

Table 5-18
Human Health Risk Screening Evaluation for Contaminants in Surface Sediment Samples - WSD

Bellows OU1 EE/CA, Bellows AFS, Hawaii

Chemical Name	Chemical Class	Concentration in Sediment (mg/kg)	Dermal Absorption Factor	Chemical Intake (mg/kg-day)				Oral RfD (mg/kg-day)	Oral SF (kg-day/mg)	Ingestion HQ	Dermal HQ	Ingestion ILCR	Dermal ILCR	Chemical-specific HI	% Contrib.	Chemical-specific ILCR	% Contrib.
				Ingestion (non-carcinogen exposure)	Dermal contact (non-carcinogen exposure)	Ingestion (carcinogen exposure)	Dermal contact (carcinogen exposure)										
TPH-Diesel	TPH	6.20E+00	0.1	1.90E-05	1.29E-05	1.63E-06	1.11E-06	0.08			2.37E-04	1.61E-04			3.99E-04	0.63	
4,4'-DDD	PEST/PCB	2.70E-03	0.03	8.27E-09	1.69E-09	7.09E-10	1.45E-10		0.24			1.70E-10	3.47E-11			2.05E-10	0.02
4,4'-DDE	PEST/PCB	1.10E-02	0.03	3.37E-08	6.88E-09	2.89E-09	5.89E-10		0.34			9.82E-10	2.00E-10			1.18E-09	0.09
Aldrin	PEST/PCB	8.90E-04	0.1	2.73E-09	1.85E-09	2.34E-10	1.59E-10	0.00003	17	9.09E-05	6.18E-05	3.97E-09	2.70E-09	1.53E-04	0.24	6.68E-09	0.52
Chlordane (alpha)	PEST/PCB	1.10E-03	0.04	3.37E-09	9.17E-10	2.89E-10	7.86E-11	0.00006	1.3	5.62E-05	1.53E-05	3.76E-10	1.02E-10	7.14E-05	0.11	4.78E-10	0.04
Chlordane (gamma)	PEST/PCB	4.90E-03	0.04	1.50E-08	4.08E-09	1.29E-09	3.50E-10	0.00006	1.3	2.50E-04	6.81E-05	1.67E-09	4.55E-10	3.18E-04	0.51	2.13E-09	0.17
Dieldrin	PEST/PCB	3.20E-03	0.1	9.80E-09	6.67E-09	8.40E-10	5.71E-10	0.00005	16	1.96E-04	1.33E-04	1.34E-08	9.14E-09	3.29E-04	0.52	2.26E-08	1.77
Endosulfan II	PEST/PCB	2.10E-03	0.1	6.43E-09	4.38E-09	5.51E-10	3.75E-10	0.006		1.07E-06	7.29E-07			1.80E-06	<0.01		
Endosulfan Sulfate	PEST/PCB	1.90E-02	0.1	5.82E-08	3.96E-08	4.99E-09	3.39E-09										
Endrin Aldehyde	PEST/PCB	7.70E-03	0.1	2.36E-08	1.60E-08	2.02E-09	1.38E-09										
Heptachlor	PEST/PCB	1.00E-02	0.1	3.06E-08	2.08E-08	2.63E-09	1.79E-09	0.0005	4.5	6.13E-05	4.17E-05	1.18E-08	8.04E-09	1.03E-04	0.16	1.99E-08	1.55
Heptachlor Epoxide	PEST/PCB	2.40E-03	0.1	7.35E-09	5.00E-09	6.30E-10	4.29E-10	0.000013	9.1	5.66E-04	3.85E-04	5.74E-09	3.90E-09	9.50E-04	1.51	9.64E-09	0.75
Methoxychlor	PEST/PCB	3.20E-03	0.1	9.80E-09	6.67E-09	8.40E-10	5.71E-10	0.005		1.96E-06	1.33E-06			3.29E-06	<0.01		
