

Table 5-2. Summary of Assessment 1a: Bulk Sediment Chemistry Data

Chemical	TEC	PEC	Units	Fisherville Pond-North Pool	Fisherville Pond Central Pool	Fisherville Pond-South Pool	Singing Pond-Main Channel	Singing Pond-Marsh Area	Lake Wildwood
Metals									
Arsenic	9.79	33	mg/kg	16.0	43.5	54.9	17.5	91.63	7.18
Cadmium	0.99	4.98	mg/kg	3.3	36.8	29.7	5.4	25.83	0.98
Chromium	43.4	111	mg/kg	39.6	459.2	693.3	89.4	318.17	26.03
Copper	31.6	149	mg/kg	43.7	902.5	1359.6	365.7	2939.40	32.90
Lead	35.8	128	mg/kg	67.7	632.8	974.2	175.3	1205.80	108.27
Mercury	0.18	1.06	mg/kg	0.1	1.9	2.6	0.6	4.54	0.20
Nickel	22.7	48.6	mg/kg	24.0	73.0	81.3	35.2	98.80	8.13
Selenium	--	--	mg/kg	ND	1.7	4.5	NA	4.70	3.40
Silver ^d	6.1	--	mg/kg	0.2	9.2	14.1	1.8	4.88	0.12
Tin	--	--	mg/kg	4.5	315.2	324.1	53.8	238.00	63.01
Zinc	121	459	mg/kg	245.5	855.5	604.3	273.8	1854.27	97.70
PAHs									
Naphthalene	176	561	ug/kg	19.9	1181.8	2205.3	671.1	3031.07	27.68
Acenaphthylene ^e	44	640	ug/kg	12.7	645.6	4175.9	195.6	2807.74	59.05
Acenaphthene ^e	16	500	ug/kg	9.0	316.1	11803.6	396.3	4125.10	130.86
Fluorene	77	536	ug/kg	20.3	486.9	10917.8	473.1	4278.29	121.19
Phenanthrene	204	1170	ug/kg	290.1	3230.7	35899.1	2823.7	23712.37	394.29
Anthracene	57	845	ug/kg	31.7	984.7	19473.9	736.7	12486.03	92.13
Fluoranthene	423	2230	ug/kg	665.1	4719.8	26982.9	3127.3	31747.96	465.48
Pyrene	195	1520	ug/kg	559.7	5982.3	38487.2	3435.1	38408.60	564.57
Benzo(a)anthracene	108	1050	ug/kg	226.7	3389.5	17767.6	1980.1	17451.90	237.74
Chrysene	166	1290	ug/kg	379.4	4981.6	18695.6	2344.0	17777.66	349.13
Benzo(b)fluoranthene ^f	240	1340	ug/kg	289.6	3937.6	7948.6	1649.9	9347.83	210.55
Benzo(k)fluoranthene ^d	240	1340	ug/kg	302.2	3695.0	7536.7	1821.9	10770.41	215.81
Benzo(a)pyrene	150	1450	ug/kg	263.1	4716.5	11675.8	2150.9	13218.01	187.70
Indeno(1,2,3-c,d)pyrene ^d	200	320	ug/kg	218.9	4320.4	5885.2	1453.6	5918.70	78.44
Dibenz(a,h)anthracene ^d	33	130	ug/kg	47.7	1121.7	1173.1	442.6	787.57	22.00
Benzo(g,h,i)perylene ^d	170	320	ug/kg	216.1	4572.5	5854.4	1465.5	5525.65	80.00
Total PAHs ^b	1610	22800	ug/kg	3552.2	48283.8	226482.7	25167.4	201394.88	3269.96
Pesticides/PCBs									
Total Chlordane	3.24	17.6	ug/kg	0.5	20.7	29.2	4.5	15.84	10.53
trans-Nonachlor	7 ^g	6 ^d	ug/kg	0.7	8.6	14.4	2.1	9.06	0.96
Dieldrin	1.9	61.8	ug/kg	0.8	23.7	158.7	4.3	60.04	1.41
Heptachlor epoxide	2.47	16	ug/kg	ND	ND	ND	0.4	1.40	ND
Hexachlorobenzene ^d	2.37	24 ^d	ug/kg	0.8	3.1	2.7	0.6	0.73	1.19
Lindane	3 ^d	4.99	ug/kg	ND	ND	ND	ND	0.93	ND
Mirex ^d	7	130	ug/kg	ND	11.6	7.6	1.6	ND	ND
4,4'-DDE	3.16	31.3	ug/kg	6.4	242.9	205.9	8.3	134.73	19.98
4,4'-DDD	4.88	28	ug/kg	5.5	136.3	79.3	7.5	38.11	21.56
4,4'-DDT	4.16	62.9	ug/kg	3.3	17.0	17.5	7.0	5.77	ND
Total PCB ^c	50.8	676	ug/kg	383.1	12012.3	14198.6	2021.3	1643.43	123.87
PEC-Q ^h	1	1.5	NA	0.75	5.27	10.01	1.5	5.22	0.20
SCORE				Low	High	High	Medium	High	Low

BOLD - Indicates that average concentration exceeds PEC

ITALICS - Indicates that average concentration is 5x greater than PEC.

ND = Not detected; COPC was not detected in any sample stations included in the average.

NA = Not analyzed; COPC was not analyzed in any sample stations included in the average.

TEC = Threshold Effect Concentration

PEC = Probable Effect Concentration

a. Average concentrations for each of the areas designated. One-half the detection limit used for chemicals reported as ND

b. Sum of 16 NS&T PAH Priority Pollutants. Only total PAH was used to determine number of exceedances of PEC.

c. Sum of 18 NS&T congeners, multiplied by 2

d. The Effects Levels developed by the Ontario Ministry of the Environment were used in the absence of other values (Jaagumagi et al., 1995).

e. The ER-L and ER-M (Long and Morgan, 1991) were used in the absence of other values.

f. Based on the LEL and SEL (Jaagumagi et al., 1995) for benzo(k)fluoranthene.

g. Based on the LEL for technical grade chlordane (Jaagumagi et al., 1995)

h. See report text for definition.