

Table 2-1 – IMPGs for PCBs Based on Human Direct Contact (Soil/Sediment)

Revised CMS Report, Housatonic River – Rest of River
 General Electric Company – Pittsfield, MA

Type of Area/Exposure Scenario	Receptor	RME or CTE	Assumed Frequency of Use	IMPGs (in mg/kg)			
				Cancer Risk @ 10 ⁻⁶	Cancer Risk @ 10 ⁻⁵	Cancer Risk @ 10 ⁻⁴	Non-Cancer
Residential (Actual/Potential Lawn areas)	All	RME	150 d/yr	2* (per Consent Decree)			
Residential (banks, steep slopes, wet areas)	All	Both	Variable	Use IMPGs for general recreation scenarios based on appropriate exposure frequencies for parcel-specific conditions			
High-use general recreation	Young child (high use)	RME	90 d/yr	1.3*	13	134	4.6*
		CTE	30 d/yr	18	184	1,842	32
	Young child (low use)	RME	15 d/yr	8.0*	80	802	27*
		CTE	15 d/yr	37	368	3,684	63
	Older child	RME	90 d/yr	3.9*	39	388	27*
		CTE	30 d/yr	51	514	5,143	176
	Adult	RME	90 d/yr	1.4*	14	143	38*
		CTE	30 d/yr	63	630	6,305	234

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Medium-use general recreation	Young child	Not assessed		NA	NA	NA	NA
	Older child	RME	60 d/yr	5.8*	58	582	40*
		CTE	30 d/yr	51	514	5,143	176
	Adult	RME	60 d/yr	2.1*	21	215	58*
		CTE	30 d/yr	63	630	6,305	234
Low-use general recreation	Young child	Not assessed		NA	NA	NA	NA
	Older child	RME	30 d/yr	12*	116	1,165	80*
		CTE	15 d/yr	103	1,029	10,286	353
	Adult	RME	30 d/yr	4.3*	43	429	115*
		CTE	15 d/yr	126	1,261	12,610	468

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Bank fishing	Older child	RME	30 d/yr	6.2*	62	619	42*
		CTE	10 d/yr	52	524	5,237	180
	Adult	RME	30 d/yr	2.6*	26	256	56*
		CTE	10 d/yr	70	702	7,015	220
Dirt biking/ATVing	Older child	RME	90 d/yr	2.0*	20	205	14*
		CTE	30 d/yr	29	290	2,901	99
Marathon canoeist	Adult	RME	150 d/yr	0.78*	7.8	78	13*
		CTE	90 d/yr	5.8	58	575	25
Recreational canoeist	Older child	RME	30 d/yr	6.2*	62	619	42*
		CTE	15 d/yr	35	349	3,491	120
	Adult	RME	60 d/yr	1.2*	12	121	28*
		CTE	30 d/yr	13	129	1,286	73

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Waterfowl hunting	Older child	RME	14 d/yr	41*	408	4080	140*
		CTE	7 d/yr	233	2325	23,253	399
	Adult	RME	14 d/yr	9.0*	90	904	196*
		CTE	7 d/yr	75	752	7,518	537
Agricultural use (based on direct contact by farmer)	Adult	RME	40 d/yr	1.2*	12	118	43*
		CTE	10 d/yr	42	419	4,195	348
High-use commercial (groundskeeper scenario)	Adult	RME	150 d/yr	1.8*	18	177	25*
		CTE	150 d/yr	17	166	1,664	57
Low-use commercial (groundskeeper scenario)	Adult	RME	30 d/yr	8.9*	89	885	126*
		CTE	15 d/yr	166	1,664	16,642	571

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				Cancer Risk @ 10 ⁻⁶	Cancer Risk @ 10 ⁻⁵	Cancer Risk @ 10 ⁻⁴	Non-Cancer
Utility worker	Adult	RME	5 d/yr	17*	169	1,694	242*
		CTE	5 d/yr	209	2,093	20,933	718
Sediments	Older child	RME	36 d/yr	4.5*	45	453	31*
		CTE	12 d/yr	36	365	3,645	125
	Adult	RME	36 d/yr	1.3*	13	135	40*
		CTE	12 d/yr	28	280	2,800	152

Notes:

1. CTE = central tendency exposure
2. d/yr = days per year
3. EPA = United States Environmental Protection Agency
4. IMPGs = interim media protection goals
5. mg/kg = milligram per kilogram
6. PCBs = polychlorinated biphenyls
7. RME = reasonable maximum exposure
8. * = Points of departure, as specified by EPA.

