

Table 4-2. Sediment IMPGs for human direct contact compared to projected sediment PCBs (SED 1 / SED 2), including the time to achieve in years (*in italics*).

Risk Category	Receptor	Exposure Assumptions	Risk Level	IMPG (mg/kg)	Average 0-6" Sediment PCB Concentration (mg/kg) ¹							
					SA 1	SA 2	SA 3	SA 4	SA 5	SA 6	SA 7	SA 8
					12	16	23	3.4	4.2	1.2	7.6	3.0
Human Direct Contact	Older Child	RME	Cancer @ 10 ⁻⁶	4.5				0	0	0		0
			Cancer @ 10 ⁻⁵	45	0	0	0	0	0	0	0	0
			Cancer @ 10 ⁻⁴	453	0	0	0	0	0	0	0	0
			Non-Cancer	31	0	0	22	0	0	0	0	0
		CTE	Cancer @ 10 ⁻⁶	36	0	0	8	0	0	0	0	0
			Cancer @ 10 ⁻⁵	365	0	0	0	0	0	0	0	0
			Cancer @ 10 ⁻⁴	3645	0	0	0	0	0	0	0	0
			Non-Cancer	125	0	0	0	0	0	0	0	0
	Adult	RME	Cancer @ 10 ⁻⁶	1.3						34		
			Cancer @ 10 ⁻⁵	13	35			0	0	0	0	0
			Cancer @ 10 ⁻⁴	135	0	0	0	0	0	0	0	0
			Non-Cancer	40	0	0	0	0	0	0	0	0
		CTE	Cancer @ 10 ⁻⁶	28	0	0	30	0	0	0	0	0
			Cancer @ 10 ⁻⁵	280	0	0	0	0	0	0	0	0
			Cancer @ 10 ⁻⁴	2800	0	0	0	0	0	0	0	0
			Non-Cancer	152	0	0	0	0	0	0	0	0

Notes

¹ Model endpoint concentrations after 52-year projection

CTE = central tendency exposure

RME = reasonable maximum exposure

IMPG = interim media protection goal

SA = EPA Risk Assessment Sediment Exposure Areas

SA 1: Confluence to New Lenox Road

SA 2: New Lenox Road to Woods Pond Headwaters

SA 3: Woods Pond (6-meters from waters edge)

SA 4: Columbia Mill Dam impoundment (6-meters from waters edge)

SA 5: Former Eagle Mill Dam impoundment (6-meters from waters edge)

SA 6: Willow Mill Dam impoundment (6-meters from waters edge)

SA 7: Glendale Dam impoundment (6-meters from waters edge)

SA 8: Rising Pond impoundment (6-meters from waters edge)

Key

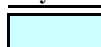

 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-3. IMPGs for human consumption of fish tissue compared to projected fillet-based fish PCBs (SED1 / SED 2), including the time to achieve in years (*in italics*).

Tissue Type	Assessment Type	Exposure Assumptions	Risk Level	IMPG (mg/kg)	Average Fish Tissue (Fillet) PCB Concentration (mg/kg) ¹																				
					Reach 5A	Reach 5B	Reach 5C	Reach 5D	Reach 6	Reach 7A	Reach 7B	Reach 7C	Reach 7D	Reach 7E	Reach 7F	Reach 7G	Reach 7H	Reach 8	BBD	LL	LZ	LH			
Bass Fillets	Deterministic	RME	Cancer @ 10 ⁻⁶	0.0019	7.3	9.3	7.4	9.5	8.6	6.4	5.7	6.3	5.5	4.1	3.2	3.5	2.8	3.6	0.2	0.1	0.08	0.08			
			Cancer @ 10 ⁻⁵	0.019																					
			Cancer @ 10 ⁻⁴	0.19																		26	6	5	
			Non-Cancer -- Child	0.026																					
			Non-Cancer -- Adult	0.062																					
		CTE	Cancer @ 10 ⁻⁶	0.049																					
			Cancer @ 10 ⁻⁵	0.49																					
			Cancer @ 10 ⁻⁴	4.9											34	9	10	7	10	0	0	0	0	0	
			Non-Cancer -- Child	0.19																		26	6	5	
		Non-Cancer -- Adult	0.43																		0	0	0	0	
	Probabilistic	RME (5th percentile)	Cancer @ 10 ⁻⁶	0.0064																					
			Cancer @ 10 ⁻⁵	0.064																					
			Cancer @ 10 ⁻⁴	0.64																	0	0	0	0	
			Non-Cancer -- Child	0.059																					
			Non-Cancer -- Adult	0.12																		26	6	5	
		CTE (50th percentile)	Cancer @ 10 ⁻⁶	0.057																					
			Cancer @ 10 ⁻⁵	0.57																		0	0	0	0
			Cancer @ 10 ⁻⁴	5.7									52		38	11	7	8	4	7	0	0	0	0	
		Non-Cancer -- Child	0.71																		0	0	0	0	
	Non-Cancer -- Adult	1.5																		0	0	0	0		

Notes
¹ Model endpoint concentrations after 52-year projection (autumn average); whole body concentrations divided by a factor of 5.0 to convert to fillet basis
 CTE = central tendency exposure
 RME = reasonable maximum exposure
 BBD: Bulls Bridge Dam Impoundment
 LL: Lake Lillionah
 LZ: Lake Zoar
 LH: Lake Housatonic


Key
 = model prediction is lower than the IMPG

Table 4-4. Sediment IMPGs for benthic invertebrates compared to projected sediment PCBs (SED 1 / SED 2), including the time to achieve in years (*in italics*).

Reach	Exposure Area ¹	Average 0-6" Sediment PCB Concentration (mg/kg) ²	IMPG (mg/kg)	
			Lower End of Range	Upper End of Range
			3	10
5A	R5A_01	1.9	<i>46</i>	<i>1</i>
	R5A_02	3.7		20
	R5A_03	6.4		40
	R5A_04	29		
	R5A_05	13		
	R5A_06	7.7		12
	R5A_07	15		
	R5A_08	17		
	R5A_09	9.9		39
	R5A_10	16		
	R5A_11	18		
5B	R5B_01	9.6		28
	R5B_02	8.5		0
	R5B_03	4.7		0
	R5B_04	5.7		0
	R5B_05	5.6		0
5C	R5C_01	7.2		0
	R5C_02	8.0		8
	R5C_03	4.9		0
	R5C_04	6.1		8
	R5C_05	37		
	R5C_06	29		
6	Woods Pond	16		
	7A	0.43	<i>0</i>	<i>0</i>
	7B	4.2		0
	7C	4.1		0
	7D	1.4	<i>0</i>	<i>0</i>
	7E	1.2	<i>0</i>	<i>0</i>
	7F	0.74	<i>0</i>	<i>0</i>
	7G	5.1		0
	7H	0.40	<i>0</i>	<i>0</i>
8	Rising Pond	2.9	<i>21</i>	<i>0</i>

Notes

¹ Exposure areas in Reach 5 represent EPA spatial bins (1/4 to 1/2-mile segments as defined in EPA's Model Validation Report)

² Model endpoint concentrations after 52-year projection
 IMPG = interim media protection goal

Key

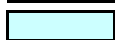

 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-5. Backwater sediment IMPGs for amphibians compared to projected sediment PCBs (SED 1 / SED 2), including the time to achieve in years (*in italics*).

Reach	Exposure Area ¹	Area (acres)	Average 0-6" Sediment PCB Concentration (mg/kg) ²	IMPG (mg/kg)	
				Lower End of Range	Upper End of Range
				3.27	5.6
Small Backwaters (< 2 acres)	BWS_01	1.9	5.7		
	BWS_02	1.8	5.9		
	BWS_03	1.9	3.0	48	31
	BWS_04	0.30	23		
	BWS_06	0.56	2.2	30	12
	BWS_07	0.12	5.4		4
	BWS_08	0.35	37		
	BWS_09	0.28	19		
	BWS_10	1.5	16		
	BWS_11	0.11	2.1	10	5
	BWS_12	1.7	6.1		
	BWS_13	0.37	10		
	BWS_14	0.57	8.8		
	BWS_15	0.90	8.9		
	BWS_16	1.0	3.2	52	23
	BWS_17	0.58	2.4	32	6
	BWS_18	0.84	2.3	32	12
	BWS_19	0.99	20		
	BWS_20	1.3	5.8		
	Large Backwaters (> 2 acres)	BWL_01	2.1	11	
BWL_02		5.5	5.7		
BWL_03		2.4	3.6		25
BWL_04		2.1	4.4		32
BWL_05		12	14		
BWL_07		22	20		
BWL_08		4.1	13		
BWL_09		7.0	15		
BWL_10		6.4	13		
BWL_11		4.6	2.3	0	0

Notes

¹ Exposure areas represent individual backwaters

² Model endpoint concentrations after 52-year projection

IMPG = interim media protection goal

Key



 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-6. Sediment IMPGs for insectivorous birds and piscivorous mammals compared to projected sediment PCBs (SED 1 / SED 2), including the time to achieve in years (*in italics*).

Insectivorous Birds (wood duck)

Reach	Exposure Area ¹	Average 0-6" Sediment PCB Concentration (mg/kg) ²	Sediment Target Level (mg/kg) ³		
			1	3	5
Reach 5A	KM 1	4.3			48
	KM 2	11			
	KM 3	13			
	KM 4	15			
	KM 5	19			
Reach 5B	KM 6	9.7			
	KM 7	6.3			
	KM 8	7.3			
Reaches 5C/5D	KM 9	7.0			
	KM 10	18			
	KM 11	20			
Reach 6	KM 12	19			

Piscivorous Mammals (mink)

Exposure Area ⁴	Average 0-6" Sediment PCB Concentration (mg/kg) ²	Sediment Target Level (mg/kg) ³		
		1	3	5
Reaches 5A/5B	11			
Reaches 5C/5D/6	17			

Notes

¹ Exposure areas for wood ducks represent approximate 1 kilometer segments of the river channel

² Model endpoint concentrations after 52-year projection

³ Sediment target levels have corresponding floodplain soil IMPGs due to mixture of aquatic and terrestrial diets for these receptors

⁴ Exposure areas represent entire river reach

IMPG = interim media protection goal

Key

	= model prediction is lower than the target value
	= model prediction exceeds the target value

Table 4-7. IMPGs for fish protection, and consumption of fish and invertebrates by ecological receptors compared to projected biota tissue PCBs (SED 1 / SED 2), including the time to achieve in years (*in italics*).

Ecological Receptor			Average Whole Body Fish Tissue PCB Concentration (mg/kg) ¹													
			Reach 5A	Reach 5B	Reach 5C	Reach 5D	Reach 6	Reach 7A	Reach 7B	Reach 7C	Reach 7D	Reach 7E	Reach 7F	Reach 7G	Reach 7H	Reach 8
Fish protection			28	36	29	36	34	25	22	24	21	16	13	14	11	14
Threatened and endangered species (represented by bald eagle)			25	23	24	19	18	9.2	16	11	10	6.5	5.5	7.0	4.4	7.7
Piscivorous birds (represented by osprey)			21	22	23	21	22	11	16	12	11	7.4	6.1	7.3	5.0	7.8
Ecological Receptor	Tissue Type	IMPG (mg/kg)														
Fish protection	Warmwater fish tissue (whole body)	55	5	8	0	36	7	0	0	0	0	0	0	0	0	0
	Coldwater fish tissue (whole body) - Trout Below PSA	14										35	41	27		
Threatened and endangered species (represented by bald eagle)	Fish tissue (whole body)	30.41	31	9	24	25	7	0	0	0	0	0	0	0	0	
Piscivorous birds (represented by osprey)	Fish tissue (whole body)	3.2														

Notes

¹ Model endpoint concentrations after 52-year projection (autumn average)
 IMPG = interim media protection goal

Key

- = model prediction is lower than the IMPG
- = model prediction exceeds the IMPG
- = IMPG not applicable

Table 4-9. Sediment IMPGs for human direct contact compared to projected sediment PCBs (SED 3), including the time to achieve in years (*in italics*).

Risk Category	Receptor	Exposure Assumptions	Risk Level	IMPG (mg/kg)	Average 0-6" Sediment PCB Concentration (mg/kg) ¹							
					SA 1	SA 2	SA 3	SA 4	SA 5	SA 6	SA 7	SA 8
					1.6	8.7	1.7	3.2	4.1	1.2	7.0	2.9
Human Direct Contact	Older Child	RME	Cancer @ 10 ⁻⁶	4.5	7		10	0	0	0		0
			Cancer @ 10 ⁻⁵	45	0	0	0	0	0	0	0	0
			Cancer @ 10 ⁻⁴	453	0	0	0	0	0	0	0	0
			Non-Cancer	31	0	0	9	0	0	0	0	0
		CTE	Cancer @ 10 ⁻⁶	36	0	0	7	0	0	0	0	0
			Cancer @ 10 ⁻⁵	365	0	0	0	0	0	0	0	0
			Cancer @ 10 ⁻⁴	3645	0	0	0	0	0	0	0	0
			Non-Cancer	125	0	0	0	0	0	0	0	0
	Adult	RME	Cancer @ 10 ⁻⁶	1.3						34		
			Cancer @ 10 ⁻⁵	13	2	11	10	0	0	0	0	0
			Cancer @ 10 ⁻⁴	135	0	0	0	0	0	0	0	0
			Non-Cancer	40	0	0	0	0	0	0	0	0
		CTE	Cancer @ 10 ⁻⁶	28	0	0	9	0	0	0	0	0
			Cancer @ 10 ⁻⁵	280	0	0	0	0	0	0	0	0
			Cancer @ 10 ⁻⁴	2800	0	0	0	0	0	0	0	0
			Non-Cancer	152	0	0	0	0	0	0	0	0

Notes

¹ Model endpoint concentrations after 52-year projection

CTE = central tendency exposure

RME = reasonable maximum exposure

IMPG = interim media protection goal

SA = EPA Risk Assessment Sediment Exposure Areas

SA 1: Confluence to New Lenox Road

SA 2: New Lenox Road to Woods Pond Headwaters

SA 3: Woods Pond (6-meters from waters edge)

SA 4: Columbia Mill Dam impoundment (6-meters from waters edge)

SA 5: Former Eagle Mill Dam impoundment (6-meters from waters edge)

SA 6: Willow Mill Dam impoundment (6-meters from waters edge)

SA 7: Glendale Dam impoundment (6-meters from waters edge)

SA 8: Rising Pond impoundment (6-meters from waters edge)

Key

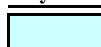

 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-10. IMPGs for human consumption of fish tissue compared to projected fillet-based fish PCBs (SED 3), including the time to achieve in years (*in italics*).

