

Table 5-8

Human Health Risk Screening Evaluation for Contaminants in Surface Water Samples - WSU

Bellows OU1 EE/CA, Bellows AFS, Hawaii

Chemical Name	Chemical Class	Concentration in Surface Water (mg/L)	Kp (cm/hour)	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	% Contribution	Chemical specific ILCR	% Contribution
				Ingestion (non-carcinogen exposure)	Dermal contact (non-carcinogen exposure)	Ingestion (carcinogen exposure)	Dermal contact (carcinogen exposure)										
a-BHC	PEST/PC	1.60E-05	8.35E-05	1.23E-08	7.24E-11	1.05E-09	6.20E-12		6.3			6.62E-09	3.91E-11			6.66E-09	100.00
Aluminum	METALS	3.40E-01	1.00E-03	2.60E-04	1.84E-05	2.23E-05	1.58E-06	1		2.60E-04	1.84E-05			2.79E-04	12.37		
Barium	METALS	4.40E-03	1.00E-03	3.37E-06	2.38E-07	2.89E-07	2.04E-08	0.07		4.81E-05	3.40E-06			5.15E-05	2.29		
Cadmium	METALS	1.00E-03	1.00E-03	7.66E-07	5.42E-08	6.57E-08	4.64E-09	0.001		7.66E-04	5.42E-05			8.20E-04	36.40		
Manganese	METALS	1.61E-02	1.00E-03	1.23E-05	8.72E-07	1.06E-06	7.48E-08	0.0467		2.64E-04	1.87E-05			2.83E-04	12.55		
Vanadium	METALS	7.00E-03	1.00E-03	5.36E-06	3.79E-07	4.60E-07	3.25E-08	0.007		7.66E-04	5.42E-05			8.20E-04	36.40		

EXPOSURE ASSUMPTIONS

Exposure Setting	Recreational User
Exposure Case	RME
Surface Water Ingestion Rate - (L/day)	0.05
Exposed Skin Surface Area (cm ²)	1360
Dermal permeability coefficient (cm/hr)	chemical-specific
Body Weight - (kilograms)	46.5
Exposure Time (hr/day)	2.6
Number of Days/Year Exposed	260
Number of Years Exposed	6
Averaging Time - Noncancer (yrs)	6
Averaging Time - Cancer (yrs)	70
Ingestion (Noncancer) (L/kg-day)	7.66E-04
Ingestion (Cancer) (L/kg-day)	6.57E-05
Dermal (Noncancer) (cm ² -hr/kg-day)	5.42E-02
Dermal (Cancer) (cm ² -hr/kg-day)	4.64E-03

Total Hazard Index 2.25E-03 **Total Risk** 6.66E-09