Table 2-2 – IMPGs for PCBs in Fish and Waterfowl Tissue Based on Human Consumption

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Tissue Type and Constituent	Assessment Type	RME or CTE	IMPGs (in mg/kg)				
			Cancer Risk @ 10 ⁻⁶	Cancer Risk @ 10 ⁻⁵	Cancer Risk @ 10 ⁻⁴	Non-Cancer – Child	Non-Cancer – Adult
Bass fillets – PCBs	Deterministic	RME	0.0019*	0.019	0.19	0.026*	0.062*
		CTE	0.049	0.49	4.9	0.19	0.43
	Probabilistic	RME (5 th percentile)	0.0064*	0.064	0.64	0.059*	0.12*
		CTE (50 th percentile)	0.057	0.57	5.7	0.71	1.5
Trout fillets – PCBs	Deterministic	RME	0.0048*	0.048	0.48	0.069*	0.16*
		CTE	0.11	1.1	11	0.40	0.93
	Probabilistic	RME (5 th percentile)	0.014*	0.14	1.4	0.13*	0.27*
		CTE (50 th percentile)	0.12	1.2	12	1.5	3.1

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			Cancer Risk @ 10 ⁻⁶	Cancer Risk @ 10 ⁻⁵	Cancer Risk @ 10 ⁻⁴	Non-Cancer – Child	Non-Cancer – Adult
Duck breast – PCBs	Deterministic	RME	0.0084*	0.084	0.84	0.12*	0.28*
		CTE	0.066	0.66	6.6	0.25	0.58
	Probabilistic	RME (5 th percentile)	0.0075*	0.075	0.75	0.080*	0.17*
		CTE (50 th percentile)	0.072	0.72	7.2	0.67	1.4

Notes:

1. CTE = central tendency exposure
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3. IMPGs = interim media protection goals
4. mg/kg = milligram per kilogram
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6. RME = reasonable maximum exposure
7. * = Points of departure, as specified by EPA.

Table 2-3 – IMPGs for PCBs in Agricultural Products Based on Human Consumption

Revised CMS Report, Housatonic River – Rest of River
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Tissue Type	Farm Type	RME or CTE	IMPGs (in mg/kg-wet weight)				
			Cancer Risk @ 10 ⁻⁶	Cancer Risk @ 10 ⁻⁵	Cancer Risk @ 10 ⁻⁴	Non-Cancer Child	Non-Cancer Adult
Cow milk	Commercial dairy	RME	0.000026*	0.00026	0.0026	0.00030*	0.0014*
		CTE	0.00012	0.0012	0.012	0.00047	0.0017
	Backyard dairy	RME	0.000032*	0.00032	0.0032	0.00030*	0.0012*
		CTE	0.00016	0.0016	0.016	0.00047	0.0010
Beef tissue	Commercial beef	RME	0.00033*	0.0033	0.033	0.0077*	0.014*
		CTE	0.0015	0.015	0.15	0.010	0.017
	Backyard beef	RME	0.00047*	0.0047	0.047	0.0077*	0.013*
		CTE	0.0027	0.027	0.27	0.010	0.013
Poultry meat	Commercial poultry	RME	0.00052*	0.0052	0.052	0.015*	0.021*
		CTE	0.0030	0.030	0.30	0.019	0.034
	Backyard poultry	RME	0.0009*	0.009	0.09	0.015*	0.026*
		CTE	0.0054	0.054	0.54	0.019	0.027

