





Department of Defence HMAS Creswell and Jervis Bay Range Facility

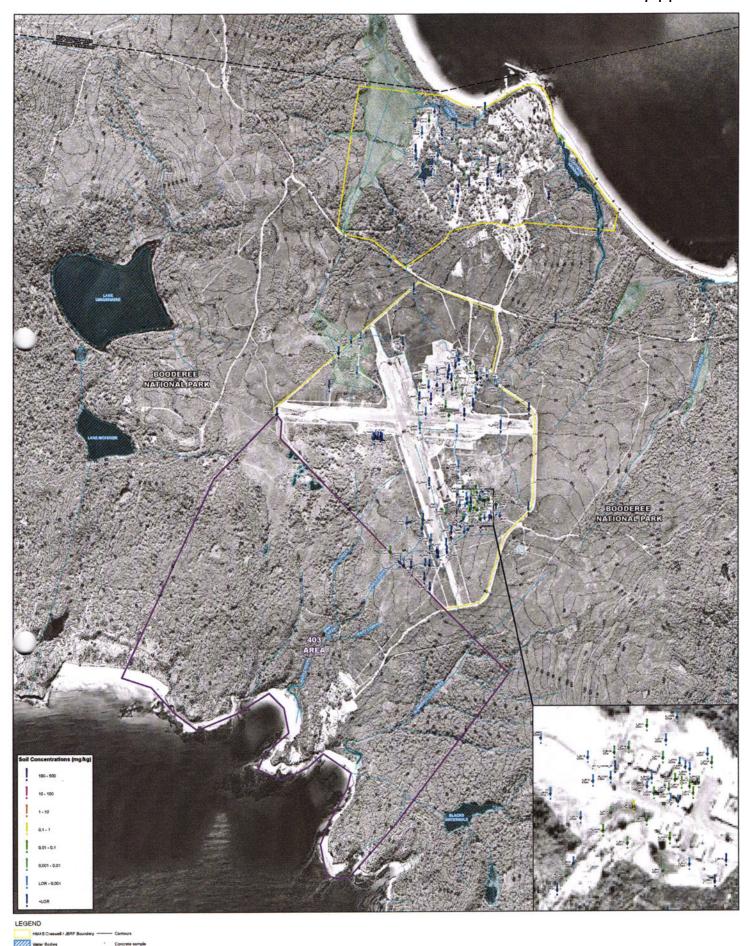
Date 18 Jul 2017

Concentration plan for 6:2 Fluorotelomer Sulfonate (6:2 FTS) - Surface Water and Groundwater Figure D

ye Drive (onr Ugnite Court) Morwell VIC 3840 Australia Y 61 3 5136 5800 F 61 3 5136 5888 E mw/mak@ghd.com W www.ghd.com

Figure D

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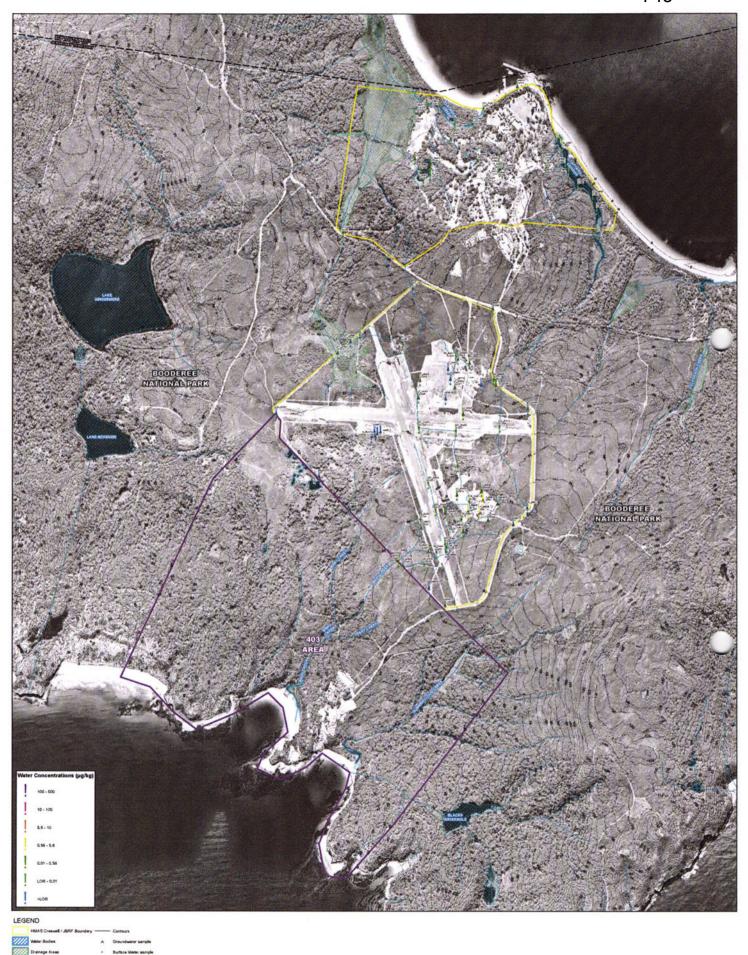
Department of Defence HMAS Creswell and Jervis Bay Range Facility