Tissue Type	Assessment Type	Exposure Assumptions	Risk Level	IMPG (mg/kg)	Average Fish Tissue (Fillet) PCB Concentration (mg/kg) ¹																				
					Reach 5A	Reach 5B	Reach 5C	Reach 5D	Reach 6	Reach 7A	Reach 7B	Reach 7C	Reach 7D	Reach 7E	Reach 7F	Reach 7G	Reach 7H	Reach 8	BBD	LL	LZ	LH			
Bass Fillets	Deterministic	RME	Cancer @ 10 ⁻⁶	0.0019	<i>0.25</i>	<i>3.0</i>	<i>1.8</i>	<i>6.3</i>	<i>0.71</i>	<i>1.3</i>	<i>2.1</i>	<i>1.8</i>	<i>1.4</i>	<i>1.0</i>	<i>0.82</i>	<i>1.3</i>	<i>0.72</i>	<i>1.6</i>	<i>0.04</i>	<i>0.03</i>	<i>0.02</i>	<i>0.02</i>			
			Cancer @ 10 ⁻⁵	0.019																					
			Cancer @ 10 ⁻⁴	0.19																					
			Non-Cancer -- Child	0.026																	<i>11</i>	<i>9</i>	<i>6</i>	<i>5</i>	
			Non-Cancer -- Adult	0.062																	<i>22</i>	<i>17</i>	<i>12</i>	<i>12</i>	
		CTE	Cancer @ 10 ⁻⁶	0.049																	<i>37</i>	<i>23</i>	<i>17</i>	<i>17</i>	
			Cancer @ 10 ⁻⁵	0.49	<i>22</i>																<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Cancer @ 10 ⁻⁴	4.9	<i>8</i>	<i>12</i>	<i>10</i>		<i>11</i>	<i>9</i>	<i>9</i>	<i>10</i>	<i>9</i>	<i>9</i>	<i>8</i>	<i>8</i>	<i>7</i>	<i>8</i>		<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>		
			Non-Cancer -- Child	0.19																	<i>11</i>	<i>9</i>	<i>6</i>	<i>5</i>	
			Non-Cancer -- Adult	0.43	<i>26</i>																<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
	Probabilistic	RME (5th percentile)	Cancer @ 10 ⁻⁶	0.0064																					
			Cancer @ 10 ⁻⁵	0.064																	<i>22</i>	<i>17</i>	<i>12</i>	<i>12</i>	
			Cancer @ 10 ⁻⁴	0.64	<i>15</i>																<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Non-Cancer -- Child	0.059																	<i>26</i>	<i>19</i>	<i>14</i>	<i>13</i>	
			Non-Cancer -- Adult	0.12																	<i>11</i>	<i>9</i>	<i>6</i>	<i>5</i>	
		CTE (50th percentile)	Cancer @ 10 ⁻⁶	0.057																	<i>26</i>	<i>19</i>	<i>14</i>	<i>13</i>	
			Cancer @ 10 ⁻⁵	0.57	<i>18</i>																<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Cancer @ 10 ⁻⁴	5.7	<i>7</i>	<i>11</i>	<i>10</i>		<i>11</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>8</i>	<i>7</i>	<i>7</i>	<i>5</i>	<i>7</i>		<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>		
			Non-Cancer -- Child	0.71	<i>14</i>				<i>52</i>												<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Non-Cancer -- Adult	1.5	<i>11</i>				<i>14</i>	<i>26</i>				<i>38</i>	<i>23</i>	<i>19</i>	<i>34</i>	<i>15</i>			<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	

Notes

¹ Model endpoint concentrations after 52-year projection (autumn average); whole body concentrations divided by a factor of 5.0 to convert to fillet basis
 CTE = central tendency exposure
 RME = reasonable maximum exposure
 BBD: Bulls Bridge Dam Impoundment
 LL: Lake Lillionah
 LZ: Lake Zoar
 LH: Lake Housatonic

Key

= model prediction is lower than the IMPG
 = model prediction is lower than the cancer IMPG, but is not lower than the corresponding non-cancer IMPGs
 = model prediction exceeds the IMPG

Table 4-11. Sediment IMPGs for benthic invertebrates compared to projected sediment PCBs (SED 3), including the time to achieve in years (*in italics*).

Reach	Exposure Area ¹	Average 0-6" Sediment PCB Concentration (mg/kg) ²	IMPG (mg/kg)	
			Lower End of Range	Upper End of Range
			3	10
5A	R5A_01	0.33	<i>1</i>	<i>1</i>
	R5A_02	0.18	<i>1</i>	<i>1</i>
	R5A_03	0.12	2	2
	R5A_04	0.071	2	2
	R5A_05	0.032	2	2
	R5A_06	0.043	3	2
	R5A_07	0.062	3	3
	R5A_08	0.028	4	4
	R5A_09	0.022	4	4
	R5A_10	0.020	6	5
	R5A_11	0.023	7	7
5B	R5B_01	9.1		21
	R5B_02	5.3		0
	R5B_03	3.2		0
	R5B_04	4.4		0
	R5B_05	3.9		0
5C	R5C_01	5.8		0
	R5C_02	6.4		6
	R5C_03	3.2		0
	R5C_04	4.4		6
	R5C_05	1.8	8	8
	R5C_06	1.5	9	9
6	Woods Pond	1.5	<i>10</i>	<i>10</i>
	7A	0.41	0	0
	7B	3.9		0
	7C	4.0		0
	7D	0.92	0	0
	7E	1.2	0	0
	7F	0.61	0	0
	7G	4.7		0
	7H	0.39	0	0
8	Rising Pond	2.7	25	0

Notes

¹ Exposure areas in Reach 5 represent EPA spatial bins (1/4 to 1/2-mile segments as defined in EPA's Model Validation Report)

² Model endpoint concentrations after 52-year projection
 IMPG = interim media protection goal

Key

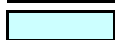

 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-12. Backwater sediment IMPGs for amphibians compared to projected sediment PCBs (SED 3), including the time to achieve in years (*in italics*).

Reach	Exposure Area ¹	Area (acres)	Average 0-6" Sediment PCB Concentration (mg/kg) ²	IMPG (mg/kg)	
				Lower End of Range	Upper End of Range
				3.27	5.6
Small Backwaters (< 2 acres)	BWS_01	1.9	4.2		32
	BWS_02	1.8	5.0		38
	BWS_03	1.9	1.8	38	28
	BWS_04	0.30	22		
	BWS_06	0.56	0.26	17	10
	BWS_07	0.12	5.4		4
	BWS_08	0.35	37		
	BWS_09	0.28	19		
	BWS_10	1.5	15		
	BWS_11	0.11	0.14	7	5
	BWS_12	1.7	4.7		42
	BWS_13	0.37	9.2		
	BWS_14	0.57	8.1		
	BWS_15	0.90	6.7		
	BWS_16	1.0	1.2	30	17
	BWS_17	0.58	0.44	14	5
	BWS_18	0.84	0.29	19	11
	BWS_19	0.99	20		
	BWS_20	1.3	4.4		36
	Large Backwaters (> 2 acres)	BWL_01	2.1	11	
BWL_02		5.5	4.2		35
BWL_03		2.4	2.2	37	16
BWL_04		2.1	2.4	38	26
BWL_05		12	12		
BWL_07		22	19		
BWL_08		4.1	11		
BWL_09		7.0	14		
BWL_10		6.4	12		
BWL_11		4.6	2.3	0	0

Notes

¹ Exposure areas represent individual backwaters

² Model endpoint concentrations after 52-year projection

IMPG = interim media protection goal

Key



 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-13. Sediment IMPGs for insectivorous birds and piscivorous mammals compared to projected sediment PCBs (SED 3), including the time to achieve in years (*in italics*).

Insectivorous Birds (wood duck)

Reach	Exposure Area ¹	Average 0-6" Sediment PCB Concentration (mg/kg) ²	Sediment Target Level (mg/kg) ³		
			1	3	5
Reach 5A	KM 1	0.20	2	2	1
	KM 2	1.8		26	6
	KM 3	1.7		4	4
	KM 4	0.020	6	6	6
	KM 5	0.023	7	7	7
Reach 5B	KM 6	7.4			
	KM 7	4.2			28
	KM 8	5.8			
Reaches 5C/5D	KM 9	5.4			
	KM 10	7.2			
	KM 11	12			
Reach 6	KM 12	1.8		10	10

Piscivorous Mammals (mink)

Exposure Area ⁴	Average 0-6" Sediment PCB Concentration (mg/kg) ²	Sediment Target Level (mg/kg) ³		
		1	3	5
Reaches 5A/5B	2.9		45	8
Reaches 5C/5D/6	6.2			

Notes

¹ Exposure areas for wood ducks represent approximate 1 kilometer segments of the river channel

² Model endpoint concentrations after 52-year projection

³ Sediment target levels have corresponding floodplain soil IMPGs due to mixture of aquatic and terrestrial diets for these receptors

⁴ Exposure areas represent entire river reach

IMPG = interim media protection goal

Key

	= model prediction is lower than the target value
	= model prediction exceeds the target value

Table 4-14. IMPGs for fish protection, and consumption of fish and invertebrates by ecological receptors compared to projected biota tissue PCBs (SED 3), including the time to achieve in years (*in italics*).

Ecological Receptor			Average Whole Body Fish Tissue PCB Concentration (mg/kg) ¹													
			Reach 5A	Reach 5B	Reach 5C	Reach 5D	Reach 6	Reach 7A	Reach 7B	Reach 7C	Reach 7D	Reach 7E	Reach 7F	Reach 7G	Reach 7H	Reach 8
Fish protection			0.98	12	7.0	24	2.8	4.8	8.2	6.7	5.2	3.9	3.1	4.8	2.8	6.0
Threatened and endangered species (represented by bald eagle)			0.45	13	7.7	15	1.6	2.3	9.5	4.7	3.6	2.2	1.9	3.8	1.5	4.9
Piscivorous birds (represented by osprey)			0.55	11	7.0	15	1.9	2.4	8.4	4.4	3.4	2.2	1.9	3.5	1.5	4.4
Ecological Receptor	Tissue Type	IMPG (mg/kg)														
Fish protection	Warmwater fish tissue (whole body)	55	3	5	0	11	5	0	0	0	0	0	0	0	0	0
	Coldwater fish tissue (whole body) - Trout Below PSA	14						10	11	11	10	10	9	10	9	
Threatened and endangered species (represented by bald eagle)	Fish tissue (whole body)	30.41	3	5	7	10	5	0	0	0	0	0	0	0	0	0
Piscivorous birds (represented by osprey)	Fish tissue (whole body)	3.2	10				13	18				22	17		12	

Notes

¹ Model endpoint concentrations after 52-year projection (autumn average)
 IMPG = interim media protection goal

Key

- = model prediction is lower than the IMPG
- = model prediction exceeds the IMPG
- = IMPG not applicable

Table 4-16. Sediment IMPGs for human direct contact compared to projected sediment PCBs (SED 4), including the time to achieve in years (*in italics*).

Risk Category	Receptor	Exposure Assumptions	Risk Level	IMPG (mg/kg)	Average 0-6" Sediment PCB Concentration (mg/kg) ¹							
					SA 1	SA 2	SA 3	SA 4	SA 5	SA 6	SA 7	SA 8
					0.071	0.45	0.22	3.2	4.1	1.3	7.6	2.9
Human Direct Contact	Older Child	RME	Cancer @ 10 ⁻⁶	4.5	7	12	15	0	0	0		0
			Cancer @ 10 ⁻⁵	45	0	0	0	0	0	0	0	0
			Cancer @ 10 ⁻⁴	453	0	0	0	0	0	0	0	0
			Non-Cancer	31	0	0	12	0	0	0	0	0
		CTE	Cancer @ 10 ⁻⁶	36	0	0	7	0	0	0	0	0
			Cancer @ 10 ⁻⁵	365	0	0	0	0	0	0	0	0
			Cancer @ 10 ⁻⁴	3645	0	0	0	0	0	0	0	0
			Non-Cancer	125	0	0	0	0	0	0	0	0
	Adult	RME	Cancer @ 10 ⁻⁶	1.3	9	12	15			26		
			Cancer @ 10 ⁻⁵	13	2	11	14	0	0	0	0	0
			Cancer @ 10 ⁻⁴	135	0	0	0	0	0	0	0	0
			Non-Cancer	40	0	0	0	0	0	0	0	0
		CTE	Cancer @ 10 ⁻⁶	28	0	0	12	0	0	0	0	0
			Cancer @ 10 ⁻⁵	280	0	0	0	0	0	0	0	0
			Cancer @ 10 ⁻⁴	2800	0	0	0	0	0	0	0	0
			Non-Cancer	152	0	0	0	0	0	0	0	0

Notes

¹ Model endpoint concentrations after 52-year projection

CTE = central tendency exposure

RME = reasonable maximum exposure

IMPG = interim media protection goal

SA = EPA Risk Assessment Sediment Exposure Areas

SA 1: Confluence to New Lenox Road

SA 2: New Lenox Road to Woods Pond Headwaters

SA 3: Woods Pond (6-meters from waters edge)

SA 4: Columbia Mill Dam impoundment (6-meters from waters edge)

SA 5: Former Eagle Mill Dam impoundment (6-meters from waters edge)

SA 6: Willow Mill Dam impoundment (6-meters from waters edge)

SA 7: Glendale Dam impoundment (6-meters from waters edge)

SA 8: Rising Pond impoundment (6-meters from waters edge)

Key

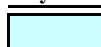

 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-17. IMPGs for human consumption of fish tissue compared to projected fillet-based fish PCBs (SED 4), including the time to achieve in years (*in italics*).

