

**Table 8-1. Contaminants of Concern Selected for Onondaga Lake Media**

<b>Chemical</b>	<b>Water</b>	<b>Sediment</b>	<b>Soil</b>	<b>Plants</b>	<b>Fish</b>
<b>Metals</b>					
Antimony		•	•		•
Arsenic		•	•	•	•
Barium	•		•		
Cadmium		•	•	•	
Chromium		•	•	•	•
Copper	•	•	•	•	
Iron			•		
Lead	•	•	•	•	
Manganese	•	•	•		
Mercury/Methylmercury	•	•	•	•	•
Nickel		•	•	•	
Selenium		•	•	•	•
Silver		•	•	•	
Thallium			•	•	
Vanadium		•	•	•	•
Zinc	•	•	•	•	•
Cyanide	•		•		
<b>Volatile Organic Compounds</b>					
Benzene		•	•		
Chlorobenzene	•	•	•		
Dichlorobenzenes (Sum)	•	•	•		
Ethylbenzene		•			
Toluene		•			
Trichlorobenzenes (Sum)	•	•	•		
Xylene isomers		•			
<b>Semivolatile Organic Compounds</b>					
Bis(2-ethylhexyl)phthalate	•				
Dibenzofuran		•			
Hexachlorobenzene		•	•		
Phenol		•	•		
Polycyclic aromatic hydrocarbon (total)		•	•		
<b>Pesticides/Polychlorinated Biphenyls</b>					
Aldrin			•		
Chlordane isomers		•	•		
DDT and metabolites		•	•		•
Dieldrin		•	•		
Endrin					•
Hexachlorocyclohexanes			•		
Heptachlor and heptachlor epoxide		•			
Polychlorinated biphenyls (total)		•	•		•
<b>Dioxins/Furans</b>					
Total dioxins/furans		•			•

**Note:** • – Contaminants of concern assessed in the BERA for the specific media listed.  
 DDT – dichlorodiphenyltrichloroethane

**Table 8-2. Contaminants of Concern for Wildlife Species Evaluated for the Onondaga Lake BERA**

Contaminants of Concern	Tree Swallow	Mallard	Belted Kingfisher	Great Blue Heron	Osprey	Red-Tailed Hawk	Little Brown Bat	Short-Tailed Shrew	Mink	River Otter
<b>Metals</b>										
Antimony							•	•		
Arsenic	•						•	•	•	•
Barium	•	•					•	•		
Cadmium	•	•					•	•		
Chromium	•	•	•	•	•	•	•	•	•	•
Cobalt	•	•					•			
Copper	•	•					•			
Lead	•		•			•	•	•		
Manganese							•			
Mercury/Methylmercury	•	•	•	•	•	•	•	•	•	•
Nickel	•	•					•			
Selenium	•		•	•	•		•	•	•	•
Thallium	•						•	•		
Vanadium	•	•					•	•	•	•
Zinc	•	•	•	•	•		•	•		
<b>Volatile Organic Compounds</b>										
Dichlorobenzenes (total)	•	•								
Trichlorobenzenes (total)	•	•					•	•		
Xylenes (total)	•	•					•			
<b>Semivolatile Organic Compounds</b>										
Bis(2-ethylhexyl)phthalate	•									
Hexachlorobenzene							•	•	•	
Polycyclic aromatic hydrocarbon (total)	•	•	•	•		•	•	•	•	•
<b>Pesticides/Polychlorinated Biphenyls</b>										
Chlordanes								•		
DDT and metabolites	•		•	•	•	•			•	
Dieldrin							•	•	•	•
Endrin			•							
Hexachlorocyclohexanes			•	•	•					
Polychlorinated biphenyls (total)	•	•	•	•	•		•	•	•	•
<b>Dioxins/Furans</b>										
Dioxins/furans (TEQ)	•	•	•		•	•	•	•	•	•

**Notes:**

- – Contaminants of concern assessed in the BERA for the specific receptor listed.
- DDT – dichlorodiphenyltrichloroethane
- TEQ – toxicity equivalent

**Table 8-3. Comparison of Various Site-Specific Sediment Effect Concentrations and Probable Effect Concentrations for Onondaga Lake, 1992 Data<sup>a,b</sup>**

