

Table 4-1b. Sediment Chemistry at Singing Pond^a

Chemical Sampling Year	Effects Criteria ^b		Main Channel			Marsh		
	TEC	PEC	SP1 1999	SP2 1999	SP3 1999	SP4 1999	SP 5 2001	SP 6 2001
Metals (mg/kg)								
Arsenic	9.79	33	4.60	36.3	11.6	62.1	112.50	100.30
Cadmium	0.99	4.98	1.02	14.4	0.912	53.8	6.30	17.40
Chromium	43.4	111	52.3	159	56.9	554	166.20	234.30
Copper	31.6	149	62.0	979	56.2	568	4009.40	4240.80
Lead	35.8	128	50.9	425	50.1	652	1199.40	1766.00
Mercury	0.18	1.06	0.190	1.39	0.0814	1.36	5.13	7.14
Nickel	22.7	48.6	14.7	76.4	14.6	172	57.10	67.30
Selenium	NC	NC	--	--	--	--	4.60	4.80
Silver	6.1	NC	1.89	3.11	0.266	9.93	2.30	2.40
Tin	NC	NC	9.01	137	15.5	238	--	--
Zinc	121	459	58.2	701	62.1	1380	1702.00	2480.80
SEM/AVS Ratio	1	1	11.4	0.37	24.1	0.25	0.16	2.24
PAHs (ug/kg)								
Acenaphthene	16	500	84.90	1042.92	61.06	465.29	1580	10330
Acenaphthylene	44	640	110.19	383.34	93.35	323.21	3350	4750
Anthracene	57.2	845	228.32	1842.32	139.35	988.09	9200	27270
Benz(a)anthracene	108	1050	1033.30	4105.68	801.22	3155.69	19990	29210
Benz(a)pyrene	150	1450	1127.83	4386.89	937.98	4014.02	15370	20270
Benz(e)pyrene	NC	NC	--	--	--	--	9420	10850
Benz(b)fluoranthene	240	1340	747.57	3562.14	640.00	4383.50	11500	12160
Benz(g,h,i)perylene	170	320	737.57	3010.34	648.61	2316.96	6600	7660
Benz(k)fluoranthene	240	1340	881.60	3846.05	737.99	4331.22	11660	16320
Biphenyl	NC	NC	--	--	--	--	1030	1550
Chrysene	166	1290	1217.75	4885.02	929.26	5702.98	19970	27660
Dibenz(a,h)anthracene	33	130	232.09	895.20	200.61	662.70	750	950
Dibenzothiophene	NC	NC	--	--	--	--	3120	3660
2,6-Dimethylnaphthalene	NC	NC	--	--	--	--	1050	2510
Fluoranthene	423	2230	1253.65	7198.96	929.31	7493.87	36570	51180
Fluorene	77.4	536	122.68	1212.08	84.46	744.88	2990	9100
Indeno(1,2,3-c,d)pyrene	200	320	717.02	2999.62	644.24	2886.11	6730	8140
2-Methylnaphthalene	NC	NC	--	--	--	--	2470	4560
1-Methylnaphthalene	NC	NC	--	--	--	--	990	2940
1-Methylphenanthrenes	NC	NC	--	--	--	--	5420	27270
Naphthalene	176	561	414.76	1378.34	220.17	373.20	3540	5180
Perylene	NC	NC	--	--	--	--	--	--
Phenanthrene	204	1170	988.43	6949.68	533.01	3827.11	17470	49840
Pyrene	195	1520	1943.12	7147.99	1214.31	7775.81	43610	63840
2,3,5-Trimethylnaphthalene	NC	NC	--	--	--	--	460	2340
C1-benzo(a)anthracenes/chrysenes	NC	NC	--	--	--	--	12060	16280
C1-fluoranthenes/anthracene	NC	NC	--	--	--	--	94880	52630
C1-fluorennes	NC	NC	--	--	--	--	2650	7010
C1-phenanthrenes/anthracene	NC	NC	--	--	--	--	11700	46990
C2-benzo(a)anthracenes/chrysenes	NC	NC	--	--	--	--	5150	5500
C2-fluoranthenes/anthracene	NC	NC	--	--	--	--	11190	13680
C2-fluorennes	NC	NC	--	--	--	--	2390	3740
C2-naphthalenes	NC	NC	--	--	--	--	30	U
C2-phenanthrenes/anthracene	NC	NC	--	--	--	--	15650	28520
C3-benzo(a)anthracenes/chrysenes	NC	NC	--	--	--	--	30	U
C3-fluorennes	NC	NC	--	--	--	--	30	U
C3-naphthalenes	NC	NC	--	--	--	--	30	U
C3-phenanthrenes/anthracene	NC	NC	--	--	--	--	6950	8620
C4-benzo(a)anthracenes/chrysenes	NC	NC	--	--	--	--	300	30
C4-naphthalenes	NC	NC	--	--	--	--	30	U
C4-phenanthrenes/anthracene	NC	NC	--	--	--	--	9680	30
TOTAL PAHs ^c	1610	22800	11,840.78	54,846.55	8,814.93	49,445	246,900	415,820
Σ ESGTU ^d	1	1	2.12	8.17	9.13	2.55	4.9	38.51