Tissue Type	Assessment Type	Exposure Assumptions	Risk Level	IMPG (mg/kg)	Average Fish Tissue (Fillet) PCB Concentration (mg/kg) ¹																					
					Reach 5A	Reach 5B	Reach 5C	Reach 5D	Reach 6	Reach 7A	Reach 7B	Reach 7C	Reach 7D	Reach 7E	Reach 7F	Reach 7G	Reach 7H	Reach 8	BBD	LL	LZ	LH				
Bass Fillets	Deterministic	RME	Cancer @ 10 ⁻⁶	0.0019	<i>0.26</i>	<i>0.39</i>	<i>0.42</i>	<i>0.40</i>	<i>0.23</i>	<i>0.50</i>	<i>1.6</i>	<i>1.1</i>	<i>0.84</i>	<i>0.62</i>	<i>0.52</i>	<i>1.1</i>	<i>0.46</i>	<i>1.3</i>	<i>0.02</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>				
			Cancer @ 10 ⁻⁵	0.019																						
			Cancer @ 10 ⁻⁴	0.19																						
			Non-Cancer -- Child	0.026																						
			Non-Cancer -- Adult	0.062																						
		CTE	Cancer @ 10 ⁻⁶	0.049																						
			Cancer @ 10 ⁻⁵	0.49	<i>22</i>	<i>18</i>	<i>17</i>	<i>19</i>	<i>20</i>									<i>37</i>								
			Cancer @ 10 ⁻⁴	4.9	<i>8</i>	<i>10</i>	<i>11</i>	<i>14</i>	<i>15</i>	<i>10</i>	<i>10</i>	<i>10</i>	<i>9</i>	<i>7</i>	<i>6</i>	<i>6</i>	<i>5</i>	<i>6</i>								
			Non-Cancer -- Child	0.19																						
			Non-Cancer -- Adult	0.43	<i>26</i>	<i>22</i>	<i>17</i>	<i>22</i>	<i>20</i>																	
	Probabilistic	(5th percentile)	Cancer @ 10 ⁻⁶	0.0064																						
			Cancer @ 10 ⁻⁵	0.064																						
			Cancer @ 10 ⁻⁴	0.64	<i>15</i>	<i>16</i>	<i>16</i>	<i>18</i>	<i>19</i>	<i>22</i>																
			Non-Cancer -- Child	0.059																						
		(50th percentile)	Non-Cancer -- Adult	0.12																						
			Cancer @ 10 ⁻⁶	0.057																						
			Cancer @ 10 ⁻⁵	0.57	<i>18</i>	<i>16</i>	<i>16</i>	<i>18</i>	<i>19</i>	<i>24</i>																
			Cancer @ 10 ⁻⁴	5.7	<i>7</i>	<i>10</i>	<i>11</i>	<i>14</i>	<i>14</i>	<i>9</i>	<i>9</i>	<i>8</i>	<i>6</i>	<i>5</i>	<i>3</i>	<i>5</i>										
Non-Cancer -- Child	0.71	<i>14</i>	<i>15</i>	<i>16</i>	<i>17</i>	<i>19</i>	<i>21</i>																			
Non-Cancer -- Adult	1.5	<i>11</i>	<i>13</i>	<i>14</i>	<i>16</i>	<i>17</i>	<i>18</i>																			

Notes

¹ Model endpoint concentrations after 52-year projection (autumn average); whole body concentrations divided by a factor of 5.0 to convert to fillet basis
 CTE = central tendency exposure
 RME = reasonable maximum exposure
 BBD: Bulls Bridge Dam Impoundment
 LL: Lake Lillinoah
 LZ: Lake Zoar
 LH: Lake Housatonic

Key




 = model prediction is lower than the IMPG
 = model prediction is lower than the cancer IMPG, but is not lower than the corresponding non-cancer IMPGs
 = model prediction exceeds the IMPG

Table 4-18. Sediment IMPGs for benthic invertebrates compared to projected sediment PCBs (SED 4), including the time to achieve in years (*in italics*).

Reach	Exposure Area ¹	Average 0-6" Sediment PCB Concentration (mg/kg) ²	IMPG (mg/kg)	
			Lower End of Range	Upper End of Range
			3	10
5A	R5A_01	0.33	<i>1</i>	<i>1</i>
	R5A_02	0.17	<i>1</i>	<i>1</i>
	R5A_03	0.14	2	2
	R5A_04	0.072	2	2
	R5A_05	0.033	2	2
	R5A_06	0.048	3	2
	R5A_07	0.075	3	3
	R5A_08	0.023	4	4
	R5A_09	0.022	4	4
	R5A_10	0.020	6	5
	R5A_11	0.026	7	7
5B	R5B_01	0.044	9	8
	R5B_02	0.061	10	0
	R5B_03	1.1	10	0
	R5B_04	0.35	10	0
	R5B_05	0.54	10	0
5C	R5C_01	1.5	11	0
	R5C_02	0.11	11	6
	R5C_03	1.1	11	0
	R5C_04	0.11	11	6
	R5C_05	0.14	12	11
	R5C_06	0.16	13	12
6	Woods Pond	0.25	15	14
	7A	0.41	0	0
	7B	4.0		0
	7C	4.0		0
	7D	0.94	0	0
	7E	1.3	0	0
	7F	0.61	0	0
	7G	5.0		0
	7H	0.40	0	0
8	Rising Pond	2.7	17	0

Notes

¹ Exposure areas in Reach 5 represent EPA spatial bins (1/4 to 1/2-mile segments as defined in EPA's Model Validation Report)

² Model endpoint concentrations after 52-year projection
 IMPG = interim media protection goal

Key



 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-19. Backwater sediment IMPGs for amphibians compared to projected sediment PCBs (SED 4), including the time to achieve in years (*in italics*).

Reach	Exposure Area ¹	Area (acres)	Average 0-6" Sediment PCB Concentration (mg/kg) ²	IMPG (mg/kg)	
				Lower End of Range	Upper End of Range
				3.27	5.6
Small Backwaters (< 2 acres)	BWS_01	1.9	4.1		32
	BWS_02	1.8	0.14	3	3
	BWS_03	1.9	0.20	3	3
	BWS_04	0.30	0.087	3	3
	BWS_06	0.56	0.22	16	10
	BWS_07	0.12	5.4		4
	BWS_08	0.35	0.064	11	11
	BWS_09	0.28	0.11	11	11
	BWS_10	1.5	0.094	11	11
	BWS_11	0.11	0.18	7	5
	BWS_12	1.7	4.1		37
	BWS_13	0.37	8.9		
	BWS_14	0.57	7.9		
	BWS_15	0.90	5.5		51
	BWS_16	1.0	0.76	26	17
	BWS_17	0.58	0.35	14	5
	BWS_18	0.84	0.21	20	10
	BWS_19	0.99	0.089	11	11
	BWS_20	1.3	4.0		35
	Large Backwaters (> 2 acres)	BWL_01	2.1	0.11	8
BWL_02		5.5	3.7		32
BWL_03		2.4	1.9	33	16
BWL_04		2.1	1.8	32	25
BWL_05		12	0.23	11	11
BWL_07		22	0.20	12	12
BWL_08		4.1	1.4	12	12
BWL_09		7.0	0.20	12	12
BWL_10		6.4	0.15	12	12
BWL_11		4.6	0.024	0	0

Notes

¹ Exposure areas represent individual backwaters

² Model endpoint concentrations after 52-year projection

IMPG = interim media protection goal

Key

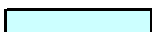

 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-20. Sediment IMPGs for insectivorous birds and piscivorous mammals compared to projected sediment PCBs (SED 4), including the time to achieve in years (*in italics*).

Insectivorous Birds (wood duck)

Reach	Exposure Area ¹	Average 0-6" Sediment PCB Concentration (mg/kg) ²	Sediment Target Level (mg/kg) ³		
			1	3	5
Reach 5A	KM 1	0.21	2	1	1
	KM 2	0.80	32	3	3
	KM 3	0.059	4	4	4
	KM 4	0.020	6	6	6
	KM 5	0.024	7	7	7
Reach 5B	KM 6	0.054	9	9	8
	KM 7	0.56	10	10	10
	KM 8	1.8		13	11
Reaches 5C/5D	KM 9	1.7		17	11
	KM 10	0.17	12	11	11
	KM 11	0.42	12	12	12
Reach 6	KM 12	0.23	15	15	14

Piscivorous Mammals (mink)

Exposure Area ⁴	Average 0-6" Sediment PCB Concentration (mg/kg) ²	Sediment Target Level (mg/kg) ³		
		1	3	5
Reaches 5A/5B	0.49	11	9	7
Reaches 5C/5D/6	0.54	15	14	14

Notes

¹ Exposure areas for wood ducks represent approximate 1 kilometer segments of the river channel

² Model endpoint concentrations after 52-year projection

³ Sediment target levels have corresponding floodplain soil IMPGs due to mixture of aquatic and terrestrial diets for these receptors

⁴ Exposure areas represent entire river reach

IMPG = interim media protection goal

Key



-  = model prediction is lower than the target value
-  = model prediction exceeds the target value

Table 4-21. IMPGs for fish protection, and consumption of fish and invertebrates by ecological receptors compared to projected biota tissue PCBs (SED 4), including the time to achieve in years (*in italics*).

Ecological Receptor			Average Whole Body Fish Tissue PCB Concentration (mg/kg) ¹													
			Reach 5A	Reach 5B	Reach 5C	Reach 5D	Reach 6	Reach 7A	Reach 7B	Reach 7C	Reach 7D	Reach 7E	Reach 7F	Reach 7G	Reach 7H	Reach 8
Fish protection			0.99	1.5	1.6	1.6	0.89	1.9	6.3	4.2	3.2	2.3	2.0	4.0	1.8	5.0
Threatened and endangered species (represented by bald eagle)			0.45	1.1	1.6	0.76	0.42	1.3	8.9	3.8	3.0	1.7	1.5	3.6	1.2	4.4
Piscivorous birds (represented by osprey)			0.55	1.0	1.5	0.89	0.56	1.2	7.6	3.3	2.6	1.6	1.4	3.2	1.1	3.9
Ecological Receptor	Tissue Type	IMPG (mg/kg)														
Fish protection	Warmwater fish tissue (whole body)	55	3	5	0	11	5	0	0	0	0	0	0	0	0	0
	Coldwater fish tissue (whole body) - Trout Below PSA	14						11	11	11	10	9	8	8	7	
Threatened and endangered species (represented by bald eagle)	Fish tissue (whole body)	30.41	3	5	7	11	5	0	0	0	0	0	0	0	0	0
Piscivorous birds (represented by osprey)	Fish tissue (whole body)	3.2	10	12	14	15	17	17			19	17	16	21	11	

Notes

¹ Model endpoint concentrations after 52-year projection (autumn average)
 IMPG = interim media protection goal

Key

- = model prediction is lower than the IMPG
- = model prediction exceeds the IMPG
- = IMPG not applicable

Table 4-23. Sediment IMPGs for human direct contact compared to projected sediment PCBs (SED 5), including the time to achieve in years (*in italics*).

Risk Category	Receptor	Exposure Assumptions	Risk Level	IMPG (mg/kg)	Average 0-6" Sediment PCB Concentration (mg/kg) ¹							
					SA 1	SA 2	SA 3	SA 4	SA 5	SA 6	SA 7	SA 8
					0.057	0.20	0.21	3.2	4.1	1.3	7.5	0.29
Human Direct Contact	Older Child	RME	Cancer @ 10 ⁻⁶	4.5	7	15	18	0	0	0		0
			Cancer @ 10 ⁻⁵	45	0	0	0	0	0	0	0	0
			Cancer @ 10 ⁻⁴	453	0	0	0	0	0	0	0	0
			Non-Cancer	31	0	0	15	0	0	0	0	0
		CTE	Cancer @ 10 ⁻⁶	36	0	0	7	0	0	0	0	0
			Cancer @ 10 ⁻⁵	365	0	0	0	0	0	0	0	0
			Cancer @ 10 ⁻⁴	3645	0	0	0	0	0	0	0	0
			Non-Cancer	125	0	0	0	0	0	0	0	0
	Adult	RME	Cancer @ 10 ⁻⁶	1.3	9	15	18			26		18
			Cancer @ 10 ⁻⁵	13	2	14	17	0	0	0	0	0
			Cancer @ 10 ⁻⁴	135	0	0	0	0	0	0	0	0
			Non-Cancer	40	0	0	0	0	0	0	0	0
		CTE	Cancer @ 10 ⁻⁶	28	0	0	15	0	0	0	0	0
			Cancer @ 10 ⁻⁵	280	0	0	0	0	0	0	0	0
			Cancer @ 10 ⁻⁴	2800	0	0	0	0	0	0	0	0
			Non-Cancer	152	0	0	0	0	0	0	0	0

Notes

¹ Model endpoint concentrations after 52-year projection

CTE = central tendency exposure

RME = reasonable maximum exposure

IMPG = interim media protection goal

SA = EPA Risk Assessment Sediment Exposure Areas

SA 1: Confluence to New Lenox Road

SA 2: New Lenox Road to Woods Pond Headwaters

SA 3: Woods Pond (6-meters from waters edge)

SA 4: Columbia Mill Dam impoundment (6-meters from waters edge)

SA 5: Former Eagle Mill Dam impoundment (6-meters from waters edge)

SA 6: Willow Mill Dam impoundment (6-meters from waters edge)

SA 7: Glendale Dam impoundment (6-meters from waters edge)

SA 8: Rising Pond impoundment (6-meters from waters edge)

Key

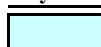

 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-24. IMPGs for human consumption of fish tissue compared to projected fillet-based fish PCBs (SED 5), including the time to achieve in years (*in italics*).