	AET	ER-L	ER-M	TEL	PEL	PEC
<b>Metals (mg/kg)</b>						
Antimony	NC	3.1	3.1	4	4.3	3.6
Arsenic	4.3	0.90	4.4	1.29	3.55	2.4
Cadmium	8.6	0.94	2.1	1.42	3.11	2.4
Chromium	195	17.6	47.9	29.3	67.3	50.3
Copper	83.7	12.3	40.7	19.1	48.3	32.9
Lead	116	9.68	56.9	13.3	57.6	34.5
Manganese	445	197	280	231	295	278
Total mercury	13	0.51	2.8	0.99	2.84	2.2
Nickel	50	5.22	20.9	8.37	25.8	16.4
Selenium	0.94	0.42	0.6	0.4	0.68	0.58
Silver	2.7	0.82	1.2	0.9	1.42	1.28
Vanadium	12.2	2.7	6	3.4	8.3	5.6
Zinc	218	37.9	94.6	56.7	12	88
<b>Organic Compounds</b>						
<b>BTEX Compounds (µg/kg)</b>						
Benzene	5,300	27.3	42	42.4	299	150
Ethylbenzene	13.3	142	657	206.0	657	176
Toluene	443	13.1	27.5	15.9	50.3	41.8
Xylenes	606	153	1,640	367	997	560.8
<b>Chlorinated Benzenes (µg/kg)</b>						
Chlorobenzene	10,000	64.4	580	48.3	799	428
Dichlorobenzenes	1,373	21.5	773	44.2	765	239
Trichlorobenzenes	287	186	930	209	482	347
Hexachlorobenzene	28	7.16	28	8.9	23.6	16.4
<b>Polychlorinated Biphenyls (µg/kg)</b>						
Aroclor 1016	90	99	135	104	135	111
Aroclor 1248	470	82	300	99	307	204
Aroclor 1254	77	68.5	82.5	74	79.7	76
Aroclor 1260	240	80	240	115	221	164
Total PCBs	710	136	400	151	382	295
<b>PAH Compounds (µg/kg)</b>						
Naphthalene	2,100	340	1,400	471	1,380	917
Acenaphthene	1,700	469	1,200	478	1,030	861
Fluorene	3,500	55.2	305	66.9	327	264
Phenanthrene	16,000	92.2	480	135	491	543
Anthracene	4,400	33	210	49.6	249	207
Fluoranthene	26,000	140	1,400	483	2,482	1,436
Pyrene	NC	114	650	238	795	344
Benz[a]anthracene	NC	60.7	415	118	451	192
Chrysene	NC	100	440	172	541	253
Benzo[b]fluoranthene	1,100	63.1	240	80.9	253	908
Benzo[a]pyrene	NC	62.8	210	98.2	355	146
Indeno[1,2,3-cd]pyrene	NC	58.8	370	102	503	183
Dibenz[a,h]anthracene	730	49.4	180	67.7	218	157
Benzo[ghi]perylene	2,700	228	1,300	307	1,170	780
Acenaphthylene	3,000	507	1,850	673	1,970	1,301
Benzo[k]fluoranthene	1,100	63.1	240	80.9	253	203
Dibenzofuran	NC	340	340	295	561	372

**Table 8-3. (cont.)**

	AET	ER-L	ER-M	TEL	PEL	PEC
<b>Other SVOCs (µg/kg)</b>						
Phenol	45	45	45	45	45	45
<b>Pesticides (µg/kg)</b>						
DDT and Metabolites	16.3	47	47	23.7	26.6	29.6
Chlordane	NC	NC	NC	5.08	5.08	5.1
Heptachlor and Heptachlor Epoxide	NC	NC	NC	NC	NC	NC
<b>Dioxins/Furans</b>						
Total Dioxins/Furans	NC	NC	NC	NC	NC	NC

**Notes:**

<sup>a</sup> All concentrations in dry weight

<sup>b</sup> Maps of exceedances of ER-L, ER-M, TEL, PEL and PEC values are presented in BERA Appendix F.

AET - apparent effects threshold

BTX - benzene, toluene, xylenes

ER-L - effects-range low

ER-M - effects-range median

NC - value was not calculated because of an insufficient number of detected observations or data points

PCB - polychlorinated biphenyl

PAH - polycyclic aromatic hydrocarbon

PEL - probable effect level

TEL - threshold effect level

PEC - Probable Effect Concentration

**Table 8-4. Hazard Quotients for Measured Fish Concentrations**

COC	Bluegill		Bluegill		Gizzard Shad		Gizzard Shad		Gizzard Shad		Gizzard Shad	
	95%UCL HQ	95%UCL HQ	Bluegill Mean HQ	Bluegill Mean HQ	95%UCL HQ	95%UCL HQ	Mean HQ	Mean HQ	NOAEL	NOAEL	LOAEL	LOAEL
Antimony	0**	0**	0**	0**	0*	0*	0*	0*				0*
Arsenic	<b>1.4</b>	0.5	0.7	0.3	0*	0*	0*	0*				0*
Chromium	<b>61</b>	<b>18</b>	<b>16</b>	<b>4.6</b>	0*	0*	0*	0*				0*
Mercury	<b>5.4</b>	<b>1.8</b>	<b>2.7</b>	0.9	0*	0*	0*	0*				0*
Methylmercury	<b>3.5</b>	<b>1.2</b>	<b>2.8</b>	0.9	<b>2.3</b>	0.8	<b>2.1</b>	0.7				0.7
Selenium	<b>15</b>	<b>1.5</b>	<b>9.2</b>	0.9	0*	0*	0*	0*				0*
Vanadium	<b>29</b>	<b>2.9</b>	<b>20</b>	<b>2.0</b>	0*	0*	0*	0*				0*
Zinc	<b>3.2</b>	<b>2.7</b>	<b>2.1</b>	<b>1.8</b>	0*	0*	0*	0*				0*
Endrin	0.2	2.3E-02	0.1	1.5E-02	0*	0*	0*	0*				0*
DDT and metabolites	4.7E-02	9.7E-03	3.9E-02	8.0E-03	0*	0*	0*	0*				0*
Polychlorinated biphenyls	0.5	0.1	0.3	0.1	0*	0*	0*	0*				0*
Dioxin/furan TEQ (Fish)	0.4	0.2	0.1	0.1	0*	0*	0*	0*				0*