Concentration contour plan for Perfluorooctanoic acid (PFOA)

A 07 Aug 2017

- Soil and Sediment

Figure E





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Department of Defence HMAS Creswell and Jervis Bay Range Facility Concentration plan for PFOA -Surface Water and Groundwater

b Number | 21-26171 Revision | A Date | 07 Aug 2017

Figure F

Appendix B - Preliminary human health exposure parameters

Human Health Exposure Parameters - Adult Resident Jer		Toward Cont	Henry Cal	Notor	Reference
Parameter General	Units	Typical Estimate	Upper Estimate	Notes	Kererence
General				The upper estimate is based upon the lifetime average value for	
				males and females combined. The typical estimate is the average	
Body weight	kg	78	70	weight of male and female adults, combined.	enHealth (2012)
				The mean and 95th percentile duration of residence are 10 years	
	2000		722	and 35 years, respectively. It is assumed that residence times	(2242)
Exposure duration	year	4		begin at birth and first 6 years based on child exposure scenario.	enHealth (2012) enHealth (2012)
Averaging time (non-carcinogens)	year			Same as exposure duration.	
Total skin surface area	cm ²	24000		Total skin surface area for males and females combined.	enHealth (2012)
Skin surface area - head	cm²	1350		Surface area by body part, averaged for males and females.	enHealth (2012)
Skin surface area - trunk	cm ²	9750		Surface area by body part, averaged for males and females.	enHealth (2012)
Skin surface area - arms	cm ²	3350		Surface area by body part, averaged for males and females.	enHealth (2012)
Skin surface area - hands	cm ²	1200	1000		enHealth (2012)
Skin surface area - legs	cm ²	8050	6400	Surface area by body part, averaged for males and females.	enHealth (2012)
Skin surface area - feet	cm ²	1550	1300	Surface area by body part, averaged for males and females.	enHealth (2012)
Skin surface area - exposed (feet, legs, hands, arms)	cm ²	7900	6300	Recommended value per enHealth (2012; Section 3.2.4).	enHealth (2012)
Ingestion of surface water		sulti i predicti		MEDICAL PROPERTY OF THE STATE O	
				0 08 8	Professional
Exposure frequency	days/year	365	365	Indicated from the Water Use Survey	Judgement
				The lifetime average daily intake of water by most Australians is 2	
		1		litres per day, while a reasonable intake of water for individuals	
				undertaking moderate activity in temperate climates is 5 litres per	
				day (enHealth, 2012). The results of the water use survey supplied	
				to the community indicated that individuals drink or used to drink from creeks and streams in the area. It is assumed that 20% of	(2012);
	1			total daily drinking water is consumed from surface water	Professional
Surface water into he are	1 /4	0.5	١,		judgement
Surface water intake rate Incidental ingestion of soil	L/day	0.5	1	(rounded up to half a litre for the typical estimate).	Dagement
Daily incidental soil ingestion rate	mg/day	50	60	Soil ingestion values for outside soil plus indoor dust.	enHealth (2012)
Exposure frequency	days/year	365		Recommendation value per enHealth (2012).	enHealth (2012)
Dermal contact with soil	Juays/year	303	303	necommendation value per emireatin (2022).	Cilifornia (2022)
Define Contact Will 2011	mg soil/cm2			Recommended value for outdoor and indoor residential child and	
Soil to skin adherence factor	skin	0.5	1.7	adult exposures.	enHealth (2012)
Exposure frequency	days/year	365		Recommended value per NEPM (2013).	NEPM (2013)
Incidental ingestion of sediment			No State Was		AV BOATONERS
Exposure frequency	days/year	-		Not an applicable pathway	
Daily sediment ingestion rate	mg/day	-		Not an applicable pathway	
Fraction of sediment intake from contaminated source	unitless			Not an applicable pathway	
Dermal Contact with Sediment					
Exposure frequency	days/year			Not an applicable pathway	
Surface area of exposed skin	cm2		-	Not an applicable pathway	
Sediment to skin adherence factor	mg/cm2	-		Not an applicable pathway	
Inhalation of dust - indoors					
				Due to the temperate climate in the area, it is anticipated that	15-75
	1			more time will be spent outdoors by residents at this location	
				more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the	
		5747-		more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been	
Exposure time (indoor air)	hours/day	21		more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted.	judgement
Exposure time (indoor air) Exposure frequency	days/year	365	365	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013).	judgement NEPM (2013)
Exposure frequency Particulate emission factor	days/year m3/kg	365 2.60E+07	365 2.60E+07	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7.	judgement NEPM (2013) NEPM (2013)
Exposure frequency Particulate emission factor Lung retention factor	days/year	365	365 2.60E+07	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013).	judgement NEPM (2013)
Exposure frequency Particulate emission factor	days/year m3/kg	365 2.60E+07	365 2.60E+07	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5.	judgement NEPM (2013) NEPM (2013)
Exposure frequency Particulate emission factor Lung retention factor	days/year m3/kg	365 2.60E+07	365 2.60E+07	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent	judgement NEPM (2013) NEPM (2013) NEPM (2013)
Exposure frequency Particulate emission factor Lung retention factor	days/year m3/kg	365 2.60E+07	365 2.60E+07	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey	judgement NEPM (2013) NEPM (2013) NEPM (2013) enHealth
Exposure frequency Particulate emission factor Lung retention factor	days/year m3/kg	365 2.60E+07	365 2.60E+07	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was	judgement NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA
