

CLEA Software Version 1.06

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Report title Devonport EFW Nature Reserve Site Specific Risk Assessment (Revised Exposure)

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BASIC SETTINGS

Land Use Residential without homegrown produce

Building No building

Receptor Female (res)

Soil Sandy loam

Start age class 1

End age class 6

Exposure Duration 6 years

Exposure Pathways

Direct soil and dust ingestion	<input checked="" type="checkbox"/>	Dermal contact with indoor dust	<input checked="" type="checkbox"/>	Inhalation of indoor dust	<input checked="" type="checkbox"/>
Consumption of homegrown produce	<input checked="" type="checkbox"/>	Dermal contact with soil	<input checked="" type="checkbox"/>	Inhalation of soil dust	<input checked="" type="checkbox"/>
Soil attached to homegrown produce	<input checked="" type="checkbox"/>			Inhalation of indoor vapour	<input checked="" type="checkbox"/>
				Inhalation of outdoor vapour	<input checked="" type="checkbox"/>



Land Use Residential without homegrown produce

Age Class	Exposure Frequencies (days yr ⁻¹)						Occupation Periods (hr day ⁻¹)		Soil to skin adherence factors (mg cm ²)		Direct soil ingestion rate (g day ⁻¹)
	Direct soil ingestion	Consumption of homegrown produce	Dermal contact with indoor dust	Dermal contact with soil	Inhalation of dust and vapour, indoor	Inhalation of dust and vapour, outdoor	Indoors	Outdoors	Indoor	Outdoor	
1	91	0	0	91	0	91	0.0	1.5	0.06	1.00	0.10
2	91	0	0	91	0	91	0.0	1.5	0.06	1.00	0.10
3	91	0	0	91	0	91	0.0	1.5	0.06	1.00	0.10
4	91	0	0	91	0	91	0.0	1.5	0.06	1.00	0.10
5	91	0	0	91	0	91	0.0	1.5	0.06	1.00	0.10
6	91	0	0	91	0	91	0.0	1.5	0.06	1.00	0.10
7	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
8	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
9	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
10	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
11	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
12	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
13	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
14	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
15	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
16	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
17	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
18	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00



Receptor Female (res)

Age Class	Body weight (kg)	Body height (m)	Inhalation rate (m ³ day ⁻¹)	Max exposed skin factor		Total skin area (m ²)	Consumption rates (g FW kg ⁻¹ BW day ⁻¹)					
				Indoor (m ² m ⁻²)	Outdoor (m ² m ⁻²)		Green vegetables	Root vegetables	Tuber vegetables	Herbaceous fruit	Shrub fruit	Tree fruit
1	5.60	0.7	8.5	0.32	0.26	3.43E-01	7.12	10.69	16.03	1.83	2.23	3.82
2	9.80	0.8	13.3	0.33	0.26	4.84E-01	6.85	3.30	5.46	3.96	0.54	11.96
3	12.70	0.9	12.7	0.32	0.25	5.82E-01	6.85	3.30	5.46	3.96	0.54	11.96
4	15.10	0.9	12.2	0.35	0.28	6.36E-01	6.85	3.30	5.46	3.96	0.54	11.96
5	16.90	1.0	12.2	0.35	0.28	7.04E-01	3.74	1.77	3.38	1.85	0.16	4.26
6	19.70	1.1	12.2	0.33	0.26	7.94E-01	3.74	1.77	3.38	1.85	0.16	4.26
7	22.10	1.2	12.4	0.22	0.15	8.73E-01	3.74	1.77	3.38	1.85	0.16	4.26
8	25.30	1.2	12.4	0.22	0.15	9.36E-01	3.74	1.77	3.38	1.85	0.16	4.26
9	27.50	1.3	12.4	0.22	0.15	1.01E+00	3.74	1.77	3.38	1.85	0.16	4.26
10	31.40	1.3	12.4	0.22	0.15	1.08E+00	3.74	1.77	3.38	1.85	0.16	4.26
11	35.70	1.4	12.4	0.22	0.14	1.19E+00	3.74	1.77	3.38	1.85	0.16	4.26
12	41.30	1.4	13.4	0.22	0.14	1.29E+00	3.74	1.77	3.38	1.85	0.16	4.26
13	47.20	1.5	13.4	0.22	0.14	1.42E+00	3.74	1.77	3.38	1.85	0.16	4.26
14	51.20	1.6	13.4	0.22	0.14	1.52E+00	3.74	1.77	3.38	1.85	0.16	4.26
15	56.70	1.6	13.4	0.21	0.14	1.60E+00	3.74	1.77	3.38	1.85	0.16	4.26
16	59.00	1.6	13.4	0.21	0.14	1.63E+00	3.74	1.77	3.38	1.85	0.16	4.26
17	70.00	1.6	14.8	0.33	0.27	1.78E+00	2.94	1.40	1.79	1.61	0.22	2.97
18	70.90	1.6	12.0	0.33	0.27	1.80E+00	2.94	1.40	1.79	1.61	0.22	2.97