**Table 8-4. (cont.)**

CoC	Carp		Carp		Catfish		Catfish	
	95%UCL NOAEL	HQ LOAEL	95%UCL NOAEL	HQ LOAEL	95%UCL NOAEL	HQ LOAEL	Catfish Mean HQ NOAEL	Catfish Mean HQ LOAEL
Antimony	0**	0**	0**	0**	0.4	0.2	6.3E-02	3.5E-02
Arsenic	<b>4.0</b>	<b>1.5</b>	<b>1.7</b>	0.6	0**	0**	0**	0**
Chromium	<b>21</b>	<b>6.2</b>	<b>7.2</b>	<b>2.1</b>	<b>5.7</b>	<b>1.7</b>	<b>3.1</b>	0.9
Mercury	<b>4.3</b>	<b>1.4</b>	<b>3.5</b>	<b>1.2</b>	<b>6.3</b>	<b>2.1</b>	<b>4.9</b>	<b>1.6</b>
Methylmercury	<b>4.8</b>	<b>1.6</b>	<b>3.9</b>	<b>1.3</b>	<b>7.8</b>	<b>2.6</b>	<b>7.1</b>	<b>2.4</b>
Selenium	<b>20</b>	<b>2.0</b>	<b>10</b>	<b>1.0</b>	<b>13</b>	<b>1.3</b>	<b>7.6</b>	0.8
Vanadium	<b>24</b>	<b>2.4</b>	<b>13</b>	<b>1.3</b>	<b>27</b>	<b>2.7</b>	<b>20</b>	<b>2.0</b>
Zinc	<b>13</b>	<b>11</b>	<b>6.1</b>	<b>5.2</b>	<b>2.2</b>	<b>1.8</b>	<b>1.2</b>	<b>1.0</b>
Endrin	<b>1.0</b>	0.1	0.5	0.0	0.8	0.1	0.5	0.0
DDT and metabolites	0.4	0.1	0.3	0.1	0.6	0.1	0.3	0.1
Polychlorinated biphenyls	<b>2.5</b>	0.5	<b>1.6</b>	0.3	<b>2.1</b>	0.4	<b>1.5</b>	0.3
Dioxin/furan TEQ (Fish)	<b>2.6</b>	<b>1.2</b>	<b>1.0</b>	0.5	0.6	0.3	0.4	0.2

**Table 8-4. (cont.)**

CoC	White Perch	White Perch	White Perch	White Perch	SMB	SMB	SMB Mean	SMB Mean
	95%UCL HQ NOAEL	95%UCL HQ LOAEL	Mean HQ NOAEL	Mean HQ LOAEL	95%UCL HQ NOAEL	95%UCL HQ LOAEL	HQ (NOAEL)	HQ (LOAEL)
Antimony	0.4	0.2	0.4	0.2	0**	0**	0**	0**
Arsenic	0**	0**	0**	0**	<b>3.6</b>	<b>1.4</b>	<b>2.4</b>	0.9
Chromium	<b>2.5</b>	0.7	<b>2.5</b>	0.7	<b>3.2</b>	0.9	<b>2.3</b>	0.7
Mercury	<b>7.7</b>	<b>2.6</b>	<b>7.0</b>	<b>2.3</b>	<b>7.3</b>	<b>2.4</b>	<b>7.0</b>	<b>2.3</b>
Methylmercury	<b>12</b>	<b>4.1</b>	<b>11</b>	<b>3.6</b>	<b>8.2</b>	<b>2.7</b>	<b>7.2</b>	<b>2.4</b>
Selenium	<b>7.8</b>	0.8	<b>7.8</b>	0.8	<b>10</b>	<b>1.0</b>	<b>4.8</b>	0.5
Vanadium	0**	0**	0**	0**	<b>20</b>	<b>2.0</b>	<b>11</b>	<b>1.1</b>
Zinc	0.5	0.4	0.5	0.4	<b>1.6</b>	<b>1.4</b>	<b>1.1</b>	0.9
Endrin	0.1	1.4E-02	0.1	1.2E-02	0.2	1.7E-02	0.2	1.6E-02
DDT and metabolites	0.2	3.5E-02	0.1	1.3E-02	0.1	2.1E-02	0.1	1.5E-02
Polychlorinated biphenyls	<b>1.3</b>	0.3	<b>1.1</b>	0.2	<b>1.0</b>	0.2	0.9	0.2
Dioxin/furan TEQ (Fish)	0.5	0.3	0.4	0.2	0.5	0.2	0.3	0.1