Exposure frequency Particulate emission factor Lung retention factor	days/year m3/kg	365 2.60E+07	365 2.60E+07	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281	judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011),
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors	days/year m3/kg unitless	365 2.60E+07	365 2.60E+07 0.375	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged	judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air)	days/year m3/kg unitless	365 2.60E+07 0.375	365 2.60E+07 0.375	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table S. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day.	judgement NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors	days/year m3/kg unitless	365 2.60E+07	365 2.60E+07 0.375	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013).	judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency	days/year m3/kg unitless hours/day days/year	365 2.60E+07 0.375	365 2.60E+07 0.375	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for	judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013)
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor	days/year m3/kg unitless hours/day days/year m3/kg	365 2.60E+07 0.375 3 365 2.90E+10	365 2.60E+07 0.375 5 365 2.90E+10	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected.	judgement NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013)
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Lung retention factor	days/year m3/kg unitless hours/day days/year	365 2.60E+07 0.375	365 2.60E+07 0.375 5 365 2.90E+10	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for	judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013)
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor	days/year m3/kg unitless hours/day days/year m3/kg	365 2.60E+07 0.375 3 365 2.90E+10	365 2.60E+07 0.375 5 365 2.90E+10	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table 5.	judgement NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013)
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Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Lung retention factor	days/year m3/kg unitless hours/day days/year m3/kg	365 2.60E+07 0.375 3 365 2.90E+10	365 2.60E+07 0.375 5 365 2.90E+10	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table 5. Based on water use survey results. Most survey results indicate that this practice no longer occurs (i.e., occurred historically),	judgement NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013)
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Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Lung retention factor	days/year m3/kg unitless hours/day days/year m3/kg	365 2.60E+07 0.375 3 365 2.90E+10	365 2.60E+07 0.375 5 365 2.90E+10	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table S. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table S. Based on water use survey results. Most survey results indicate that this practice no longer occurs (i.e., occurred historically), however some individuals identified water features being utilized for making tea or cooking (mostly around Lake McKenzie). Most	judgement NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013) NEPM (2013) NEPM (2013)
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Lung retention factor	days/year m3/kg unitless hours/day days/year m3/kg	365 2.60E+07 0.375 3 365 2.90E+10	365 2.60E+07 0.375 5 365 2.90E+10	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table 5. Based on water use survey results. Most survey results indicate that this practice no longer occurs (i.e., occurred historically), however some individuals identified water features being utilized for making tea or cooking (mostly around Lake McKenzle). Most results indicate water is used from these sources occasionally (i.e.	judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013) NEPM (2013) NEPM (2013) Water Use
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Lung retention factor	days/year m3/kg unitless hours/day days/year m3/kg	365 2.60E+07 0.375 3 365 2.90E+10	365 2.60E+07 0.375 5 365 2.90E+10	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table 5. Based on water use survey results. Most survey results indicate that this practice no longer occurs (i.e., occurred historically), however some individuals identified water features being utilized for making tea or cooking (mostly around Lake McKenzie). Most results indicate water is used from these sources occasionally (i.e. less than once per month). Therefore, the typical estimate	judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) Water Use Survey,
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Domestic food and drink preparation and clean up	days/year m3/kg unitless hours/day days/year m3/kg unitless	365 2.60E+07 0.375 3 365 2.90E+10	365 2.60E+07 0.375 5 365 2.90E+10 0.375	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table 5. Based on water use survey results. Most survey results indicate that this practice no longer occurs (i.e., occurred historically), however some individuals identified water features being utilized for making tea or cooking (mostly around Lake McKenzie). Most results indicate water is used from these sources occasionally (i.e. less than once per month). Therefore, the typical estimate assumes useage bi-monthly, while the upper estimate assumes	judgement NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) Water Use Survey, Professional