Tissue Type	Assessment Type	Exposure Assumptions	Risk Level	IMPG (mg/kg)	Average Fish Tissue (Fillet) PCB Concentration (mg/kg) ¹																				
					Reach 5A	Reach 5B	Reach 5C	Reach 5D	Reach 6	Reach 7A	Reach 7B	Reach 7C	Reach 7D	Reach 7E	Reach 7F	Reach 7G	Reach 7H	Reach 8	BBD	LL	LZ	LH			
Bass Fillets	Deterministic	RME	Cancer @ 10 ⁻⁶	0.0019	<i>0.26</i>	<i>0.23</i>	<i>0.17</i>	<i>0.36</i>	<i>0.18</i>	<i>0.42</i>	<i>1.6</i>	<i>1.0</i>	<i>0.79</i>	<i>0.57</i>	<i>0.49</i>	<i>1.0</i>	<i>0.43</i>	<i>0.34</i>	<i>0.01</i>	<i>0.009</i>	<i>0.006</i>	<i>0.006</i>			
			Cancer @ 10 ⁻⁵	0.019																	<i>40</i>	<i>33</i>	<i>25</i>	<i>25</i>	
			Cancer @ 10 ⁻⁴	0.19			<i>44</i>		<i>50</i>													<i>11</i>	<i>8</i>	<i>4</i>	<i>4</i>
			Non-Cancer -- Child	0.026																		<i>27</i>	<i>24</i>	<i>22</i>	<i>22</i>
			Non-Cancer -- Adult	0.062																		<i>21</i>	<i>19</i>	<i>15</i>	<i>11</i>
		CTE	Cancer @ 10 ⁻⁶	0.049																		<i>22</i>	<i>21</i>	<i>19</i>	<i>19</i>
			Cancer @ 10 ⁻⁵	0.49	<i>22</i>	<i>18</i>	<i>20</i>	<i>21</i>	<i>22</i>	<i>36</i>						<i>51</i>		<i>34</i>	<i>23</i>			<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Cancer @ 10 ⁻⁴	4.9	<i>8</i>	<i>10</i>	<i>14</i>	<i>17</i>	<i>18</i>	<i>10</i>	<i>10</i>	<i>10</i>	<i>9</i>	<i>7</i>	<i>6</i>	<i>6</i>	<i>5</i>	<i>6</i>				<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Non-Cancer -- Child	0.19			<i>44</i>		<i>50</i>													<i>11</i>	<i>8</i>	<i>4</i>	<i>4</i>
			Non-Cancer -- Adult	0.43	<i>26</i>	<i>21</i>	<i>20</i>	<i>22</i>	<i>23</i>	<i>48</i>								<i>51</i>	<i>24</i>			<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	Probabilistic	(5th percentile)	RME	Cancer @ 10 ⁻⁶	0.0064																		<i>51</i>	<i>50</i>	
			Cancer @ 10 ⁻⁵	0.064																		<i>21</i>	<i>19</i>	<i>15</i>	<i>11</i>
			Cancer @ 10 ⁻⁴	0.64	<i>15</i>	<i>16</i>	<i>19</i>	<i>21</i>	<i>22</i>	<i>24</i>						<i>38</i>	<i>25</i>		<i>23</i>	<i>22</i>		<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Non-Cancer -- Child	0.059																		<i>21</i>	<i>20</i>	<i>18</i>	<i>18</i>
			Non-Cancer -- Adult	0.12																		<i>11</i>	<i>8</i>	<i>4</i>	<i>4</i>
		(50th percentile)	CTE	Cancer @ 10 ⁻⁶	0.057																	<i>21</i>	<i>20</i>	<i>18</i>	<i>18</i>
			Cancer @ 10 ⁻⁵	0.57	<i>18</i>	<i>17</i>	<i>19</i>	<i>21</i>	<i>22</i>	<i>25</i>						<i>52</i>	<i>36</i>		<i>24</i>	<i>23</i>		<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Cancer @ 10 ⁻⁴	5.7	<i>7</i>	<i>10</i>	<i>11</i>	<i>17</i>	<i>17</i>	<i>9</i>		<i>9</i>	<i>8</i>	<i>6</i>	<i>5</i>		<i>5</i>	<i>3</i>	<i>5</i>			<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Non-Cancer -- Child	0.71	<i>14</i>	<i>16</i>	<i>19</i>	<i>20</i>	<i>22</i>	<i>24</i>						<i>27</i>	<i>24</i>		<i>22</i>	<i>22</i>		<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Non-Cancer -- Adult	1.5	<i>11</i>	<i>14</i>	<i>18</i>	<i>19</i>	<i>20</i>	<i>21</i>				<i>23</i>	<i>21</i>	<i>21</i>	<i>20</i>	<i>21</i>	<i>19</i>	<i>20</i>		<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Notes

¹ Model endpoint concentrations after 52-year projection (autumn average); whole body concentrations divided by a factor of 5.0 to convert to fillet basis
 CTE = central tendency exposure
 RME = reasonable maximum exposure
 BBD: Bulls Bridge Dam Impoundment
 LL: Lake Lillinonah
 LZ: Lake Zoar
 LH: Lake Housatonic

Key

= model prediction is lower than the IMPG
 = model prediction is lower than the cancer IMPG, but is not lower than the corresponding non-cancer IMPGs
 = model prediction exceeds the IMPG

Table 4-25. Sediment IMPGs for benthic invertebrates compared to projected sediment PCBs (SED 5), including the time to achieve in years (*in italics*).

Reach	Exposure Area ¹	Average 0-6" Sediment PCB Concentration (mg/kg) ²	IMPG (mg/kg)	
			Lower End of Range	Upper End of Range
			3	10
5A	R5A_01	0.33	<i>1</i>	<i>1</i>
	R5A_02	0.17	<i>1</i>	<i>1</i>
	R5A_03	0.13	2	2
	R5A_04	0.071	2	2
	R5A_05	0.033	2	2
	R5A_06	0.044	3	2
	R5A_07	0.075	3	3
	R5A_08	0.024	4	4
	R5A_09	0.021	4	4
	R5A_10	0.020	6	5
	R5A_11	0.026	7	7
5B	R5B_01	0.043	9	8
	R5B_02	0.055	10	0
	R5B_03	0.058	10	0
	R5B_04	0.089	11	0
	R5B_05	0.075	12	0
5C	R5C_01	0.083	13	0
	R5C_02	0.12	13	6
	R5C_03	0.098	14	0
	R5C_04	0.11	14	6
	R5C_05	0.13	14	14
	R5C_06	0.17	15	15
6	Woods Pond	0.24	18	17
	7A	0.41	0	0
	7B	4.0		0
	7C	4.0		0
	7D	0.94	0	0
	7E	1.3	0	0
	7F	0.61	0	0
	7G	5.0		0
	7H	0.40	0	0
8	Rising Pond	0.35	17	0

Notes

¹ Exposure areas in Reach 5 represent EPA spatial bins (1/4 to 1/2-mile segments as defined in EPA's Model Validation Report)

² Model endpoint concentrations after 52-year projection
 IMPG = interim media protection goal

Key

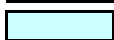

 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-26. Backwater sediment IMPGs for amphibians compared to projected sediment PCBs (SED 5), including the time to achieve in years (*in italics*).

Reach	Exposure Area ¹	Area (acres)	Average 0-6" Sediment PCB Concentration (mg/kg) ²	IMPG (mg/kg)	
				Lower End of Range	Upper End of Range
				3.27	5.6
Small Backwaters (< 2 acres)	BWS_01	1.9	4.1		32
	BWS_02	1.8	0.14	3	3
	BWS_03	1.9	0.20	3	3
	BWS_04	0.30	0.087	3	3
	BWS_06	0.56	0.24	17	10
	BWS_07	0.12	5.4		4
	BWS_08	0.35	0.060	12	12
	BWS_09	0.28	0.098	13	13
	BWS_10	1.5	0.078	13	13
	BWS_11	0.11	0.12	7	5
	BWS_12	1.7	4.2		38
	BWS_13	0.37	8.9		
	BWS_14	0.57	7.8		
	BWS_15	0.90	5.6		52
	BWS_16	1.0	0.77	27	17
	BWS_17	0.58	0.27	15	5
	BWS_18	0.84	0.24	20	10
	BWS_19	0.99	0.074	14	14
	BWS_20	1.3	4.1		36
	Large Backwaters (> 2 acres)	BWL_01	2.1	0.11	8
BWL_02		5.5	3.9		32
BWL_03		2.4	1.8	33	16
BWL_04		2.1	1.9	34	26
BWL_05		12	0.22	14	14
BWL_07		22	0.17	15	15
BWL_08		4.1	1.3	15	15
BWL_09		7.0	0.16	15	15
BWL_10		6.4	0.13	15	15
BWL_11		4.6	0.024	0	0

Notes

¹ Exposure areas represent individual backwaters

² Model endpoint concentrations after 52-year projection

IMPG = interim media protection goal

Key

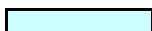

 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-27. Sediment IMPGs for insectivorous birds and piscivorous mammals compared to projected sediment PCBs (SED 5), including the time to achieve in years (*in italics*).

Insectivorous Birds (wood duck)

Reach	Exposure Area ¹	Average 0-6" Sediment PCB Concentration (mg/kg) ²	Sediment Target Level (mg/kg) ³		
			1	3	5
Reach 5A	KM 1	0.20	2	1	1
	KM 2	0.80	32	3	3
	KM 3	0.058	4	4	4
	KM 4	0.020	6	6	6
	KM 5	0.024	7	7	7
Reach 5B	KM 6	0.053	9	9	8
	KM 7	0.16	11	10	10
	KM 8	1.2		13	13
Reaches 5C/5D	KM 9	1.4		18	14
	KM 10	0.17	14	14	14
	KM 11	0.40	15	15	15
Reach 6	KM 12	0.21	18	17	17

Piscivorous Mammals (mink)

Exposure Area ⁴	Average 0-6" Sediment PCB Concentration (mg/kg) ²	Sediment Target Level (mg/kg) ³		
		1	3	5
Reaches 5A/5B	0.40	12	9	7
Reaches 5C/5D/6	0.42	18	17	16

Notes

¹ Exposure areas for wood ducks represent approximate 1 kilometer segments of the river channel

² Model endpoint concentrations after 52-year projection

³ Sediment target levels have corresponding floodplain soil IMPGs due to mixture of aquatic and terrestrial diets for these receptors

⁴ Exposure areas represent entire river reach

IMPG = interim media protection goal

Key



 = model prediction is lower than the target value
 = model prediction exceeds the target value

Table 4-28. IMPGs for fish protection, and consumption of fish and invertebrates by ecological receptors compared to projected biota tissue PCBs (SED 5), including the time to achieve in years (*in italics*).

Ecological Receptor			Average Whole Body Fish Tissue PCB Concentration (mg/kg) ¹													
			Reach 5A	Reach 5B	Reach 5C	Reach 5D	Reach 6	Reach 7A	Reach 7B	Reach 7C	Reach 7D	Reach 7E	Reach 7F	Reach 7G	Reach 7H	Reach 8
Fish protection			1.0	0.89	0.65	1.4	0.70	1.6	6.1	4.0	3.0	2.2	1.9	3.9	1.6	1.3
Threatened and endangered species (represented by bald eagle)			0.46	0.40	0.37	0.67	0.34	1.2	8.8	3.7	2.9	1.7	1.4	3.6	1.1	0.79
Piscivorous birds (represented by osprey)			0.56	0.44	0.41	0.79	0.45	1.1	7.5	3.2	2.5	1.5	1.3	3.1	1.1	0.78
Ecological Receptor	Tissue Type	IMPG (mg/kg)														
Fish protection	Warmwater fish tissue (whole body)	55	3	5	0	14	5	0	0	0	0	0	0	0	0	0
	Coldwater fish tissue (whole body) - Trout Below PSA	14						11	18	18	10	9	8	8	7	
Threatened and endangered species (represented by bald eagle)	Fish tissue (whole body)	30.41	3	5	7	14	5	0	0	0	0	0	0	0	0	0
Piscivorous birds (represented by osprey)	Fish tissue (whole body)	3.2	10	12	17	18	19	20		41	22	19	18	22	11	19

Notes

¹ Model endpoint concentrations after 52-year projection (autumn average)
 IMPG = interim media protection goal

Key

- = model prediction is lower than the IMPG
- = model prediction exceeds the IMPG
- = IMPG not applicable

Table 4-28. IMPGs for fish protection, and consumption of fish and invertebrates by ecological receptors compared to projected biota tissue PCBs (SED 5), including the time to achieve in years (*in italics*).