**Table 8-4. (cont.)**

CoC	LMB		LMB		Walleye		Walleye	
	95%UCL HQ NOAEL	95%UCL HQ LOAEL	LMB Mean HQ NOAEL	LMB Mean HQ LOAEL	95%UCL HQ NOAEL	95%UCL HQ LOAEL	Walleye Mean HQ NOAEL	Walleye Mean HQ LOAEL
Antimony	NA	NA	NA	NA	0**	0**	0**	0**
Arsenic	0*	0*	0*	0*	0**	0**	0**	0**
Chromium	0*	0*	0*	0*	<b>3.2</b>	0.9	<b>3.2</b>	0.9
Mercury	<b>6.9</b>	<b>2.3</b>	<b>6.6</b>	<b>2.2</b>	<b>15</b>	<b>5.2</b>	<b>14</b>	<b>4.6</b>
Methylmercury	0*	0*	0*	0*	<b>18</b>	<b>6.1</b>	<b>15</b>	<b>5.1</b>
Selenium	0*	0*	0*	0*	0**	0**	0**	0**
Vanadium	0*	0*	0*	0*	0**	0**	0**	0**
Zinc	0*	0*	0*	0*	0**	0**	0**	0**
Endrin	0**	0**	0**	0**	0.3	2.7E-02	0.1	1.3E-02
DDT and metabolites	0.1	1.2E-02	2.9E-02	6.1E-03	0.2	3.6E-02	0.1	2.1E-02
Polychlorinated biphenyls	0.7	0.1	0.4	0.1	<b>2.8</b>	0.6	<b>1.5</b>	0.3
Dioxin/furan TEQ (Fish)	<b>1.4</b>	0.7	0.9	0.4	0*	0*	0*	0*

**Notes:**

\* denotes not analyzed

\*\* denotes all non-detects

Hazard quotients equal to or greater than one are outlined and bolded.