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Lung retention factor	days/year m3/kg unitless hours/day days/year m3/kg	365 2.60E+07 0.375 3 365 2.90E+10	365 2.60E+07 0.375 5 365 2.90E+10 0.375	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table S. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table 5. Based on water use survey results. Most survey results indicate that this practice no longer occurs (i.e., occurred historically), however some individuals identified water features being utilized for making tea or cooking (mostly around Lake McKenzie). Most results indicate water is used from these sources occasionally (i.e. less than once per month). Therefore, the typical estimate assumes useage bi-monthly, while the upper estimate assumes usage once per month).	judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) Water Use Survey,
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Domestic food and drink preparation and clean up	days/year m3/kg unitless hours/day days/year m3/kg unitless	365 2.60E+07 0.375 3 365 2.90E+10	365 2.60E+07 0.375 5 365 2.90E+10 0.375	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table S. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table S. Based on water use survey results. Most survey results indicate that this practice no longer occurs (i.e., occurred historically), however some individuals identified water features being utilized for making tea or cooking (mostly around Lake McKenzie). Most results indicate water is used from these sources occasionally (i.e. less than once per month). Therefore, the typical estimate assumes usage once per month). Typical value based upon the average time for all persons (48	judgement NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) Vater Use Survey, Professional
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Domestic food and drink preparation and clean up Exposure frequency	days/year m3/kg unitless hours/day days/year m3/kg unitless	365 2.60E+07 0.375 3 365 2.90E+10 0.375	365 2.60E+07 0.375 5 365 2.90E+10 0.375	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table 5. Based on water use survey results. Most survey results indicate that this practice no longer occurs (i.e., occurred historically), however some individuals identified water features being utilized for making tea or cooking (mostly around Lake McKenzie). Most results indicate water is used from these sources occasionally (i.e. less than once per month). Therefore, the typical estimate assumes usage once per month). Therefore, the typical estimate assumes usage once per month. Typical value based upon the average time for all persons (48 minutes). The upper estimate is the average participant time	judgement NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) Water Use Survey, Professional judgement
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Domestic food and drink preparation and clean up	days/year m3/kg unitless hours/day days/year m3/kg unitless	365 2.60E+07 0.375 3 365 2.90E+10	365 2.60E+07 0.375 5 365 2.90E+10 0.375	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table S. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table S. Based on water use survey results. Most survey results indicate that this practice no longer occurs (i.e., occurred historically), however some individuals identified water features being utilized for making tea or cooking (mostly around Lake McKenzie). Most results indicate water is used from these sources occasionally (i.e. less than once per month). Therefore, the typical estimate assumes usage once per month). Typical value based upon the average time for all persons (48	judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) Water Use Survey, Professional judgement
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Domestic food and drink preparation and clean up Exposure frequency	days/year m3/kg unitless hours/day days/year m3/kg unitless	365 2.60E+07 0.375 3 365 2.90E+10 0.375	365 2.60E+07 0.375 5 365 2.90E+10 0.375	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table 5. Based on water use survey results. Most survey results indicate that this practice no longer occurs (i.e., occurred historically), however some individuals identified water features being utilized for making tea or cooking (mostly around Lake McKenzie). Most results indicate water is used from these sources occasionally (i.e. less than once per month). Therefore, the typical estimate assumes useage bi-monthly, while the upper estimate assumes usage once per month. Typical value based upon the average time for all persons (48 minutes). The upper estimate is the average participant time spent (67 minutes).	judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) Water Use Survey, Professional judgement
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Domestic food and drink preparation and clean up Exposure frequency	days/year m3/kg unitless hours/day days/year m3/kg unitless	365 2.60E+07 0.375 3 365 2.90E+10 0.375	365 2.60E+07 0.375 5 365 2.90E+10 0.375	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table S. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table S. Based on water use survey results. Most survey results indicate that this practice no longer occurs (i.e., occurred historically), however some individuals identified water features being utilized for making tea or cooking (mostly around Lake McKenzie). Most results indicate water is used from these sources occasionally (i.e. less than once per month). Therefore, the typical estimate assumes usage once per month). Therefore, the typical estimate assumes usage once per month. Typical value based upon the average time for all persons (48 minutes). The upper estimate is the average participant time spent (67 minutes).	judgement NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) Water Use Survey, Professional judgement