Ecological Receptor			Average Whole Body Fish Tissue PCB Concentration (mg/kg) ¹													
			Reach 5A	Reach 5B	Reach 5C	Reach 5D	Reach 6	Reach 7A	Reach 7B	Reach 7C	Reach 7D	Reach 7E	Reach 7F	Reach 7G	Reach 7H	Reach 8
Fish protection			1.0	0.89	0.65	1.4	0.70	1.6	6.1	4.0	3.0	2.2	1.9	3.9	1.6	1.3
Threatened and endangered species (represented by bald eagle)			0.46	0.40	0.37	0.67	0.34	1.2	8.8	3.7	2.9	1.7	1.4	3.6	1.1	0.79
Piscivorous birds (represented by osprey)			0.56	0.44	0.41	0.79	0.45	1.1	7.5	3.2	2.5	1.5	1.3	3.1	1.1	0.78
Ecological Receptor	Tissue Type	IMPG (mg/kg)														
Fish protection	Warmwater fish tissue (whole body)	55	3	5	0	14	5	0	0	0	0	0	0	0	0	0
	Coldwater fish tissue (whole body) - Trout Below PSA	14						11	18	18	10	9	8	8	7	
Threatened and endangered species (represented by bald eagle)	Fish tissue (whole body)	30.41	3	5	7	14	5	0	0	0	0	0	0	0	0	0
Piscivorous birds (represented by osprey)	Fish tissue (whole body)	3.2	10	12	17	18	19	20		41	22	19	18	22	11	19

Notes

¹ Model endpoint concentrations after 52-year projection (autumn average)
 IMPG = interim media protection goal

Key




-  = model prediction is lower than the IMPG
-  = model prediction exceeds the IMPG
-  = IMPG not applicable

Table 4-30. Sediment IMPGs for human direct contact compared to projected sediment PCBs (SED 6), including the time to achieve in years (*in italics*).

Risk Category	Receptor	Exposure Assumptions	Risk Level	IMPG (mg/kg)	Average 0-6" Sediment PCB Concentration (mg/kg) ¹							
					SA 1	SA 2	SA 3	SA 4	SA 5	SA 6	SA 7	SA 8
					0.054	0.17	0.24	1.2	4.1	0.45	2.2	0.096
Human Direct Contact	Older Child	RME	Cancer @ 10 ⁻⁶	4.5	<i>7</i>	<i>15</i>	<i>18</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>19</i>	<i>0</i>
			Cancer @ 10 ⁻⁵	45	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Cancer @ 10 ⁻⁴	453	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Non-Cancer	31	<i>0</i>	<i>0</i>	<i>16</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
		CTE	Cancer @ 10 ⁻⁶	36	<i>0</i>	<i>0</i>	<i>7</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Cancer @ 10 ⁻⁵	365	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Cancer @ 10 ⁻⁴	3645	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Non-Cancer	125	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	Adult	RME	Cancer @ 10 ⁻⁶	1.3	<i>9</i>	<i>16</i>	<i>19</i>	<i>19</i>	<i>0</i>	<i>19</i>	<i>0</i>	<i>20</i>
			Cancer @ 10 ⁻⁵	13	<i>2</i>	<i>14</i>	<i>17</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Cancer @ 10 ⁻⁴	135	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Non-Cancer	40	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
		CTE	Cancer @ 10 ⁻⁶	28	<i>0</i>	<i>0</i>	<i>16</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Cancer @ 10 ⁻⁵	280	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Cancer @ 10 ⁻⁴	2800	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Non-Cancer	152	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Notes

¹ Model endpoint concentrations after 52-year projection

CTE = central tendency exposure

RME = reasonable maximum exposure

IMPG = interim media protection goal

SA = EPA Risk Assessment Sediment Exposure Areas

SA 1: Confluence to New Lenox Road

SA 2: New Lenox Road to Woods Pond Headwaters

SA 3: Woods Pond (6-meters from waters edge)

SA 4: Columbia Mill Dam impoundment (6-meters from waters edge)

SA 5: Former Eagle Mill Dam impoundment (6-meters from waters edge)

SA 6: Willow Mill Dam impoundment (6-meters from waters edge)

SA 7: Glendale Dam impoundment (6-meters from waters edge)

SA 8: Rising Pond impoundment (6-meters from waters edge)

Key

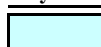

 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-31. IMPGs for human consumption of fish tissue compared to projected fillet-based fish PCBs (SED 6), including the time to achieve in years (*in italics*).

Tissue Type	Assessment Type	Exposure Assumptions	Risk Level	IMPG (mg/kg)	Average Fish Tissue (Fillet) PCB Concentration (mg/kg) ¹																			
					Reach 5A	Reach 5B	Reach 5C	Reach 5D	Reach 6	Reach 7A	Reach 7B	Reach 7C	Reach 7D	Reach 7E	Reach 7F	Reach 7G	Reach 7H	Reach 8	BBD	LL	LZ	LH		
Bass Fillets	Deterministic	RME	Cancer @ 10 ⁻⁶	0.0019	<i>0.26</i>	<i>0.22</i>	<i>0.16</i>	<i>0.35</i>	<i>0.17</i>	<i>0.40</i>	<i>1.1</i>	<i>1.0</i>	<i>0.74</i>	<i>0.37</i>	<i>0.47</i>	<i>0.42</i>	<i>0.41</i>	<i>0.24</i>	<i>0.01</i>	<i>0.007</i>	<i>0.005</i>	<i>0.005</i>		
			Cancer @ 10 ⁻⁵	0.019																<i>37</i>	<i>32</i>	<i>26</i>	<i>26</i>	
			Cancer @ 10 ⁻⁴	0.19			<i>44</i>		<i>48</i>												<i>18</i>	<i>9</i>	<i>6</i>	<i>5</i>
			Non-Cancer -- Child	0.026																	<i>29</i>	<i>25</i>	<i>23</i>	<i>23</i>
			Non-Cancer -- Adult	0.062																	<i>22</i>	<i>20</i>	<i>19</i>	<i>19</i>
		CTE	Cancer @ 10 ⁻⁶	0.049																	<i>23</i>	<i>22</i>	<i>20</i>	<i>20</i>
			Cancer @ 10 ⁻⁵	0.49	<i>22</i>	<i>18</i>	<i>20</i>	<i>21</i>	<i>23</i>	<i>33</i>					<i>24</i>	<i>47</i>	<i>24</i>	<i>27</i>	<i>25</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Cancer @ 10 ⁻⁴	4.9	<i>8</i>	<i>10</i>	<i>14</i>	<i>17</i>	<i>19</i>	<i>10</i>	<i>10</i>	<i>10</i>	<i>10</i>	<i>9</i>	<i>8</i>	<i>8</i>	<i>7</i>	<i>8</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Non-Cancer -- Child	0.19			<i>44</i>		<i>48</i>												<i>18</i>	<i>9</i>	<i>6</i>	<i>5</i>
			Non-Cancer -- Adult	0.43	<i>26</i>	<i>20</i>	<i>21</i>	<i>22</i>	<i>24</i>	<i>41</i>				<i>25</i>		<i>24</i>	<i>38</i>	<i>25</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
	Probabilistic	(5th percentile)	RME	Cancer @ 10 ⁻⁶	0.0064															<i>22</i>	<i>20</i>	<i>19</i>	<i>19</i>	
			Cancer @ 10 ⁻⁵	0.064																<i>22</i>	<i>20</i>	<i>19</i>	<i>19</i>	
			Cancer @ 10 ⁻⁴	0.64	<i>15</i>	<i>16</i>	<i>20</i>	<i>21</i>	<i>23</i>	<i>24</i>					<i>23</i>	<i>26</i>	<i>23</i>	<i>24</i>	<i>24</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Non-Cancer -- Child	0.059																	<i>22</i>	<i>21</i>	<i>19</i>	<i>19</i>
			Non-Cancer -- Adult	0.12																	<i>18</i>	<i>9</i>	<i>6</i>	<i>5</i>
		(50th percentile)	CTE	Cancer @ 10 ⁻⁶	0.057																<i>22</i>	<i>21</i>	<i>19</i>	<i>19</i>
			Cancer @ 10 ⁻⁵	0.57	<i>18</i>	<i>17</i>	<i>20</i>	<i>21</i>	<i>23</i>	<i>25</i>					<i>23</i>	<i>35</i>	<i>24</i>	<i>25</i>	<i>24</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Cancer @ 10 ⁻⁴	5.7	<i>7</i>	<i>10</i>	<i>11</i>	<i>17</i>	<i>19</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>8</i>	<i>7</i>	<i>7</i>	<i>5</i>	<i>7</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Non-Cancer -- Child	0.71	<i>14</i>	<i>16</i>	<i>19</i>	<i>21</i>	<i>23</i>	<i>24</i>					<i>23</i>	<i>25</i>	<i>23</i>	<i>23</i>	<i>24</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Non-Cancer -- Adult	1.5	<i>11</i>	<i>14</i>	<i>18</i>	<i>19</i>	<i>21</i>	<i>22</i>	<i>22</i>	<i>23</i>	<i>22</i>	<i>21</i>	<i>21</i>	<i>21</i>	<i>20</i>	<i>22</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	

Notes

¹ Model endpoint concentrations after 52-year projection (autumn average); whole body concentrations divided by a factor of 5.0 to convert to fillet basis
 CTE = central tendency exposure
 RME = reasonable maximum exposure
 BBD: Bulls Bridge Dam Impoundment
 LL: Lake Lillinonah
 LZ: Lake Zoar
 LH: Lake Housatonic

Key

= model prediction is lower than the IMPG
 = model prediction is lower than the cancer IMPG, but is not lower than the corresponding non-cancer IMPGs
 = model prediction exceeds the IMPG

Table 4-32. Sediment IMPGs for benthic invertebrates compared to projected sediment PCBs (SED 6), including the time to achieve in years (*in italics*).

Reach	Exposure Area ¹	Average 0-6" Sediment PCB Concentration (mg/kg) ²	IMPG (mg/kg)	
			Lower End of Range	Upper End of Range
			3	10
5A	R5A_01	0.33	<i>1</i>	<i>1</i>
	R5A_02	0.17	<i>1</i>	<i>1</i>
	R5A_03	0.14	2	2
	R5A_04	0.070	2	2
	R5A_05	0.032	2	2
	R5A_06	0.045	3	2
	R5A_07	0.063	3	3
	R5A_08	0.023	4	4
	R5A_09	0.021	4	4
	R5A_10	0.020	6	5
	R5A_11	0.022	7	7
5B	R5B_01	0.035	9	8
	R5B_02	0.042	10	0
	R5B_03	0.060	10	0
	R5B_04	0.090	11	0
	R5B_05	0.072	12	0
5C	R5C_01	0.081	13	0
	R5C_02	0.12	13	6
	R5C_03	0.10	13	0
	R5C_04	0.12	14	6
	R5C_05	0.19	14	14
	R5C_06	0.25	16	16
6	Woods Pond	0.21	18	18
	7A	0.41	0	0
	7B	2.6	19	0
	7C	4.0		0
	7D	0.91	0	0
	7E	0.45	0	0
	7F	0.60	0	0
	7G	1.4	19	0
	7H	0.39	0	0
8	Rising Pond	0.13	20	0

Notes

¹ Exposure areas in Reach 5 represent EPA spatial bins (1/4 to 1/2-mile segments as defined in EPA's Model Validation Report)

² Model endpoint concentrations after 52-year projection
 IMPG = interim media protection goal

Key

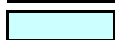

 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-33. Backwater sediment IMPGs for amphibians compared to projected sediment PCBs (SED 6), including the time to achieve in years (*in italics*).

Reach	Exposure Area ¹	Area (acres)	Average 0-6" Sediment PCB Concentration (mg/kg) ²	IMPG (mg/kg)	
				Lower End of Range	Upper End of Range
				<i>3.27</i>	<i>5.6</i>
Small Backwaters (< 2 acres)	BWS_01	1.9	0.18	<i>2</i>	<i>2</i>
	BWS_02	1.8	0.14	<i>3</i>	<i>3</i>
	BWS_03	1.9	0.20	<i>3</i>	<i>3</i>
	BWS_04	0.30	0.12	<i>3</i>	<i>3</i>
	BWS_06	0.56	0.18	<i>10</i>	<i>10</i>
	BWS_07	0.12	0.030	<i>10</i>	<i>4</i>
	BWS_08	0.35	0.061	<i>12</i>	<i>12</i>
	BWS_09	0.28	0.098	<i>13</i>	<i>13</i>
	BWS_10	1.5	0.080	<i>13</i>	<i>13</i>
	BWS_11	0.11	0.13	<i>7</i>	<i>5</i>
	BWS_12	1.7	0.11	<i>13</i>	<i>13</i>
	BWS_13	0.37	0.11	<i>13</i>	<i>13</i>
	BWS_14	0.57	0.049	<i>13</i>	<i>13</i>
	BWS_15	0.90	0.10	<i>13</i>	<i>13</i>
	BWS_16	1.0	0.094	<i>14</i>	<i>14</i>
	BWS_17	0.58	0.11	<i>14</i>	<i>5</i>
	BWS_18	0.84	0.10	<i>14</i>	<i>10</i>
	BWS_19	0.99	0.072	<i>14</i>	<i>14</i>
	BWS_20	1.3	0.11	<i>15</i>	<i>15</i>
	Large Backwaters (> 2 acres)	BWL_01	2.1	1.5	<i>8</i>
BWL_02		5.5	0.11	<i>12</i>	<i>12</i>
BWL_03		2.4	0.096	<i>13</i>	<i>13</i>
BWL_04		2.1	0.12	<i>14</i>	<i>14</i>
BWL_05		12	0.25	<i>14</i>	<i>14</i>
BWL_07		22	0.18	<i>15</i>	<i>15</i>
BWL_08		4.1	0.19	<i>15</i>	<i>15</i>
BWL_09		7.0	0.24	<i>16</i>	<i>15</i>
BWL_10		6.4	0.18	<i>16</i>	<i>16</i>
BWL_11		4.6	0.024	<i>0</i>	<i>0</i>

Notes

¹ Exposure areas represent individual backwaters

² Model endpoint concentrations after 52-year projection

IMPG = interim media protection goal

Key

- = model prediction is lower than the IMPG
- = model prediction exceeds the IMPG

Table 4-34. Sediment IMPGs for insectivorous birds and piscivorous mammals compared to projected sediment PCBs (SED 6), including the time to achieve in years (*in italics*).

