.0	0.14
WH-08	2.6	1.2 - 5.0	0.19
WH-09	0.9	0.5 - 1.1	0.56
WH-10	1.8	1.5 - 2.4	0.28
WH-11	2.8	2.5 - 3.2	0.18
WH-11R	1.4	1.1 - 1.7	0.34
WH-12	0.42	0.27 - 0.45	1.20
WH-13	1.4	0.28 - 2.6	0.36
WH-14	1.3	0.6 - 2.1	0.38
WH-15	1.8	1.3 - 3.4	0.28
WH-16	1.2	0.6 - 3.7	0.43
WH-17	0.99	0.6 - 1.3	0.51
WH-18	0.86	0.83 - 0.89	0.58
WH-19	14.5	13.4 - 15.9	0.03

^a **EC50 = percentage wet weight whole sediment/mL and 95% confidence interval**

^b **Sediment Index = EC50 value for the organic extract of the control sediment spiked with PCP divided by the EC50 value for sediment organic extract**

LIST OF TABLES

Table 8 Sediment toxicity profile for samples from Waukegan Harbor using the Microtox® solid-phase test

SAMPLE	EC50 ^a		TOXICITY REFERENC E INDEX ^b	% CLAY
	MEAN	CI	PCP	
Control	9.9	8.8 -10.5	1.0	17
WH-01	0.25	0.23 - 0.29	2.0	38
WH-02	0.27	0.25 - 0.29	1.9	38
WH-03	1.1	1.0 - 1.1	0.5	27
WH-04	1.1	0.9 - 1.4	0.5	28
WH-05	3.4	2.6 - 4.4	0.1	33
WH-06	5.4	2.9 - 9.8	0.1	36
WH-07	1.1	0.9 - 1.3	0.5	55
WH-08	0.34	0.23 - 0.51	1.5	28
WH-09	2.3	1.5 - 3.4	0.2	34
WH-10	0.37	0.34 - 0.40	1.4	21
WH-11	0.14	0.1 - 0.18	3.6	29
WH-11R	0.7	0.58 - 0.84	0.7	35
WH-12	0.11	0.06 - 0.19	4.5	58
WH-13	0.68	0.47 - 0.97	0.7	37
WH-14	0.25	0.16 - 0.41	2.0	50
WH-15	0.25	0.23 - 0.27	2.0	50
WH-16	0.1	0.09 - 0.11	5.0	27
WH-17	0.44	0.32 - 0.59	1.1	30
WH-18	0.53	0.37 - 0.76	0.9	39
WH-19	0.37	0.25 - 0.55	1.4	52

^a **EC50 = percentage wet weight whole sediment/mL and 95% confidence interval**

^b **Sediment Index =EC50 value for the control sediment (FS) or the PCP-spiked sediment (PCP) divided by the EC50 value for the whole-sediment sample Sediment toxicity profile for samples from Waukegan Harbor using the Microtox solid-phase test.**

LIST OF TABLES

Table 9 The number of PEC exceedances and sum PEC-quotient calculated for each sample (*based on 14 PECs*)

SAMPLE	NUMBER OF PEC EXCEEDANCES	MEAN PEC QUOTIENT
Control	0	0.00
WH-01	6	1.70
WH-02	1	0.51
WH-03	2	1.12
WH-04	2	0.57
WH-05	3	0.92
WH-06	3	1.26
WH-07	4	1.29
WH-08	3	1.16
WH-09	5	1.27
WH-10	5	1.14
WH-11	4	1.11
WH-11R	4	1.24
WH-12	8	2.40
WH-13	3	1.68
WH-14	6	1.02
WH-15	6	0.81
WH-16	5	0.73
WH-17	3	0.60
WH-18	4	0.59
WH-19	4	0.62

LIST OF TABLES

Table 10 Percentage of toxic samples in *H. azetca* 28-d tests (n *in parentheses*) above a specified mean PEC quotient and between a mean PEC quotient of 0.1 and the specified PEC quotient. Percentage of toxic samples below a mean PEC quotient of 0.1 = 6.8% (n=59)

SPECIFIED MEAN PEC QUOTIENT	PERCENT TOXIC BETWEEN QUOTIENT OF 0.1 AND THE SPECIFIED QUOTIENT	PERCENT TOXIC ABOVE SPECIFIED QUOTIENT
0.3	8.1 (37)	75 (53)
0.4	14 (44)	80 (46)
0.5	17 (47)	81 (43)
0.6	22 (54)	86 (36)
0.7	23 (57)	91 (33)
0.8	25 (60)	93 (30)
0.9	25 (61)	97 (29)
1.0	27 (63)	96 (27)
1.5	39 (75)	93 (15)

Table 11 Percentage of toxic samples in *H. azetca* 28-d tests (n *in parentheses*) above a specified proportion of PECs exceeded and between a proportion of 0.05 of the PECs exceeded and the specified proportion of PECs exceeded. Percentage of toxic samples below an PEC exceedance proportion of 0.05 = 10% (n=97)

SPECIFIED PROPORTION OF PECs EXCEEDED	PERCENT TOXIC BETWEEN A PROPORTION OF 0.05 OF THE PECs EXCEEDED AND THE PROPORTION OF PECs EXCEEDED	PERCENT TOXIC ABOVE SPECIFIED PROPORTION OF PECs EXCEEDED
0.1	28 (7)	78 (45)
0.2	40 (15)	84 (37)
0.3	61 (36)	94 (16)
0.4	66 (41)	91 (11)
0.5	69 (45)	86 (7)
0.6	68 (47)	100 (5)

LIST OF TABLES

Table 13 Percentage of toxic samples in the Microtox solid-phase test (*n in parentheses*) above a specified mean PEC quotient and between a mean PEC quotient of 0.1 and the specified PEC quotient.

SPECIFIED MEAN PEC QUOTIENT	PERCENT TOXIC BETWEEN QUOTIENT OF 0.1 AND THE SPECIFIED QUOTIENT	PERCENT TOXIC ABOVE SPECIFIED QUOTIENT
0.3	0 (0)	55 (20)
0.4	0 (0)	55 (20)
0.5	0 (0)	55 (20)
0.6	100 (1)	53 (19)
0.7	100 (1)	53 (19)
0.8	50 (2)	56 (18)
0.9	50 (2)	56 (18)
1.0	33 (3)	59 (17)
1.5	43 (14)	83 (6)

Table 14 Percentage of toxic samples in the Microtox solid-phase test (*n in parentheses*) above a specified proportion of PECs exceeded and between a PEC proportion of 0.1 and the specified proportion of PECs exceedances. Percentage of toxic samples below an PEC exceedance proportion of 0.1 = 100% (*n=1*)

SPECIFIED PROPORTION OF PECs EXCEEDED	PERCENT TOXIC BETWEEN A PROPORTION OF 0.05 OF THE PECs EXCEEDED AND THE PROPORTION OF PECs EXCEEDED	PERCENT TOXIC ABOVE SPECIFIED PROPORTION OF PECs EXCEEDED
0.1	100 (1)	53 (19)
0.2	33 (3)	59 (17)
0.3	38 (8)	67 (12)
0.4	38 (13)	86 (7)
0.5	53 (19)	100 (1)
0.6	55 (20)	100 (1)