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Domestic food and drink preparation and clean up Exposure frequency	days/year m3/kg unitless hours/day days/year m3/kg unitless	365 2.60E+07 0.375 3 365 2.90E+10 0.375	365 2.60E+07 0.375 5 365 2.90E+10 0.375	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table 5. Based on water use survey results. Most survey results indicate that this practice no longer occurs (i.e., occurred historically), however some individuals identified water features being utilized for making tea or cooking (mostly around Lake McKenzle). Most results indicate water is used from these sources occasionally (i.e. less than once per month). Therefore, the typical estimate assumes usage once per month). Therefore, the typical estimate assumes usage once per month). Therefore, the typical estimate assumes usage once per month). Therefore, the typical estimate assumes usage once per month. Typical value based upon the average time for all persons (48 minutes). The upper estimate is the average participant time spent (67 minutes).	judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) Water Use Survey, Professional judgement
Exposure frequency Particulate emission factor Lung retention of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Domestic food and drink preparation and clean up Exposure frequency Activity Duration	days/year m3/kg unitless hours/day days/year m3/kg unitless days/year	365 2.60E+07 0.375 3 365 2.90E+10 0.375	365 2.60E+07 0.375 5 365 2.90E+10 0.375	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table 5. Based on water use survey results. Most survey results indicate that this practice no longer occurs (i.e., occurred historically), however some individuals identified water features being utilized for making tea or cooking (mostly around Lake McKenzie). Most results indicate water is used from these sources occasionally (i.e. less than once per month). Therefore, the typical estimate assumes usage once per month. Typical value based upon the average time for all persons (48 minutes). The upper estimate is the average participant time spent (67 minutes).	judgement NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013) NEPM (2013) NEPM (2013) Water Use Survey, Professional judgement enHealth (2012)
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Domestic food and drink preparation and clean up Exposure frequency	days/year m3/kg unitless hours/day days/year m3/kg unitless	365 2.60E+07 0.375 3 365 2.90E+10 0.375	365 2.60E+07 0.375 5 365 2.90E+10 0.375	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table 5. Based on water use survey results. Most survey results indicate that this practice no longer occurs (i.e., occurred historically), however some individuals identified water features being utilized for making tea or cooking (mostly around Lake McKenzle). Most results indicate water is used from these sources occasionally (i.e. less than once per month). Therefore, the typical estimate assumes usage once per month). Therefore, the typical estimate assumes usage once per month). Therefore, the typical estimate assumes usage once per month). Therefore, the typical estimate assumes usage once per month. Typical value based upon the average time for all persons (48 minutes). The upper estimate is the average participant time spent (67 minutes).	judgement NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) Vater Use Survey, Professional judgement
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Domestic food and drink preparation and clean up Exposure frequency Activity Duration	days/year m3/kg unitless hours/day days/year m3/kg unitless days/year	365 2.60E+07 0.375 3 365 2.90E+10 0.375	365 2.60E+07 0.375 5 365 2.90E+10 0.375	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table 5. Based on water use survey results. Most survey results indicate that this practice no longer occurs (i.e., occurred historically), however some individuals identified water features being utilized for making tea or cooking (mostly around Lake McKenzie). Most results indicate water is used from these sources occasionally (i.e. less than once per month). Therefore, the typical estimate assumes usage once per month. Typical value based upon the average time for all persons (48 minutes). The upper estimate is the average participant time spent (67 minutes).	judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013) NEPM (2013) NEPM (2013) Water Use Survey, Professional judgement enHealth (2012)
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Domestic food and drink preparation and clean up Exposure frequency Activity Duration	days/year m3/kg unitless hours/day days/year m3/kg unitless days/year	365 2.60E+07 0.375 3 365 2.90E+10 0.375	365 2.60E+07 0.375 5 365 2.90E+10 0.375	more time will be spent outdoors by residents at this location than the general population. As such, indoor values represent the remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 3 hours/day as the average time spent outdoors for Australians, based upon the 2006 Time Use Survey by the Australian Bureau of Statistics. The upper estimate was selected from USEPA (2011), which reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for individuals aged 18-64. This value has been rounded up to 5 hours/day. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table 5. Based on water use survey results. Most survey results indicate that this practice no longer occurs (i.e., occurred historically), however some individuals identified water features being utilized for making tea or cooking (mostly around Lake McKenzie). Most results indicate water is used from these sources occasionally (i.e. less than once per month). Therefore, the typical estimate assumes usage once per month. Typical value based upon the average time for all persons (48 minutes). The upper estimate is the average participant time spent (67 minutes).	judgement NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) Vater Use Survey, Professional judgement