Insectivorous Birds (wood duck)

Reach	Exposure Area ¹	Average 0-6" Sediment PCB Concentration (mg/kg) ²	Sediment Target Level (mg/kg) ³		
			1	3	5
Reach 5A	KM 1	0.21	2	1	1
	KM 2	0.093	3	3	2
	KM 3	0.058	4	4	4
	KM 4	0.020	6	6	6
	KM 5	0.023	7	7	7
Reach 5B	KM 6	0.31	9	9	8
	KM 7	0.065	11	10	10
	KM 8	0.085	13	12	12
Reaches 5C/5D	KM 9	0.10	14	13	13
	KM 10	0.19	14	14	14
	KM 11	0.20	16	16	15
Reach 6	KM 12	0.22	19	18	18

Piscivorous Mammals (mink)

Exposure Area ⁴	Average 0-6" Sediment PCB Concentration (mg/kg) ²	Sediment Target Level (mg/kg) ³		
		1	3	5
Reaches 5A/5B	0.11	12	9	7
Reaches 5C/5D/6	0.19	18	18	17

Notes

¹ Exposure areas for wood ducks represent approximate 1 kilometer segments of the river channel

² Model endpoint concentrations after 52-year projection

³ Sediment target levels have corresponding floodplain soil IMPGs due to mixture of aquatic and terrestrial diets for these receptors

⁴ Exposure areas represent entire river reach

IMPG = interim media protection goal

Key

= model prediction is lower than the target value

Table 4-35. IMPGs for fish protection, and consumption of fish and invertebrates by ecological receptors compared to projected biota tissue PCBs (SED 6), including the time to achieve in years (*in italics*).

Ecological Receptor			Average Whole Body Fish Tissue PCB Concentration (mg/kg) ¹													
			Reach 5A	Reach 5B	Reach 5C	Reach 5D	Reach 6	Reach 7A	Reach 7B	Reach 7C	Reach 7D	Reach 7E	Reach 7F	Reach 7G	Reach 7H	Reach 8
Fish protection			0.99	0.86	0.63	1.4	0.68	1.5	4.4	3.9	2.8	1.4	1.8	1.6	1.5	0.91
Threatened and endangered species (represented by bald eagle)			0.45	0.38	0.38	0.62	0.32	1.1	6.1	3.7	2.7	0.86	1.4	1.2	1.1	0.43
Piscivorous birds (represented by osprey)			0.55	0.42	0.41	0.77	0.43	1.1	5.2	3.2	2.4	0.84	1.3	1.1	1.0	0.46
Ecological Receptor	Tissue Type	IMPG (mg/kg)														
Fish protection	Warmwater fish tissue (whole body)	55	3	5	0	15	5	0	0	0	0	0	0	0	0	0
	Coldwater fish tissue (whole body) - Trout Below PSA	14						19	19	19	18	11	10	11	9	
Threatened and endangered species (represented by bald eagle)	Fish tissue (whole body)	30.41	4	5	7	14	5	0	0	0	0	0	0	0	0	0
Piscivorous birds (represented by osprey)	Fish tissue (whole body)	3.2	10	12	17	18	20	20		36	22	19	20	20	19	21

Notes

¹ Model endpoint concentrations after 52-year projection (autumn average)
 IMPG = interim media protection goal

Key

- = model prediction is lower than the IMPG
- = model prediction exceeds the IMPG
- = IMPG not applicable

Table 4-37. Sediment IMPGs for human direct contact compared to projected sediment PCBs (SED 7), including the time to achieve in years (*in italics*).

Risk Category	Receptor	Exposure Assumptions	Risk Level	IMPG (mg/kg)	Average 0-6" Sediment PCB Concentration (mg/kg) ¹							
					SA 1	SA 2	SA 3	SA 4	SA 5	SA 6	SA 7	SA 8
					0.085	0.16	0.24	0.23	4.1	0.30	1.3	0.032
Human Direct Contact	Older Child	RME	Cancer @ 10 ⁻⁶	4.5	8	18	22	0	0	0	24	0
			Cancer @ 10 ⁻⁵	45	0	0	0	0	0	0	0	0
			Cancer @ 10 ⁻⁴	453	0	0	0	0	0	0	0	0
			Non-Cancer	31	0	0	19	0	0	0	0	0
		CTE	Cancer @ 10 ⁻⁶	36	0	0	8	0	0	0	0	0
			Cancer @ 10 ⁻⁵	365	0	0	0	0	0	0	0	0
			Cancer @ 10 ⁻⁴	3645	0	0	0	0	0	0	0	0
			Non-Cancer	125	0	0	0	0	0	0	0	0
	Adult	RME	Cancer @ 10 ⁻⁶	1.3	11	19	23	23		23	24	25
			Cancer @ 10 ⁻⁵	13	3	17	21	0	0	0	0	0
			Cancer @ 10 ⁻⁴	135	0	0	0	0	0	0	0	0
			Non-Cancer	40	0	0	0	0	0	0	0	0
		CTE	Cancer @ 10 ⁻⁶	28	0	0	19	0	0	0	0	0
			Cancer @ 10 ⁻⁵	280	0	0	0	0	0	0	0	0
			Cancer @ 10 ⁻⁴	2800	0	0	0	0	0	0	0	0
			Non-Cancer	152	0	0	0	0	0	0	0	0

Notes

¹ Model endpoint concentrations after 55-year projection

CTE = central tendency exposure

RME = reasonable maximum exposure

IMPG = interim media protection goal

SA = EPA Risk Assessment Sediment Exposure Areas

SA 1: Confluence to New Lenox Road

SA 2: New Lenox Road to Woods Pond Headwaters

SA 3: Woods Pond (6-meters from waters edge)

SA 4: Columbia Mill Dam impoundment (6-meters from waters edge)

SA 5: Former Eagle Mill Dam impoundment (6-meters from waters edge)

SA 6: Willow Mill Dam impoundment (6-meters from waters edge)

SA 7: Glendale Dam impoundment (6-meters from waters edge)

SA 8: Rising Pond impoundment (6-meters from waters edge)

Key

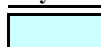

 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-38. IMPGs for human consumption of fish tissue compared to projected fillet-based fish PCBs (SED 7), including the time to achieve in years (*in italics*).

Tissue Type	Assessment Type	Exposure Assumptions	Risk Level	IMPG (mg/kg)	Average Fish Tissue (Fillet) PCB Concentration (mg/kg) ¹																			
					Reach 5A	Reach 5B	Reach 5C	Reach 5D	Reach 6	Reach 7A	Reach 7B	Reach 7C	Reach 7D	Reach 7E	Reach 7F	Reach 7G	Reach 7H	Reach 8	BBD	LL	LZ	LH		
Bass Fillets	Deterministic	RME	Cancer @ 10 ⁻⁶	0.0019	0.28	0.25	0.18	0.38	0.19	0.42	0.95	1.0	0.78	0.35	0.48	0.34	0.41	0.21	0.01	0.007	0.005	0.005		
			Cancer @ 10 ⁻⁵	0.019																<i>39</i>	<i>35</i>	<i>32</i>	<i>31</i>	
			Cancer @ 10 ⁻⁴	0.19			<i>52</i>		<i>53</i>												<i>11</i>	<i>9</i>	<i>5</i>	<i>4</i>
			Non-Cancer -- Child	0.026																	<i>33</i>	<i>30</i>	<i>28</i>	<i>28</i>
			Non-Cancer -- Adult	0.062																	<i>27</i>	<i>25</i>	<i>13</i>	<i>12</i>
		Cancer @ 10 ⁻⁶	0.049																	<i>29</i>	<i>27</i>	<i>25</i>	<i>25</i>	
		Cancer @ 10 ⁻⁵	0.49	<i>23</i>	<i>20</i>	<i>23</i>	<i>25</i>	<i>27</i>	<i>39</i>					<i>33</i>	<i>48</i>	<i>31</i>	<i>34</i>	<i>30</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
		Cancer @ 10 ⁻⁴	4.9	<i>9</i>	<i>12</i>	<i>15</i>	<i>20</i>	<i>23</i>	<i>11</i>	<i>11</i>	<i>11</i>	<i>10</i>	<i>8</i>	<i>7</i>	<i>7</i>	<i>5</i>	<i>7</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
		Non-Cancer -- Child	0.19			<i>52</i>		<i>53</i>												<i>11</i>	<i>9</i>	<i>5</i>	<i>4</i>	
		Non-Cancer -- Adult	0.43	<i>39</i>	<i>21</i>	<i>24</i>	<i>26</i>	<i>27</i>	<i>51</i>					<i>35</i>		<i>34</i>	<i>44</i>	<i>31</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
	Probabilistic	(5th percentile)	RME	Cancer @ 10 ⁻⁶	0.0064															<i>27</i>	<i>25</i>	<i>13</i>	<i>12</i>	
			Cancer @ 10 ⁻⁵	0.064																<i>27</i>	<i>25</i>	<i>13</i>	<i>12</i>	
			Cancer @ 10 ⁻⁴	0.64	<i>15</i>	<i>18</i>	<i>23</i>	<i>24</i>	<i>26</i>	<i>34</i>					<i>27</i>	<i>33</i>	<i>29</i>	<i>30</i>	<i>29</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Non-Cancer -- Child	0.059																	<i>27</i>	<i>26</i>	<i>15</i>	<i>14</i>
			Non-Cancer -- Adult	0.12																	<i>11</i>	<i>9</i>	<i>5</i>	<i>4</i>
		(50th percentile)	CTE	Cancer @ 10 ⁻⁶	0.057																<i>27</i>	<i>26</i>	<i>15</i>	<i>14</i>
			Cancer @ 10 ⁻⁵	0.57	<i>18</i>	<i>19</i>	<i>23</i>	<i>24</i>	<i>27</i>	<i>35</i>					<i>31</i>	<i>37</i>	<i>30</i>	<i>31</i>	<i>30</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Cancer @ 10 ⁻⁴	5.7	<i>8</i>	<i>11</i>	<i>12</i>	<i>20</i>	<i>22</i>	<i>10</i>	<i>10</i>	<i>9</i>	<i>7</i>	<i>5</i>	<i>6</i>	<i>3</i>	<i>5</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Non-Cancer -- Child	0.71	<i>14</i>	<i>18</i>	<i>22</i>	<i>24</i>	<i>26</i>	<i>33</i>					<i>27</i>	<i>30</i>	<i>29</i>	<i>29</i>	<i>29</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Non-Cancer -- Adult	1.5	<i>12</i>	<i>16</i>	<i>21</i>	<i>23</i>	<i>25</i>	<i>25</i>	<i>26</i>	<i>27</i>	<i>26</i>	<i>25</i>	<i>24</i>	<i>26</i>	<i>25</i>	<i>27</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	

Notes

¹ Model endpoint concentrations after 55-year projection (autumn average); whole body concentrations divided by a factor of 5.0 to convert to fillet basis
 CTE = central tendency exposure
 RME = reasonable maximum exposure
 BBD: Bulls Bridge Dam Impoundment
 LL: Lake Lillinonah
 LZ: Lake Zoar
 LH: Lake Housatonic

Key

= model prediction is lower than the IMPG
 = model prediction is lower than the cancer IMPG, but is not lower than the corresponding non-cancer IMPGs
 = model prediction exceeds the IMPG

Table 4-39. Sediment IMPGs for benthic invertebrates compared to projected sediment PCBs (SED 7), including the time to achieve in years (*in italics*).

Reach	Exposure Area ¹	Average 0-6" Sediment PCB Concentration (mg/kg) ²	IMPG (mg/kg)	
			Lower End of Range	Upper End of Range
			3	10
5A	R5A_01	0.18	<i>1</i>	<i>1</i>
	R5A_02	0.11	<i>1</i>	<i>1</i>
	R5A_03	0.36	27	2
	R5A_04	0.84	3	2
	R5A_05	0.14	3	3
	R5A_06	0.074	4	3
	R5A_07	0.054	5	4
	R5A_08	0.025	5	5
	R5A_09	0.047	6	6
	R5A_10	0.029	7	7
	R5A_11	0.029	9	8
5B	R5B_01	0.034	<i>11</i>	<i>10</i>
	R5B_02	0.041	<i>12</i>	<i>0</i>
	R5B_03	0.066	<i>12</i>	<i>0</i>
	R5B_04	0.092	<i>13</i>	<i>0</i>
	R5B_05	0.071	<i>14</i>	<i>0</i>
5C	R5C_01	0.083	<i>16</i>	<i>0</i>
	R5C_02	0.12	<i>16</i>	<i>6</i>
	R5C_03	0.10	<i>16</i>	<i>0</i>
	R5C_04	0.12	<i>17</i>	<i>7</i>
	R5C_05	0.20	<i>17</i>	<i>17</i>
	R5C_06	0.22	<i>19</i>	<i>19</i>
6	Woods Pond	0.22	<i>22</i>	<i>21</i>
	7A	0.41	<i>0</i>	<i>0</i>
	7B	1.9	<i>23</i>	<i>0</i>
	7C	4.0		<i>0</i>
	7D	0.94	<i>0</i>	<i>0</i>
	7E	0.30	<i>0</i>	<i>0</i>
	7F	0.60	<i>0</i>	<i>0</i>
	7G	0.85	<i>24</i>	<i>0</i>
	7H	0.40	<i>0</i>	<i>0</i>
8	Rising Pond	0.031	<i>17</i>	<i>0</i>

Notes

¹ Exposure areas in Reach 5 represent EPA spatial bins (1/4 to 1/2-mile segments as defined in EPA's Model Validation Report)

² Model endpoint concentrations after 55-year projection
 IMPG = interim media protection goal

Key



 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-40. Backwater sediment IMPGs for amphibians compared to projected sediment PCBs (SED 7), including the time to achieve in years (*in italics*).