DDT – dichlorodiphenyltrichloroethane

LMB – largemouth bass

LOAEL – lowest-observed-adverse-effect level

NOAEL – no-observed-adverse-effect level

HQ – hazard quotient

SMB – smallmouth bass

TEQ – toxicity equivalence quotient

UCL – upper confidence limit

**Table 8-5. Hazard Quotients for Modeled Avian Exposure**

COC	Tree Swallow				Mallard				Belted Kingfisher			
	95% UCL HQ		Mean HQ		95% UCL HQ		Mean HQ		95% UCL HQ		Mean HQ	
	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL
<b>Metals</b>												
Arsenic	0.1	4.4E-02	0.1	3.1E-02	NS	NS	NS	NS	NS	NS	NS	NS
Barium	<b>10</b>	<b>5.1</b>	<b>8.3</b>	<b>4.1</b>	<b>2.4</b>	<b>1.2</b>	<b>1.8</b>	0.9	NS	NS	NS	NS
Cadmium	<b>7.0</b>	0.5	<b>4.6</b>	0.3	<b>1.0</b>	0.1	0.7	4.7E-02	NS	NS	NS	NS
Chromium	<b>53</b>	<b>11</b>	<b>57</b>	<b>11</b>	<b>10</b>	<b>2.1</b>	<b>9.7</b>	<b>1.9</b>	0.2	3.8E-02	0.2	3.6E-02
Cobalt	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	NS
Copper	0.8	0.6	0.6	0.5	0.2	0.1	0.1	0.1	NS	NS	NS	NS
Lead	<b>1.8</b>	0.2	<b>1.3</b>	0.1	NS	NS	NS	NS	0.1	1.4E-02	0.1	8.7E-03
Methylmercury	<b>19</b>	<b>1.9</b>	<b>11</b>	<b>1.1</b>	<b>4.3</b>	0.4	<b>2.7</b>	0.3	<b>23</b>	<b>2.3</b>	<b>20</b>	<b>2.0</b>
Mercury	<b>6.5</b>	<b>3.3</b>	<b>3.1</b>	<b>1.5</b>	0.9	0.4	0.7	0.3	0.7	0.3	0.6	0.3
Nickel	0.2	0.1	0.2	0.1	3.9E-02	2.8E-02	3.7E-02	2.7E-02	NS	NS	NS	NS
Selenium	<b>6.8</b>	<b>3.4</b>	<b>5.4</b>	<b>2.7</b>	NS	NS	NS	NS	3.9E-03	2.0E-03	3.1E-03	1.5E-03
Thallium	NA	NA	NA	NA	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	0.1	1.1E-02	0.1	7.9E-03	2.6E-02	2.6E-03	1.5E-02	1.5E-03	NS	NS	NS	NS
Zinc	<b>6.4</b>	0.7	<b>5.6</b>	0.6	<b>1.2</b>	0.1	<b>1.0</b>	0.1	1.0E-02	1.1E-03	8.6E-03	9.5E-04
<b>Volatile Organic Compounds</b>												
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	NS
Dichlorobenzenes	<b>3.0</b>	0.3	<b>1.4</b>	0.1	<b>2.1</b>	0.2	0.3	3.3E-02	NS	NS	NS	NS
Trichlorobenzenes	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	NS
<b>Semivolatile Organic Compounds</b>												
Bis(2-ethylhexyl)phthalate	0.7	0.1	0.6	0.1	NS	NS	NS	NS	NS	NS	NS	NS
Polycyclic aromatic hydrocarbons	<b>287</b>	<b>29</b>	<b>292</b>	<b>29</b>	<b>393</b>	<b>39</b>	<b>118</b>	<b>12</b>	<b>12</b>	<b>1.2</b>	<b>3.7</b>	0.4
<b>Pesticides/Polychlorinated Biphenyls</b>												
Endrin	NS	NS	NS	NS	NS	NS	NS	NS	2.9E-04	2.9E-05	2.4E-04	2.4E-05
Hexachlorocyclohexanes	NS	NS	NS	NS	NS	NS	NS	NS	2.2E-05	7.2E-06	2.0E-05	6.3E-06
DDT and metabolites	0.8	0.1	0.6	0.1	0.2	2.0E-02	0.1	1.4E-02	<b>19</b>	<b>1.9</b>	<b>12</b>	<b>1.2</b>
Polychlorinated biphenyls (PCBs)	<b>1.9</b>	0.2	<b>1.8</b>	0.2	0.4	3.9E-02	0.3	3.0E-02	<b>11</b>	<b>1.1</b>	<b>3.1</b>	0.3
<b>Dioxins/Furans</b>												
Dioxins/furans (TEQ) avian	<b>5.6</b>	0.6	<b>1.3</b>	0.1	<b>1.4</b>	0.1	0.3	3.1E-02	<b>1.8</b>	0.2	<b>1.4</b>	0.1

Table 8-5. (cont.)

COC	Great Blue Heron				Osprey				Red-tailed Hawk			
	95% UCL HQ		Mean HQ		95% UCL HQ		Mean HQ		95% UCL HQ		Mean HQ	
	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL
<b>Metals</b>												
Arsenic	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Barium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cadmium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chromium	0.1	2.7E-02	0.1	2.5E-02	0.1	2.1E-02	0.1	1.9E-02	0.2	4.7E-02	0.2	3.4E-02
Cobalt	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Copper	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead	NS	NS	NS	NS	NS	NS	NS	NS	0.4	4.2E-02	0.3	3.0E-02
Methylmercury	<b>18</b>	<b>1.8</b>	<b>15</b>	<b>1.5</b>	<b>24</b>	<b>2.4</b>	<b>20</b>	<b>2.0</b>	0.3	2.7E-02	0.1	7.2E-03
Mercury	0.3	0.1	0.3	0.1	0.3	0.2	0.3	0.2	0.1	7.1E-02	0.0	1.3E-02
Nickel	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Selenium	0.5	0.2	0.4	0.2	0.7	0.4	0.5	0.3	NS	NS	NS	NS
Thallium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	<b>1.1</b>	0.1	0.8	0.1	<b>1.6</b>	0.2	<b>1.2</b>	0.1	NS	NS	NS	NS
<b>Volatile Organic Compounds</b>												
Xylenes	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dichlorobenzenes	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorobenzenes	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
<b>Semivolatile Organic Compounds</b>												
Bis(2-ethylhexyl)phthalate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Polycyclic aromatic hydrocarbons	<b>4.0</b>	0.4	<b>1.2</b>	0.1	NA	NA	NA	NA	<b>252</b>	<b>25</b>	<b>14</b>	<b>1.4</b>
<b>Pesticides/Polychlorinated Biphenyls</b>												
Endrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Hexachlorocyclohexanes	1.0E-02	3.3E-03	0.2	0.1	1.5E-02	4.8E-03	0.3	0.1	NS	NS	NS	NS
DDT and metabolites	<b>8.0</b>	0.8	<b>5.3</b>	0.5	<b>9.3</b>	0.9	<b>6.3</b>	0.6	<b>1.5</b>	0.2	0.3	0.0
Polychlorinated biphenyls (PCBs)	<b>2.7</b>	0.3	<b>1.4</b>	0.1	<b>2.5</b>	0.3	0.2	2.5E-02	NS	NS	NS	NS
<b>Dioxins/Furans</b>												
Dioxins/furans (TEQ) avian	NS	NS	NS	NS	0.6	0.1	0.4	4.3E-02	<b>9.9</b>	0.99	<b>1.0</b>	0.1

Notes: NA = Not Available; NS = Not selected as a COC for this receptor.