luman Health Exposure Parameters - Adult Resident Je			Honer Estimate	Notes	Reference
arameter	Units	Typical Estimate	Opper Estimate	(NOTES)	Mererence
ecreational fishing	Idaushuar			Not an applicable pathway	
xposure frequency	days/year	-	-	Not an applicable pathway	
ctivity Duration	hours/day	-	-	Not an applicable pathway	
cidental water ingestion rate	L/hour	-	-	Not an applicable pathway	
posed skin surface for water contact	cm2	-	-	Not an applicable pathway	DACES DALLES
ecreational boating	It			Not as applicable authors	
posure frequency	days/year	-		Not an applicable pathway	
tivity duration	hours/day	-		Not an applicable pathway	
cidental water ingestion rate	L/hour	-		Not an applicable pathway	
posed skin surface for water contact	cm2	1-		Not an applicable pathway	
vimming in creeks and other surface water bodies (fre					
posure frequency	days/year	-		Not an applicable pathway	
tivity duration	hours/day	-		Not an applicable pathway	
cidental water ingestion rate	L/hour			Not an applicable pathway	
posed skin surface for water contact	cm2	-		Not an applicable pathway	
vimming in creeks and other surface water bodies (ma	rine)				
posure frequency	days/year			Not an applicable pathway	
tivity duration	hours/day	-	-	Not an applicable pathway	
cidental water ingestion rate	L/hour	-	-	Not an applicable pathway	
posed skin surface for water contact	cm2	-		Not an applicable pathway	
lashing in pooled/flooded groundwater after heavy re		ALE STATE OF THE S	THE RESERVE		
posure frequency	days/year		-	Not an applicable pathway	
tivity duration	hours/day	-	-	Not an applicable pathway	
idental water ingestion rate	L/hour	-	-	Not an applicable pathway	
		-	-	Not an applicable pathway	
posed skin surface for water contact	cm2	Г	Ľ	inot en applicable patimay	
estion of plant produce	CHARLES TO SERVICE		The second secon	Donatha Australian Duran - of Charletin (2004 4) CO 400 - f	The same of the sa
				Per the Australian Bureau of Statistics (2014), 58.1% of persons	
				over 19 years of age consumed fruit the day prior to the survey.	
	1			These statistics come from a 24-hour dietary recall, and are only	
	1			based on a single day's intake. These results indicate that fruit	
	1			may not be consumed every day, and as such, the typical value	ABS (2014)
	1			adopted represents 58% of days in a year, while the upper	Professiona
posure frequency - fruit	days/year	212	365	estimate assumes fruit is eaten daily.	judgement
				Per the Australian Bureau of Statistics (2014), 77.2% of persons	
				over 19 years of age consumed vegetables the day prior to the	
	1			survey. These statistics come from a 24-hour dietary recall, and	
	1			are only based on a single day's intake. These results indicate that	
	1			vegetables may not be consumed every day, and as such, the	ABS (2014)
	1			typical value represents 77.2% of days in a year, while the upper	Professiona
					judgement
posure frequency - vegetables	days/year	282	365	estimate assumes vegetables are eaten daily.	Judgement
	1			Typical value is the mean daily food intake for cabbage and leaf	
			1	and stalk vegetables, combined. The upper estimate is the	ABS (2014)