Reach	Exposure Area ¹	Area (acres)	Average 0-6" Sediment PCB Concentration (mg/kg) ²	IMPG (mg/kg)	
				Lower End of Range	Upper End of Range
				3.27	5.6
Small Backwaters (< 2 acres)	BWS_01	1.9	0.37	2	2
	BWS_02	1.8	0.30	3	3
	BWS_03	1.9	0.25	4	4
	BWS_04	0.30	0.24	4	4
	BWS_06	0.56	0.20	12	10
	BWS_07	0.12	0.026	12	4
	BWS_08	0.35	0.26	15	15
	BWS_09	0.28	0.17	16	16
	BWS_10	1.5	0.33	16	16
	BWS_11	0.11	0.13	7	5
	BWS_12	1.7	0.13	16	16
	BWS_13	0.37	0.17	16	16
	BWS_14	0.57	0.13	16	16
	BWS_15	0.90	0.14	16	16
	BWS_16	1.0	0.097	17	17
	BWS_17	0.58	0.11	16	5
	BWS_18	0.84	0.10	17	11
	BWS_19	0.99	0.15	17	17
	BWS_20	1.3	0.12	18	17
	Large Backwaters (> 2 acres)	BWL_01	2.1	1.6	10
BWL_02		5.5	0.16	15	15
BWL_03		2.4	0.11	16	16
BWL_04		2.1	0.19	16	16
BWL_05		12	0.19	17	17
BWL_07		22	0.21	18	18
BWL_08		4.1	0.20	18	18
BWL_09		7.0	0.19	19	19
BWL_10		6.4	0.20	19	19
BWL_11		4.6	0.024	0	0

Notes

¹ Exposure areas represent individual backwaters

² Model endpoint concentrations after 55-year projection

IMPG = interim media protection goal

Key

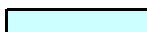

 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-41. Sediment IMPGs for insectivorous birds and piscivorous mammals compared to projected sediment PCBs (SED 7), including the time to achieve in years (*in italics*).

Insectivorous Birds (wood duck)

Reach	Exposure Area ¹	Average 0-6" Sediment PCB Concentration (mg/kg) ²	Sediment Target Level (mg/kg) ³		
			1	3	5
Reach 5A	KM 1	0.12	2	2	2
	KM 2	0.43	34	3	3
	KM 3	0.071	5	5	5
	KM 4	0.034	8	7	7
	KM 5	0.031	9	9	9
Reach 5B	KM 6	0.32	11	11	11
	KM 7	0.068	13	12	12
	KM 8	0.11	16	15	15
Reaches 5C/5D	KM 9	0.13	16	16	16
	KM 10	0.17	17	17	17
	KM 11	0.19	19	19	19
Reach 6	KM 12	0.23	22	22	22

Piscivorous Mammals (mink)

Exposure Area ⁴	Average 0-6" Sediment PCB Concentration (mg/kg) ²	Sediment Target Level (mg/kg) ³		
		1	3	5
Reaches 5A/5B	0.14	14	11	9
Reaches 5C/5D/6	0.19	22	21	20

Notes

¹ Exposure areas for wood ducks represent approximate 1 kilometer segments of the river channel

² Model endpoint concentrations after 52-year projection

³ Sediment target levels have corresponding floodplain soil IMPGs due to mixture of aquatic and terrestrial diets for these receptors

⁴ Exposure areas represent entire river reach

IMPG = interim media protection goal

Key



 = model prediction is lower than the target value
 = model prediction exceeds the target value

Table 4-42. IMPGs for fish protection, and consumption of fish and invertebrates by ecological receptors compared to projected biota tissue PCBs (SED 7), including the time to achieve in years (*in italics*).

Ecological Receptor			Average Whole Body Fish Tissue PCB Concentration (mg/kg) ¹													
			Reach 5A	Reach 5B	Reach 5C	Reach 5D	Reach 6	Reach 7A	Reach 7B	Reach 7C	Reach 7D	Reach 7E	Reach 7F	Reach 7G	Reach 7H	Reach 8
Fish protection			1.1	0.97	0.70	1.6	0.77	1.6	3.7	3.9	3.0	1.4	1.9	1.3	1.6	0.84
Threatened and endangered species (represented by bald eagle)			0.52	0.42	0.40	0.69	0.37	1.2	5.0	3.7	2.9	0.80	1.4	0.87	1.1	0.34
Piscivorous birds (represented by osprey)			0.65	0.48	0.44	0.87	0.50	1.1	4.3	3.2	2.5	0.82	1.3	0.85	1.1	0.39
Ecological Receptor	Tissue Type	IMPG (mg/kg)														
Fish protection	Warmwater fish tissue (whole body)	55	3	5	0	18	5	0	0	0	0	0	0	0	0	0
	Coldwater fish tissue (whole body) - Trout Below PSA	14						13	23	23	12	10	9	9	8	
Threatened and endangered species (represented by bald eagle)	Fish tissue (whole body)	30.41	4	6	8	17	5	0	0	0	0	0	0	0	0	0
Piscivorous birds (represented by osprey)	Fish tissue (whole body)	3.2	11	14	20	21	24	23		41	26	23	23	24	12	26

Notes

¹ Model endpoint concentrations after 55-year projection (autumn average)
 IMPG = interim media protection goal

Key




-  = model prediction is lower than the IMPG
-  = model prediction exceeds the IMPG
-  = IMPG not applicable

Table 4-44. Sediment IMPGs for human direct contact compared to projected sediment PCBs (SED 8), including the time to achieve in years (*in italics*).

Risk Category	Receptor	Exposure Assumptions	Risk Level	IMPG (mg/kg)	Average 0-6" Sediment PCB Concentration (mg/kg) ¹							
					SA 1	SA 2	SA 3	SA 4	SA 5	SA 6	SA 7	SA 8
					<i>0.076</i>	<i>0.10</i>	<i>0.17</i>	<i>0.042</i>	<i>4.1</i>	<i>0.015</i>	<i>0.056</i>	<i>0.072</i>
Human Direct Contact	Older Child	RME	Cancer @ 10 ⁻⁶	4.5	<i>10</i>	<i>25</i>	<i>37</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>41</i>	<i>0</i>
			Cancer @ 10 ⁻⁵	45	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Cancer @ 10 ⁻⁴	453	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Non-Cancer	31	<i>0</i>	<i>0</i>	<i>21</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
		CTE	Cancer @ 10 ⁻⁶	36	<i>0</i>	<i>0</i>	<i>8</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Cancer @ 10 ⁻⁵	365	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Cancer @ 10 ⁻⁴	3645	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
			Non-Cancer	125	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	Adult	RME	Cancer @ 10 ⁻⁶	1.3	<i>13</i>	<i>27</i>	<i>38</i>	<i>39</i>	<i>34</i>	<i>41</i>	<i>47</i>	
			Cancer @ 10 ⁻⁵	13	<i>3</i>	<i>23</i>	<i>29</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Cancer @ 10 ⁻⁴	135	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Non-Cancer	40	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
		CTE	Cancer @ 10 ⁻⁶	28	<i>0</i>	<i>0</i>	<i>27</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Cancer @ 10 ⁻⁵	280	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Cancer @ 10 ⁻⁴	2800	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	
			Non-Cancer	152	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	

Notes

¹ Model endpoint concentrations after 81-year projection

CTE = central tendency exposure

RME = reasonable maximum exposure

IMPG = interim media protection goal

SA = EPA Risk Assessment Sediment Exposure Areas

SA 1: Confluence to New Lenox Road

SA 2: New Lenox Road to Woods Pond Headwaters

SA 3: Woods Pond (6-meters from waters edge)

SA 4: Columbia Mill Dam impoundment (6-meters from waters edge)

SA 5: Former Eagle Mill Dam impoundment (6-meters from waters edge)

SA 6: Willow Mill Dam impoundment (6-meters from waters edge)

SA 7: Glendale Dam impoundment (6-meters from waters edge)

SA 8: Rising Pond impoundment (6-meters from waters edge)

Key

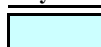

 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-45. IMPGs for human consumption of fish tissue compared to projected fillet-based fish PCBs (SED 8), including the time to achieve in years (*in italics*).

Tissue Type	Assessment Type	Exposure Assumptions	Risk Level	IMPG (mg/kg)	Average Fish Tissue (Fillet) PCB Concentration (mg/kg) ¹																		
					Reach 5A	Reach 5B	Reach 5C	Reach 5D	Reach 6	Reach 7A	Reach 7B	Reach 7C	Reach 7D	Reach 7E	Reach 7F	Reach 7G	Reach 7H	Reach 8	BBD	LL	LZ	LH	
Bass Fillets	Deterministic	RME	Cancer @ 10 ⁻⁶	0.0019																			
			Cancer @ 10 ⁻⁵	0.019														61	57	55	55		
			Cancer @ 10 ⁻⁴	0.19	74	70	48		51							63		74	15	11	7	6	
			Non-Cancer -- Child	0.026															56	54	53	53	
			Non-Cancer -- Adult	0.062															34	31	17	17	
		CTE	Cancer @ 10 ⁻⁶	0.049															53	36	31	31	
			Cancer @ 10 ⁻⁵	0.49	23	21	32	31	42	44					44	49	45	47	53	0	0	0	0
			Cancer @ 10 ⁻⁴	4.9	10	14	17	27	37	12	12	13	12	11	10	11	8	11	0	0	0	0	0
			Non-Cancer -- Child	0.19	74	70	48		51							63		74	15	11	7	6	6
			Non-Cancer -- Adult	0.43	39	23	32	32	42	48						44	64	46	48	53	0	0	0
	Probabilistic	(5th percentile)	Cancer @ 10 ⁻⁶	0.0064																70	63	62	62
			Cancer @ 10 ⁻⁵	0.064															34	31	17	17	17
			Cancer @ 10 ⁻⁴	0.64	17	20	31	31	41	43					43	43	45	46	52	0	0	0	0
			Non-Cancer -- Child	0.059															39	32	26	22	22
			Non-Cancer -- Adult	0.12			76												15	11	7	6	6
		(50th percentile)	Cancer @ 10 ⁻⁶	0.057															39	32	26	22	22
			Cancer @ 10 ⁻⁵	0.57	18	21	31	31	41	43					43	45	45	46	52	0	0	0	0
			Cancer @ 10 ⁻⁴	5.7	9	13	14	27	37	11	11	12	11	10	8	9	7	9	0	0	0	0	0
			Non-Cancer -- Child	0.71	16	20	31	31	41	42				64	42	43	44	45	52	0	0	0	0
			Non-Cancer -- Adult	1.5	13	18	28	29	40	39	41	42	41	39	33	42	32	49	0	0	0	0	0

Notes

¹ Model endpoint concentrations after 81-year projection (autumn average); whole body concentrations divided by a factor of 5.0 to convert to fillet basis
 CTE = central tendency exposure
 RME = reasonable maximum exposure
 BBD: Bulls Bridge Dam Impoundment
 LL: Lake Lillinah
 LZ: Lake Zoar
 LH: Lake Housatonic

Key

= model prediction is lower than the IMPG
 = model prediction is lower than the cancer IMPG, but is not lower than the corresponding non-cancer IMPGs
 = model prediction exceeds the IMPG

Table 4-46. Sediment IMPGs for benthic invertebrates compared to projected sediment PCBs (SED 8), including the time to achieve in years (*in italics*).

Reach	Exposure Area ¹	Average 0-6" Sediment PCB Concentration (mg/kg) ²	IMPG (mg/kg)	
			Lower End of Range	Upper End of Range
			3	10
5A	R5A_01	0.11	<i>1</i>	<i>1</i>
	R5A_02	0.084	<i>1</i>	<i>1</i>
	R5A_03	0.23	2	2
	R5A_04	0.37	3	3
	R5A_05	0.067	3	3
	R5A_06	0.28	4	3
	R5A_07	0.070	6	5
	R5A_08	0.021	6	6
	R5A_09	0.027	7	7
	R5A_10	0.022	9	8
	R5A_11	0.026	11	10
5B	R5B_01	0.030	13	12
	R5B_02	0.038	14	0
	R5B_03	0.050	15	0
	R5B_04	0.11	15	0
	R5B_05	0.057	16	0
5C	R5C_01	0.077	19	0
	R5C_02	0.090	20	7
	R5C_03	0.086	21	0
	R5C_04	0.088	22	7
	R5C_05	0.14	24	23
	R5C_06	0.15	28	27
6	Woods Pond	0.16	37	33
	7A	0.41	0	0
	7B	1.8	39	0
	7C	4.0		0
	7D	0.86	0	0
	7E	0.015	0	0
	7F	0.56	0	0
	7G	0.045	41	0
	7H	0.39	0	0
8	Rising Pond	0.070	26	0

Notes

¹ Exposure areas in Reach 5 represent EPA spatial bins (1/4 to 1/2-mile segments as defined in EPA's Model Validation Report)

² Model endpoint concentrations after 81-year projection
 IMPG = interim media protection goal

Key



 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-47. Backwater sediment IMPGs for amphibians compared to projected sediment PCBs (SED 8), including the time to achieve in years (*in italics*).