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Tissue Type	Farm Type	RME or CTE	IMPGs (in mg/kg-wet weight)				
			Cancer Risk @ 10 ⁻⁶	Cancer Risk @ 10 ⁻⁵	Cancer Risk @ 10 ⁻⁴	Non-Cancer Child	Non-Cancer Adult
Poultry eggs	Commercial poultry	RME	0.00055*	0.0055	0.055	0.011*	0.025*
		CTE	0.0025	0.025	0.25	0.013	0.031
	Backyard poultry	RME	0.00082*	0.0082	0.082	0.011*	0.025*
		CTE	0.0044	0.044	0.44	0.013	0.026
Exposed fruit	Commercial or backyard fruit farm	RME	NC			0.11*	NC
		CTE	NC			0.15	NC
Exposed vegetables	Commercial or backyard farm with exposed vegetables	RME	NC			0.024*	NC
		CTE	NC			0.037	NC
Root vegetables	Commercial or backyard farm with root vegetables	RME	NC			0.030*	NC
		CTE	NC			0.049	NC

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Tissue Type	Farm Type	RME or CTE	IMPGs (in mg/kg-wet weight)				
			Cancer Risk @ 10 ⁻⁶	Cancer Risk @ 10 ⁻⁵	Cancer Risk @ 10 ⁻⁴	Non-Cancer Child	Non-Cancer Adult
All produce	Commercial or backyard farm with all three types of above produce	RME	NC			0.012*	NC
		CTE	NC			0.018	NC

Notes:

1. CTE = central tendency exposure
2. EPA = United States Environmental Protection Agency
3. IMPGs = interim media protection goals
4. mg/kg = milligram per kilogram
5. NC = Not calculated
6. PCBs = polychlorinated biphenyls
7. RME = reasonable maximum exposure
8. * = Points of departure, as specified by EPA.

Table 2-4 – Summary of Media-Specific IMPGs for PCBs in Ecological Receptors

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Receptor Group	Medium	IMPGs
Benthic invertebrates	Sediments	3* to 10 mg/kg
Amphibians (represented by wood frog)	Vernal pool sediments	3.27* to 5.6 mg/kg
Fish	Fish tissue in PSA (whole body)	55* mg/kg
	Fish tissue downstream of PSA (whole body)	55* mg/kg for warmwater fish 14* mg/kg for coldwater fish
Piscivorous birds (represented by osprey)	Fish tissue (whole body)	3.2* mg/kg
Insectivorous birds (represented by wood duck)	Aquatic and terrestrial invertebrate prey	4.4* mg/kg
Piscivorous mammals (mink and otter)	Prey items	0.984* to 2.43 mg/kg
Omnivorous and carnivorous mammals (represented by short-tailed shrew)	Floodplain soil	21.1* to 34.3 mg/kg
Threatened and endangered species (represented by bald eagle)	Fish tissue (whole body)	30.41* mg/kg

Notes:

1. EPA = United States Environmental Protection Agency
2. IMPGs = interim media protection goals
3. mg/kg = milligram per kilogram
4. PCBs = polychlorinated biphenyls
5. PSA = Primary Study Area
6. * = Point of departure, as specified by EPA.

Table 2-5 – Target Floodplain Soil PCB Concentrations Associated with IMPGs for Consumption of Agricultural Products ¹

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Farm Type	Tissue Type	RME or CTE	Target Soil Concentrations (mg/kg)				
			Cancer Risk at 10 ⁻⁶	Cancer Risk at 10 ⁻⁵	Cancer Risk at 10 ⁻⁴	Non-Cancer Child	Non-Cancer Adult
Commercial dairy	Milk	RME	0.24	2.4	24	2.7	12.8
		CTE	1.1		110	4.3	
Commercial poultry	Poultry meat	RME	0.015	0.15	1.5	0.44	0.62
		CTE	0.16	1.6	16	1.0	1.8
Commercial vegetable	Exposed vegetable	RME	NC	NC	NC	13.3	NC
		CTE	NC ^{11.0}	NC	NC	20.6 ^{15.6}	NC
	Root vegetable	RME	NC	NC	NC	100	NC
		CTE	NC	NC	NC	163	NC

Notes:

1. These levels apply to farm properties where 100% of the growing or grazing land is located within the floodplain.
2. CTE = central tendency exposure
3. IMPGs = interim media protection goals
4. mg/kg = milligram per kilogram
5. NC = Not calculated
6. PCBs = polychlorinated biphenyls
7. RME = reasonable maximum exposure