Environment Agency

Building No building

Soil Sandy loam

Building footprint (m ²)	0.00E+00	Porosity, Total (cm ³ cm ⁻³)	5.30E-01
Living space air exchange rate (hr ⁻¹)	0.00E+00	Porosity, Air-Filled (cm ³ cm ⁻³)	2.00E-01
Living space height (above ground, m)	0.00E+00	Porosity, Water-Filled (cm ³ cm ⁻³)	3.30E-01
Living space height (below ground, m)	0.00E+00	Residual soil water content (cm ³ cm ⁻³)	1.20E-01
Pressure difference (soil to enclosed space, Pa)	0.00E+00	Saturated hydraulic conductivity (cm s ⁻¹)	3.56E-03
Foundation thickness (m)	0.00E+00	van Genuchten shape parameter <i>m</i> (dimensionless)	3.20E-01
Floor crack area (cm ²)	0.00E+00	Bulk density (g cm ⁻³)	1.21E+00
Dust loading factor (µg m ⁻³)	0.00E+00	Threshold value of wind speed at 10m (m s ⁻¹)	7.20E+00
		Empirical function (<i>F_d</i>) for dust model (dimensionless)	1.22E+00
		Ambient soil temperature (K)	2.83E+02
		Soil pH	7.00E+00
		Soil Organic Matter content (%)	1.00E+00
		Fraction of organic carbon (g g ⁻¹)	5.80E-03
		Effective total fluid saturation (unitless)	5.12E-01
		Intrinsic soil permeability (cm ²)	4.75E-08
		Relative soil air permeability (unitless)	6.42E-01
		Effective air permeability (cm ²)	3.05E-08

Soil - Vapour Model

Depth to top of source (no building) (cm)	0
Depth to top of source (beneath building) (cm)	50
Default soil gas ingress rate?	Yes
Soil gas ingress rate (cm ³ s ⁻¹)	0.00E+00
Building ventilation rate (cm ³ s ⁻¹)	0.00E+00
Averaging time surface emissions (yr)	6
Finite vapour source model?	No
Thickness of contaminated layer (cm)	200

Air Dispersion Model

Mean annual windspeed at 10m (m s ⁻¹)	5.00
Air dispersion factor at height of 0.8m *	2400.00
Air dispersion factor at height of 1.6m *	0.00
Fraction of site cover (m ² m ⁻²)	0.75

* Air dispersion factor in g m⁻² s⁻¹ per kg m³

Soil - Plant Model

	Dry weight conversion factor		Homegrown fraction		Soil loading factor	Preparation correction factor
	g DW g ⁻¹ FW	dimensionless	Average	High		
Green vegetables	0.096	0.05	0.33	1.00E-03	2.00E-01	
Root vegetables	0.103	0.06	0.40	1.00E-03	1.00E+00	
Tuber vegetables	0.210	0.02	0.13	1.00E-03	1.00E+00	
Herbaceous fruit	0.058	0.06	0.40	1.00E-03	6.00E-01	
Shrub fruit	0.166	0.09	0.60	1.00E-03	6.00E-01	
Tree fruit	0.157	0.04	0.27	1.00E-03	6.00E-01	

Gardener type None