Table 4-1b. Sediment Chemistry at Singing Pond^a (cont'd)

Chemical Sampling Year	Effects Criteria ^b		Main Channel						Marsh				
	TEC	PEC	SP1 1999	SP2 1999	SP3 1999	SP4 1999	SP 5 2001	SP 6 2001					
Pesticides/PCBs													
Aldrin	NC	NC	0.07	U	0.11	U	0.07	U	0.20	U	1.30	U	1.30
Total Chlordane ^d	3.24	17.6	0.66		12.11		0.58		33.13		13.40	U	13.10
trans-Nonachlor	7	6	0.58		5.21		0.55		9.06	--	--	--	--
Dieldrin	1.9	61.8	3.29		7.59		2.12		178.83		1.30	U	1.30
Heptachlor	NC	NC	0.07	U	0.11	U	0.07	U	0.21	U	1.30	U	1.30
Heptachlor epoxide	2.47	16	0.07	U	0.11	U	1.06		2.91		1.30	U	1.30
Hexachlorobenzene	2.37	24	0.19		1.07		0.65		0.73	--	--	--	--
Lindane	3	4.99	0.08	U	0.13	U	0.08	U	1.50		1.30	U	1.30
Mirex	7	130	0.53		4.20		0.07	U	0.22	U	--	--	--
Endrin	2.22	207	0.25	U	0.39	U	0.24	U	0.74	U	--	--	--
4,4'-DDE	3.16	31.3	3.22		19.42		2.15		402.89		1.30	U	1.30
4,4'-DDD	4.88	28	5.00		14.24		3.35		113.03		1.30	U	1.30
4,4'-DDT	4.16	62.9	5.84		15.23		0.11	U	16.01		1.30	U	1.30
alpha-BHC	NC	NC	--		--		--		--		1.30	U	1.30
beta-BHC	NC	NC	--		--		--		--		1.30	U	1.30
delta-BHC	NC	NC	--		--		--		--		1.30	U	1.30
Endosulfan I	NC	NC	--		--		--		--		1.30	U	1.30
Endosulfan II	NC	NC	--		--		--		--		1.30	U	1.30
Endosulfan sulfate	NC	NC	--		--		--		--		1.30	U	1.30
Endrin	NC	NC	--		--		--		--		1.30	U	1.30
Endrin Aldehyde	NC	NC	--		--		--		--		1.30	U	1.30
Endrin ketone	NC	NC	--		--		--		--		1.30	U	1.30
Methoxychlor	NC	NC	--		--		--		--		13.40	U	13.10
Toxaphene	NC	NC	--		--		--		--		133.90	U	131.40
Total PCB ^e	50.8	676	1262.78		3755.99		1045.10		4917.03		13.39	U	13.14

U = Not detected

TEC = Threshold Effect Concentration

PEC = Probable Effect Concentration

a. Full results presented in the Final Data Report (Battelle, 2000) and Appendix B. For the purpose of this summary, concentrations reported for duplicate samples were averaged to obtain one value for each location.

b. For a description of the sediment effects criteria evaluated see Table 2-3.

c. Sum of 16 NS&T PAH Priority Pollutants

d. See Appendix D for discussion.

e. Sum of cis-Chlordane and gamma-Chlordane

f. Sum of 18 NS&T congeners multiplied by two at 1999 stations; sum of aroclors at 2001 stations.