Hazard quotients equal to or greater than one are outlined and bolded.

DDT – dichlorodiphenyltrichloroethane

LOAEL – lowest-observed-adverse-effect level

NOAEL – no-observed-adverse-effect level

HQ – hazard quotient

TEQ – toxicity equivalence quotient

UCL – upper confidence limit

**Table 8-6. Hazard Quotients for Modeled Mammalian Exposure**

COC	Little Brown Bat				Mink				River Otter			
	95% UCL HQ		Mean HQ		95% UCL HQ		Mean HQ		95% UCL HQ		Mean HQ	
	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL	NOAEL/LOAEL
<b>Metals</b>												
Arsenic	<b>1.1</b>	0.1	0.8	0.1	0.2	1.7E-02	0.1	1.1E-02	0.8	0.1	0.5	0.1
Barium	<b>2.1</b>	<b>1.3</b>	<b>1.7</b>	<b>1.0</b>	NS	NS	NS	NS	NS	NS	NS	NS
Cadmium	<b>4.5</b>	0.5	<b>3.0</b>	0.3	NS	NS	NS	NS	NS	NS	NS	NS
Chromium	<b>7.2</b>	<b>1.8</b>	<b>7.8</b>	<b>1.9</b>	0.7	0.2	0.6	0.2	0.3	0.1	0.3	0.1
Cobalt	0.4	3.9E-02	0.3	3.4E-02	NS	NS	NS	NS	NS	NS	NS	NS
Copper	<b>1.4</b>	<b>1.1</b>	<b>1.1</b>	0.9	NS	NS	NS	NS	NS	NS	NS	NS
Lead	0.1	1.2E-02	0.1	8.8E-03	NS	NS	NS	NS	NS	NS	NS	NS
Manganese	3.8E-02	1.2E-02	3.5E-02	1.1E-02	NS	NS	NS	NS	NS	NS	NS	NS
Methylmercury	<b>21</b>	<b>2.1</b>	<b>13</b>	<b>1.3</b>	<b>12</b>	<b>1.2</b>	<b>9.4</b>	0.9	<b>43</b>	<b>4.3</b>	<b>36</b>	<b>3.6</b>
Mercury	<b>1.3</b>	0.1	0.6	0.1	0.1	1.4E-02	0.1	9.9E-03	0.1	1.5E-02	0.1	1.4E-02
Nickel	0.1	0.1	0.2	8.0E-02	NS	NS	NS	NS	NS	NS	NS	NS
Selenium	0.21	0.13	0.16	0.1	0.1	0.1	0.1	7.1E-02	0.9	0.5	0.7	0.4
Thallium	0.1	7.9E-03	0.1	7.1E-03	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	<b>2.7</b>	0.3	<b>1.9</b>	0.2	0.3	2.8E-02	0.7	6.7E-02	0.8	0.1	0.6	0.1
Zinc	0.26	0.13	0.22	0.11	NS	NS	NS	NS	NS	NS	NS	NS
<b>Volatile Organic Compounds</b>												
Trichlorobenzenes	2.8E-02	7.8E-03	0.1	1.7E-02	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	<b>2.3</b>	<b>1.9</b>	0.5	0.4	NS	NS	NS	NS	NS	NS	NS	NS
<b>Semivolatile Organic Compounds</b>												
Hexachlorobenzene	<b>6.0</b>	0.6	<b>4.6</b>	0.5	<b>9.2</b>	0.9	<b>1.1</b>	0.1	NS	NS	NS	NS
Polycyclic aromatic hydrocarbons	<b>18</b>	<b>1.8</b>	<b>19</b>	<b>1.9</b>	<b>33</b>	<b>3.3</b>	<b>4.5</b>	0.4	<b>5.2</b>	0.5	<b>1.6</b>	0.2
<b>Pesticides/Polychlorinated Biphenyls</b>												
DDT and metabolites	NS	NS	NS	NS	1.5E-02	2.9E-03	7.5E-03	1.5E-03	<b>5.9</b>	<b>1.2</b>	<b>2.3</b>	4.5E-01
Dieldrin	0.6	0.3	0.5	0.2	0.2	0.1	0.1	0.1	0.2	7.7E-02	0.1	4.4E-02
Polychlorinated biphenyls (PCBs)	0.4	0.1	0.4	0.1	<b>109</b>	<b>11</b>	<b>34</b>	<b>3.4</b>	<b>130</b>	<b>13</b>	<b>69</b>	<b>6.9</b>
<b>Dioxins/Furans</b>												
Dioxins/furans (TEQ) mammalian	<b>11</b>	<b>1.1</b>	<b>2.9</b>	0.3	<b>42</b>	<b>4.2</b>	<b>4.9</b>	0.5	<b>2.8</b>	0.3	<b>1.5</b>	0.2

**Notes:** NA = Not Available; NS = Not selected as a COC for this receptor. Hazard quotients equal to or greater than one are outlined and bolded.