onsumption rate - green vegetables	g/day	16.9	153.4	recommended value per NEPM (2013).	NEPM (201
				Typical value is the mean daily food intake for carrots and root	
	1			vegetables by individuals >19 years of age. The upper estimate is	
				the median daily food intake for carrots and root vegetables by	
insumption rate - root vegetables	g/day	14.7	50.4	individuals >19 years of age.	ABS (2014)
				Typical value is the mean daily food intake for potatoes by	
	1			individuals >19 years of age. The upper estimate is the median	
nsumption rate - tuber vegetables	g/day	46.3	122 1	daily food intake for potatoes by individuals >19 years of age.	ABS (2014)
isomption rate - tuber vegetables	g/uay	40.3	122.1	The typical value is the recommended fruit consumption value	12024
	1			per enHealth (2012), and is less than the mean value reported by	enHealth
				ABS (2014). The median value for consumers >19 years of age is	(2012), ABS
and the second s	L.,				
onsumption rate - fruit	g/day	140	190.6	used as the upper estimate.	(2014)
rcentage of total fruit and vegetable ingestion for sub				F-11-2-1-1-2-	Tuent :
een vegetables	percent	59		Table 7, Schedule B7	NEPM 2013
ot vegetables	percent	18		Table 7, Schedule B7	NEPM 201
ber vegetables	percent	23		Table 7, Schedule B7	NEPM 2013
e fruit	percent	100	100	Table 7, Schedule B7	NEPM 2013
				Based on water use survey results for individuals identifying home	Professiona
action of home grown produce - fruit	unitless	0.1	0.5	grown produce.	judgement
	1	1	3.5	Based on water use survey results for individuals identifying home	
action of home grown produce - vegetables	unitless	0.3	0.75	grown produce.	judgement
action of home grown produce - vegetables	Junitiess	0.3	0.75	Promit broader	1) and annealt
gestion of freshwater fish	I-tte.		PARTY NO.	Not on spellophic pathyray	-
ily fish ingestion rate (finfish only)	g/day	-		Not an applicable pathway	
posure frequency for fish ingestion	days/year	-		Not an applicable pathway	
ction of daily fish intake from site	unitless	-		Not an applicable pathway	
gestion of marine fish					
ily fish ingestion rate (finfish only)	g/day	-		Not an applicable pathway	
posure frequency for fish ingestion	days/year	-		Not an applicable pathway	
action of daily fish intake from site	unitless	-		Not an applicable pathway	
gestion of freshwater crustaceans and molluscs	DESTRUCTION OF THE		(B) (1) (B) (B) (B) (B)		201 V 198
ily shellfish ingestion rate	g/day	I		Not an applicable pathway	
posure frequency for shellfish ingestion	_	-		Not an applicable pathway	
posure frequency for shellfish ingestion action of daily shellfish intake from site	days/year				
ction of daily shellfish intake from site	unitless	I-	-	Not an applicable pathway	NAME OF TAXABLE PARTY.
estion of marine crustaceans and molluscs		W.V.	THE PARTY NAMED IN	E I I A	
estion of marine crustaceans and molluscs ily shellfish ingestion rate	g/day	-	-	Not an applicable pathway	
gestion of marine crustaceans and molluscs ally shellfish ingestion rate posure frequency for shellfish ingestion action of daily shellfish intake from site	g/day days/year unitless	-	-	Not an applicable pathway Not an applicable pathway Not an applicable pathway	