a-BHC	PEST/PCB	1.20E-02	0.04	3.68E-08	1.00E-08	3.15E-09	8.57E-10		6.3			1.99E-08	5.40E-09			2.53E-08	1.98
b-BHC	PEST/PCB	6.40E-03	0.04	1.96E-08	5.33E-09	1.68E-09	4.57E-10		1.8			3.03E-09	8.23E-10			3.85E-09	0.30
d-BHC	PEST/PCB	2.20E-02	0.04	6.74E-08	1.83E-08	5.78E-09	1.57E-09										
g-BHC (Lindane)	PEST/PCB	2.20E-01	0.04	6.74E-07	1.83E-07	5.78E-08	1.57E-08	0.0003	1.3	2.25E-03	6.11E-04	7.51E-08	2.04E-08	2.86E-03	4.55	9.55E-08	7.47
Aluminum	METALS	9.66E+02	0.01	2.96E-03	2.01E-04	2.54E-04	1.73E-05	1		2.96E-03	2.01E-04			3.16E-03	5.03		
Arsenic	METALS	2.30E+00	0.03	7.05E-06	1.44E-06	6.04E-07	1.23E-07	0.0003	1.5	2.35E-02	4.79E-03	9.06E-07	1.85E-07	2.83E-02	45.00	1.09E-06	85.34
Barium	METALS	4.70E+00	0.01	1.44E-05	9.79E-07	1.23E-06	8.39E-08	0.07		2.06E-04	1.40E-05			2.20E-04	0.35		
Chromium	METALS	6.60E+00	0.01	2.02E-05	1.38E-06	1.73E-06	1.18E-07	0.005		4.04E-03	2.75E-04			4.32E-03	6.87		
Copper	METALS	1.00E+00	0.01	3.06E-06	2.08E-07	2.63E-07	1.79E-08	0.037		8.28E-05	5.63E-06			8.84E-05	0.14		
Iron	METALS	1.34E+03	0.01	4.11E-03	2.79E-04	3.52E-04	2.39E-05	0.3		1.37E-02	9.31E-04			1.46E-02	23.26		
Lead	METALS	3.40E+00		1.04E-05	0.00E+00	8.93E-07	0.00E+00										
Manganese	METALS	5.94E+01	0.01	1.82E-04	1.24E-05	1.56E-05	1.06E-06	0.0467		3.90E-03	2.65E-04			4.16E-03	6.62		
Nickel	METALS	3.80E+00	0.01	1.16E-05	7.92E-07	9.98E-07	6.79E-08	0.02		5.82E-04	3.96E-05			6.22E-04	0.99		
Vanadium	METALS	4.60E+00	0.01	1.41E-05	9.58E-07	1.21E-06	8.21E-08	0.007		2.01E-03	1.37E-04			2.15E-03	3.42		
Zinc	METALS	3.40E+00	0.01	1.04E-05	7.08E-07	8.93E-07	6.07E-08	0.3		3.47E-05	2.36E-06			3.71E-05	0.06		

Total Hazard Index **6.28E-02** Total Risk **1.28E-06**

EXPOSURE ASSUMPTIONS	
Exposure Setting	Recreational User
Exposure Case	RME
Sediment Ingestion Rate - (mg/day)	200
Exposed Skin Surface Area (cm2)	1360
Sediment Adherence Factor (mg/cm2)	1
Correction Factor	1.00E-06
Fraction of chemical absorbed (unitless)	chemical - specific
Body Weight - (kilograms)	46.5
Number of Days/Year Exposed	260
Number of Years Exposed	6
Averaging Time - Noncancer (yrs)	6
Averaging Time - Noncancer (yrs)	70
Ingestion (Noncancer) (d-1)	3.06E-06
Ingestion (Cancer) (d-1)	2.63E-07
Dermal (Noncancer) (d-1)	2.08E-05
Dermal (Cancer) (d-1)	1.79E-06