DDT – dichlorodiphenyltrichloroethane

NOAEL – no-observed-adverse-effect level

HQ – hazard quotient

TEQ – toxicity equivalence quotient

LOAEL – lowest-observed-adverse-effect level

UCL – upper confidence limit

**Table 8-7. Hazard Quotients for Modeled Short-Tailed Shrew Exposure**

	<b>SYW-6 95% UCL Hazard Quotient NOAEL</b>	<b>SYW-6 95% UCL Hazard Quotient LOAEL</b>	<b>SYW-6 Mean Hazard Quotient NOAEL</b>	<b>SYW-6 Mean Hazard Quotient LOAEL</b>	<b>SYW-10 95% UCL Hazard Quotient NOAEL</b>	<b>SYW-10 95% UCL Hazard Quotient LOAEL</b>	<b>SYW-10 Mean Hazard Quotient NOAEL</b>	<b>SYW-10 Mean Hazard Quotient LOAEL</b>
<b>COC</b>								
<b>Total Metals</b>								
Antimony	0.4	3.6E-02	0.1	9.5E-03	8.3E-02	8.3E-03	4.5E-02	4.5E-03
Arsenic	<b>2.0</b>	0.2	<b>1.1</b>	0.1	<b>5.3</b>	0.5	<b>2.3</b>	0.2
Barium	0.1	0.1	0.1	0.1	0.1	7.3E-02	0.1	4.9E-02
Cadmium	<b>11</b>	<b>1.1</b>	<b>3.5</b>	0.4	<b>1.2</b>	0.1	0.7	0.1
Chromium	<b>1.0</b>	0.2	0.3	0.1	0.3	0.1	0.2	4.3E-02
Lead	<b>1.5</b>	0.1	0.7	0.1	<b>1.0</b>	0.1	0.6	0.1
Methylmercury	<b>22</b>	<b>2.2</b>	<b>19</b>	<b>1.9</b>	<b>22</b>	<b>2.2</b>	<b>20</b>	<b>2.0</b>
Mercury	0.2	1.9E-02	0.1	1.1E-02	0.2	1.7E-02	0.1	1.3E-02
Selenium	<b>1.7</b>	<b>1.0</b>	0.6	0.4	<b>1.3</b>	0.8	0.7	0.4
Thallium	<b>2.6</b>	0.3	<b>1.4</b>	0.1	<b>4.3</b>	0.4	<b>2.8</b>	0.3
Vanadium	<b>2.9</b>	0.3	<b>1.8</b>	0.2	<b>3.9</b>	0.4	<b>2.0</b>	0.2
Zinc	0.7	0.4	0.5	0.2	0.4	0.2	0.4	0.2
<b>Volatile Organic Compounds</b>								
Trichlorobenzenes	5.8E-06	1.6E-06	5.6E-06	1.6E-06	5.8E-06	1.6E-06	5.6E-06	1.6E-06
<b>Semivolatile Organic Compounds</b>								
Hexachlorobenzene	ND	ND	ND	ND	<b>2.0</b>	0.2	<b>1.5</b>	0.1
Total polycyclic aromatic hydrocarbon	<b>213</b>	<b>21</b>	<b>47</b>	<b>4.7</b>	<b>155</b>	<b>15.5</b>	<b>38</b>	<b>3.8</b>
<b>Pesticides/Polychlorinated Biphenyls</b>								
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND
Total polychlorinated biphenyls	3.9E-02	9.7E-03	2.8E-02	6.9E-03	0.1	3.5E-02	5.9E-02	1.5E-02
<b>Dioxins/Furans</b>								
Dioxins/furans (TEQ)	<b>15</b>	<b>1.5</b>	<b>5.9</b>	0.6	<b>4.4</b>	0.4	<b>3.6</b>	0.4

Table 8-7. (cont.)