Reach	Exposure Area ¹	Area (acres)	Average 0-6" Sediment PCB Concentration (mg/kg) ²	IMPG (mg/kg)	
				Lower End of Range	Upper End of Range
				3.27	5.6
Small Backwaters (< 2 acres)	BWS_01	1.9	0.20	3	3
	BWS_02	1.8	0.16	4	4
	BWS_03	1.9	0.18	5	5
	BWS_04	0.30	0.19	5	5
	BWS_06	0.56	0.13	14	11
	BWS_07	0.12	0.11	14	14
	BWS_08	0.35	0.29	18	18
	BWS_09	0.28	0.21	18	18
	BWS_10	1.5	0.27	19	19
	BWS_11	0.11	0.093	8	5
	BWS_12	1.7	0.10	20	20
	BWS_13	0.37	0.10	20	20
	BWS_14	0.57	0.20	20	20
	BWS_15	0.90	0.12	21	21
	BWS_16	1.0	0.12	21	18
	BWS_17	0.58	0.088	16	6
	BWS_18	0.84	0.074	19	11
	BWS_19	0.99	0.11	23	23
	BWS_20	1.3	0.12	24	24
	Large Backwaters (> 2 acres)	BWL_01	2.1	0.15	12
BWL_02		5.5	0.14	17	17
BWL_03		2.4	0.10	19	18
BWL_04		2.1	0.14	21	21
BWL_05		12	0.11	23	23
BWL_07		22	0.11	25	25
BWL_08		4.1	0.10	26	26
BWL_09		7.0	0.10	26	26
BWL_10		6.4	0.16	27	27
BWL_11		4.6	0.022	0	0

Notes

¹ Exposure areas represent individual backwaters

² Model endpoint concentrations after 81-year projection

IMPG = interim media protection goal

Key

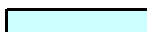

 = model prediction is lower than the IMPG
 = model prediction exceeds the IMPG

Table 4-48. Sediment IMPGs for insectivorous birds and piscivorous mammals compared to projected sediment PCBs (SED 8), including the time to achieve in years (*in italics*).

Insectivorous Birds (wood duck)

Reach	Exposure Area ¹	Average 0-6" Sediment PCB Concentration (mg/kg) ²	Sediment Target Level (mg/kg) ³		
			1	3	5
Reach 5A	KM 1	0.089	2	2	2
	KM 2	0.36	36	4	3
	KM 3	0.063	6	6	6
	KM 4	0.024	9	9	9
	KM 5	0.028	11	11	11
Reach 5B	KM 6	0.051	13	13	13
	KM 7	0.062	15	15	14
	KM 8	0.095	19	18	17
Reaches 5C/5D	KM 9	0.11	21	20	20
	KM 10	0.11	24	24	23
	KM 11	0.11	27	26	26
Reach 6	KM 12	0.16	38	36	35

Piscivorous Mammals (mink)

Exposure Area ⁴	Average 0-6" Sediment PCB Concentration (mg/kg) ²	Sediment Target Level (mg/kg) ³		
		1	3	5
Reaches 5A/5B	0.087	17	13	11
Reaches 5C/5D/6	0.13	37	33	29

Notes

¹ Exposure areas for wood ducks represent approximate 1 kilometer segments of the river channel

² Model endpoint concentrations after 52-year projection

³ Sediment target levels have corresponding floodplain soil IMPGs due to mixture of aquatic and terrestrial diets for these receptors

⁴ Exposure areas represent entire river reach

IMPG = interim media protection goal

Key



 = model prediction is lower than the target value
 = model prediction exceeds the target value

Table 4-49. IMPGs for fish protection, and consumption of fish and invertebrates by ecological receptors compared to projected biota tissue PCBs (SED 8), including the time to achieve in years (*in italics*).

Ecological Receptor			Average Whole Body Fish Tissue PCB Concentration (mg/kg) ¹													
			Reach 5A	Reach 5B	Reach 5C	Reach 5D	Reach 6	Reach 7A	Reach 7B	Reach 7C	Reach 7D	Reach 7E	Reach 7F	Reach 7G	Reach 7H	Reach 8
Fish protection			<i>0.68</i>	<i>0.58</i>	<i>0.43</i>	<i>1.1</i>	<i>0.50</i>	<i>1.3</i>	<i>3.2</i>	<i>3.7</i>	<i>2.6</i>	<i>0.83</i>	<i>1.6</i>	<i>0.67</i>	<i>1.4</i>	<i>0.73</i>
Threatened and endangered species (represented by bald eagle)			<i>0.31</i>	<i>0.28</i>	<i>0.26</i>	<i>0.49</i>	<i>0.24</i>	<i>1.1</i>	<i>4.5</i>	<i>3.6</i>	<i>2.6</i>	<i>0.31</i>	<i>1.3</i>	<i>0.26</i>	<i>1.1</i>	<i>0.34</i>
Piscivorous birds (represented by osprey)			<i>0.38</i>	<i>0.30</i>	<i>0.28</i>	<i>0.62</i>	<i>0.32</i>	<i>0.97</i>	<i>3.8</i>	<i>3.1</i>	<i>2.2</i>	<i>0.37</i>	<i>1.1</i>	<i>0.30</i>	<i>0.98</i>	<i>0.37</i>
Ecological Receptor	Tissue Type	IMPG (mg/kg)														
Fish protection	Warmwater fish tissue (whole body)	55	3	6	0	24	5	0	0	0	0	0	0	0	0	0
	Coldwater fish tissue (whole body) - Trout Below PSA	14						15	31	31	15	14	13	14	11	
Threatened and endangered species (represented by bald eagle)	Fish tissue (whole body)	30.41	5	6	8	21	5	0	0	0	0	0	0	0	0	0
Piscivorous birds (represented by osprey)	Fish tissue (whole body)	3.2	12	17	28	28	39	34		45	41	36	31	41	29	48

Notes

¹ Model endpoint concentrations after 81-year projection (autumn average)
 IMPG = interim media protection goal

Key

- = model prediction is lower than the IMPG
- = model prediction exceeds the IMPG
- = IMPG not applicable

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Table 4-51 – Percent Reduction in Annual PCB Load Passing Woods Pond and Rising Pond Dams, and Transported to the Reach 5/6 Floodplain for Sediment Alternatives

SED	Percent Reduction in Current PCB Load		
	Woods Pond Dam	Rising Pond Dam	Reach 5/6 Floodplain
1 / 2	37%	41%	50%
3	94%	87%	97%
4	96%	89%	97%
5	97%	93%	98%
6	97%	95%	98%
7	97%	95%	98%
8	98%	96%	99%

Note:

1. Load reductions computed based on 5-year averages at the start and end of the model projections.

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Table 4-52 - Modeled Average Water Column PCB Concentrations at End of Projection Period for Sediment Alternatives

Reach	SED 1 / 2	SED 3	SED 4	SED 5	SED 6	SED 7	SED 8
5A	9	2.6	2.5	2.5	2.5	2.6	1.8
5B	44	3	1.8	1.8	1.9	1.8	1.2
5C	34	4	1.6	1.2	1.3	1.4	0.9
6	33	4.4	1.5	1.2	1.2	1.3	0.9
7	14 – 29	2.1 – 4.1	1.0 – 1.5	0.9 – 1.2	0.9 – 1.2	1.0 – 1.4	0.9 – 1.0
8	13	2.3	1.3	1.0	0.9	1	0.9
Connecticut	0.6 – 1.3	0.1 – 0.2	0.07 – 0.1	0.05 – 0.1	0.05 – 0.09	0.05 – 0.1	0.04 – 0.09

Notes:

1. All concentrations provided in nanograms per liter (ng/L).
2. Annual average water column concentrations that exceed the freshwater chronic aquatic life criterion (14 ng/L) are shown in bold.
3. Annual average water column concentrations that exceed the human health consumption criteria (0.064 ng/L or 0.17 ng/L under the Connecticut standards) are shown in italics.
4. Modeling results not included for Reach 5D (backwaters).

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Table 4-53 – Modeled Subreach-Average Fish (Fillet) PCB Concentrations at End of Projection Period for Sediment Alternatives

Reach	SED 1 / 2	SED 3	SED 4	SED 5	SED 6	SED 7	SED 8
Fish PCB Concentration (mg/kg wet weight)							
Reach 5A	7.3	0.3	0.3	0.3	0.3	0.3	0.2
Reach 5B	9.3	3	0.4	0.2	0.2	0.2	0.1
Reach 5C	7.4	1.8	0.4	0.2	0.2	0.2	0.1
Reach 5D (Backwaters)	9.5	6.3	0.4	0.4	0.4	0.4	0.3
Reach 6	8.6	0.7	0.2	0.2	0.2	0.2	0.1
Reach 7	2.8-6.4	0.7-2.1	0.5-1.6	0.4-1.6	0.4-1.1	0.3-1.0	0.2-1.0
Reach 8	3.6	1.6	1.4	0.3	0.2	0.2	0.2
Connecticut (Bulls Bridge Dam Impoundment)	0.2	0.04	0.02	0.01	0.01	0.01	0.008
Percent Reduction in Fish PCB Concentration							
Reach 5A	60%	99%	99%	99%	99%	98%	99%
Reach 5B	47%	83%	98%	99%	99%	99%	99%
Reach 5C	48%	87%	97%	99%	99%	99%	99%
Reach 5D (Backwaters)	57%	72%	98%	98%	98%	98%	99%
Reach 6	44%	95%	99%	99%	99%	99%	99%
Reach 7	45-63%	80-91%	84-96%	84-97%	90-97%	91-97%	92-98%
Reach 8	43%	75%	78%	94%	96%	97%	97%
Connecticut (Bulls Bridge Dam Impoundment)	60%	91%	95%	97%	97%	97%	98%

Notes:

1. PCB concentrations represent subreach-average values predicted by EPA's model at the end of the model projection period (52 years for SEDs 1-6, 55 years for SED 7, and 81 years for SED 8).
2. Values shown as ranges in Reach 7 represent the range of modeled PCB concentrations at the end of the projection within each of the Reach 7 subreaches.
3. Percent reduction represents the change in annual average PCB concentrations predicted by EPA's model between the beginning and the end of the projection period.

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Table 4-55 – Number of Areas in Reaches 5 Through 8 with Predicted Fish PCB Concentrations within the Range of IMPGs for Human Fish Consumption

Exposure Assumptions	SED						
	1 / 2	3	4	5	6	7	8
	Number of Areas within Range of IMPGs (total # of areas = 14)						
RME (Deterministic)	0	0	0	0	0	0	0
RME (Probabilistic)	0	0	0	0	0	0	0
CTE (Deterministic)	0	0	0	2	2	2	6
CTE (Probabilistic)	0	2	9	10	11	11	12

Notes:

1. RME = reasonable maximum exposure
2. CTE = central tendency exposure

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Table 4-57 – Number of Averaging Areas with Predicted Sediment or Fish PCB Concentrations within the Range of Ecological IMPGs for Sediment Alternatives

Receptor	Total # of Areas	SED						
		1 / 2	3	4	5	6	7	8
		Number of Areas within Range of IMPGs						
Benthic Invertebrates	32	23	32	32	32	32	32	32
Amphibians	29	10	15	27	27	29	29	29
Piscivorous Birds	14	0	6	11	13	13	13	13
Fish Protection (Warmwater)	14	14	14	14	14	14	14	14
Fish Protection (Coldwater)	8	3	8	8	8	8	8	8
Threatened and Endangered Species	14	14	14	14	14	14	14	14

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**Table 4-59 – Estimated Truck Trips for Removal of Excavated Material and Delivery of Capping Material
for Sediment Alternatives**

SED	Truck Trips for Excavated Material	Truck Trips for Capping Material	Total Truck Trips
1 / 2	---	---	---
3	12,500	22,700	35,200
4	22,100	46,300	68,400
5	30,800	61,900	92,700
6	41,600	70,900	112,500
7	59,500	92,000	151,500
8	168,800	223,400	392,200

Notes:

1. Truck trips for excavated material estimated assuming 20-ton capacity trucks, and truck trip for capping material estimated assuming 16-ton trucks.
2. Capping material includes cap, thin-layer cap, backfill, and bank stabilization materials.

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Table 4-60 - Incidence of Potential Accidents/Injuries Due to Increased Truck Traffic/Alternative Implementation

Impacts	SED						
	1 / 2	3	4	5	6	7	8
Community Impacts Due to Increased Truck Traffic							
Non-Fatal Injuries							
Number	---	0.65	1.32	1.76	2.02	2.62	6.37
Probability of Occurrence	---	48%	73%	83%	87%	93%	100%
Fatalities							
Number	---	0.03	0.06	0.07	0.09	0.11	0.27
Probability of Occurrence	---	3%	5%	7%	8%	10%	24%
Site Worker Impacts Due to Alternative Implementation							
Manhours (hours)	---	371,480	635,279	758,921	772,399	993,981	1,705,705
Construction Duration (yrs)	---	10	15	19	21	25	52
Non-Fatal Injuries							
Number	---	3.68	6.30	7.51	7.48	9.57	16.23
Probability of Occurrence	---	97%	100%	100%	100%	100%	100%
Fatalities							
Number	---	0.02	0.05	0.06	0.07	0.10	0.21
Probability of Occurrence	---	2%	5%	6%	7%	9%	19%

Notes:

1. Additional details regarding potential risks to the community due to the increased truck traffic and fatalities/non-fatal injuries to site workers from implementation of each of the sediment alternatives are presented in Appendix D.
2. Risks from truck traffic to transport excavated materials to the staging areas were evaluated as part of the risks to site workers; and the risks from truck traffic to transport such materials from the staging areas to disposition locations were evaluated under the relevant treatment/disposition alternatives.

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Table 4-61 – Required Capping Material Volumes for Sediment Alternatives

SED	Sand (cy)	Armor Stone/Rip-rap (cy)	Total Materials (cy)
1 / 2	---	---	---
3	145,000	82,000	227,000
4	302,000	161,000	463,000
5	367,000	252,000	619,000
6	424,000	285,000	709,000
7	564,000	355,000	919,000
8	2,230,000	---	2,230,000

Note:

1. Capping material includes cap, thin-layer cap, backfill materials.