COC	SYW-12	SYW-12	SYW-12	SYW-12	SYW-19	SYW-19	SYW-19	SYW-19
	95%UCL Hazard Quotient NOAEL	95%UCL Hazard Quotient LOAEL	Mean Hazard Quotient NOAEL	Mean Hazard Quotient LOAEL	95%UCL Hazard Quotient NOAEL	95%UCL Hazard Quotient LOAEL	Mean Hazard Quotient NOAEL	Mean Hazard Quotient LOAEL
<b>Total Metals</b>								
Antimony	0.1	9.5E-03	4.7E-02	4.7E-03	0.2	1.8E-02	0.1	1.0E-02
Arsenic	<b>1.4</b>	0.1	0.99	9.9E-02	<b>2.8</b>	0.3	<b>2.3</b>	0.2
Barium	0.1	0.1	0.1	4.6E-02	0.3	0.2	0.2	0.1
Cadmium	<b>7.5</b>	0.8	<b>5.0</b>	0.5	<b>2.5</b>	0.3	<b>1.6</b>	0.2
Chromium	0.7	0.2	0.4	0.1	0.3	0.1	0.3	0.1
Lead	<b>1.0</b>	0.1	0.7	0.1	<b>2.1</b>	0.2	<b>1.0</b>	0.1
Methylmercury	<b>19</b>	<b>1.9</b>	<b>19</b>	<b>1.9</b>	<b>29</b>	<b>2.9</b>	<b>27</b>	<b>2.7</b>
Mercury	0.1	1.2E-02	9.4E-02	9.4E-03	0.6	6.3E-02	0.4	4.1E-02
Selenium	0.7	0.5	0.4	0.3	<b>1.2</b>	0.8	<b>1.1</b>	0.7
Thallium	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	<b>2.0</b>	0.2	<b>1.1</b>	0.1	<b>1.7</b>	0.2	<b>1.6</b>	0.2
Zinc	0.5	0.3	0.5	0.2	0.4	0.2	0.4	0.2
<b>Volatile Organic Compounds</b>								
Trichlorobenzenes	5.8E-06	1.6E-06	5.6E-06	1.6E-06	<b>3.4</b>	0.9	<b>1.2</b>	0.3
<b>Semivolatile Organic Compounds</b>								
Hexachlorobenzene	<b>1.8</b>	0.2	0.5	4.9E-02	<b>783</b>	<b>78</b>	<b>241</b>	<b>24</b>
Total polycyclic aromatic hydrocarbon	<b>191</b>	<b>19</b>	<b>61</b>	<b>6.1</b>	<b>2,565</b>	<b>256</b>	<b>794</b>	<b>79</b>
<b>Pesticides/Polychlorinated Biphenyls</b>								
Chlordane	0.1	2.6E-02	0.1	1.3E-02	0.6	0.1	0.2	4.2E-02
Dieldrin	<b>1.1</b>	0.6	0.6	0.3	<b>7.3</b>	<b>3.7</b>	<b>5.0</b>	<b>2.5</b>
Total polychlorinated biphenyls	0.4	0.1	0.2	0.1	<b>1.8</b>	0.5	<b>1.4</b>	0.4
<b>Dioxins/Furans</b>								
Dioxins/furans (TEQ)	NA	NA	NA	NA	<b>1,706</b>	<b>171</b>	<b>681</b>	<b>68</b>

**Table 8-7. (cont.)**

COC	Dredge Spoils	Dredge Spoils	Dredge	Dredge
	95%UCL HQ NOAEL	95%UCL HQ LOAEL	Spoils Mean HQ NOAEL	Spoils Mean HQ LOAEL
<b>Total Metals</b>				
Antimony	0.1	6.5E-03	4.9E-02	4.9E-03
Arsenic	<b>2.7</b>	0.3	<b>1.9</b>	0.2
Barium	6.0E-02	3.6E-02	5.6E-02	3.3E-02
Cadmium	1.7E-04	1.7E-05	1.7E-04	1.7E-05
Chromium	0.2	4.6E-02	0.1	2.7E-02
Lead	0.2	1.7E-02	0.1	1.4E-02
Methylmercury	0.1	6.8E-03	5.E-02	5.E-03
Mercury	0.2	1.8E-02	9.E-02	9.E-03
Selenium	<b>1.1</b>	0.7	0.8	0.5
Thallium	ND	ND	ND	ND
Vanadium	<b>3.7</b>	0.4	<b>2.4</b>	0.2
Zinc	0.3	0.2	0.3	0.1
<b>Volatile Organic Compounds</b>				
Trichlorobenzenes	5.8E-06	1.6E-06	5.6E-06	1.6E-06
<b>Semivolatile Organic Compounds</b>				
Hexachlorobenzene	<b>38</b>	<b>3.8</b>	<b>4.6</b>	0.5
Total polycyclic aromatic hydrocarbon	<b>9.0</b>	0.9	<b>2.0</b>	0.2
<b>Pesticides/Polychlorinated Biphenyls</b>				
Chlordane	NA	NA	NA	NA
Dieldrin	NA	NA	NA	NA
Total polychlorinated biphenyls	3.4E-02	8.6E-03	1.7E-02	4.3E-03
<b>Dioxins/Furans</b>				
Dioxins/furans (TEQ)	0.7	0.1	0.4	4.2E-02

**Notes:**

NA = Not available

ND = Not detected

LOAEL – lowest-observed-adverse-effect level

NOAEL – no-observed-adverse-effect level

Hazard quotients equal to or greater than one are outlined and b

HQ – hazard quotient

TEQ – toxicity equivalence quotient

UCL – upper confidence limit