Human Health Exposure Parameters - Child Resider					la .
Parameter	Units	Typical Estimate	Upper Estimate	Notes	Reference
swimming in creeks and other surface water bodies	s (marine)				
Exposure frequency	days/year	1		Not an applicable pathway	
activity duration	hours/day			Not an applicable pathway	
ncidental water ingestion rate	L/hour			Not an applicable pathway	
	cm2	-		Not an applicable pathway	
xposed skin surface for water contact		-	<u>-</u>	Not all applicable patriway	
plashing in pooled/flooded groundwater after hea					
xposure frequency	days/year			Not an applicable pathway	
ctivity duration	hours/day			Not an applicable pathway	
ncidental water ingestion rate	L/hour	-		Not an applicable pathway	
xposed skin surface for water contact	cm2			Not an applicable pathway	
ngestion of plant produce					N. S.
Beston of prant produce		T		Per the Australian Bureau of Statistics (2014), 84% of children	1
		1			
		1		between 2 and 3 years old consumed fruit the day prior to the	
				survey. These statistics come from a 24-hour dietary recall, and	
				are only based on a single day's intake. These results indicate that	
	1			fruit may not be consumed every day. As such, the typical value	ABS (2014)
		1		represents 84% of days in a year, while the upper estimate	Professiona
was the suit	da /	307	200	assumes fruit is eaten daily.	judgement
kposure frequency - fruit	days/year	307	365		paugement
		1	1	Per the Australian Bureau of Statistics (2014), 67.4% of children	1
		1		between 2 and 3 years old consumed vegetables the day prior to	
		1		the survey. These statistics come from a 24-hour dietary recall,	
		1		and are only based on a single day's intake. These results indicate	
		1	1	that vegetables may not be consumed every day. As such, the	ABS (2014)
		1	1		
				typical value represents 67.4% of days in a year, while the upper	Profession
xposure frequency - vegetables	days/year	246	365	estimate assumes vegetables are eaten daily.	judgement
	- Indiana			Due to uncertainty surrounding the mean and median values	
		1		provided by ABS (2014) for green vegetables, the average of the	
		1		mean (5.9 g/day) and median (44.3 g/day) values for cabbage and	l
	1	1		leaf and stalk values is used as the typical estimate. The upper	ABS (2014)
onsumption rate - green vegetables	g/day	25.1	. 55	estimate is the recommended value per NEPM (2013).	NEPM (201
				Typical value is the mean daily food intake for carrots and root	
				vegetables for children aged 2-3. The upper estimate is the	
				median daily food intake for carrots and root vegetables by	
onsumption rate - root vegetables	g/day	8.7	37 2	children aged 2-3.	ABS (2014)
onsumption rate - root vegetables	g/uay	0.7	37.2		7.00 (2024)
		1		Typical value is the mean daily food intake for potatoes by	
		1		children aged 2-3. The upper estimate is the recommended value	ABS (2014),
onsumption rate - tuber vegetables	g/day	20.6	122.1	per NEPM (2013).	NEPM (201
				The typical value is the mean value reported by ABS (2014). The	enHealth
					(2012), ABS
	-/	177.4	100		(2014)
onsumption rate - fruit	g/day	172.4	180	NEPM (2013).	(2014)
ercentage of total fruit and vegetable ingestion fo	rsubgr	_	,		
reen vegetables	percent	55	55	Table 7, Schedule B7	NEPM 2013
oot vegetables	percent	17	17	Table 7, Schedule B7	NEPM 201
uber vegetables	percent	28		Table 7, Schedule B7	NEPM 201
	percent	100		Table 7, Schedule B7	NEPM 201
ee fruit	percent	100	100		
				Based on water use survey results for individuals identifying home	
raction of home grown produce - fruit	unitless	0.1	0.5	grown produce.	judgement
				Based on water use survey results for individuals identifying home	Profession
raction of home grown produce - vegetables	unitless	0.3	0.75	grown produce.	judgement
ngestion of freshwater fish		-			
	I-M-	T	I	Not as applicable pathway	I
aily fish ingestion rate (finfish only)	g/day	ļ		Not an applicable pathway	
sposure frequency for fish ingestion	days/year			Not an applicable pathway	
raction of daily fish intake from site	unitless			Not an applicable pathway	
gestion of marine fish					
aily fish ingestion rate (finfish only)	g/day			Not an applicable pathway	
	days/year	-		Not an applicable pathway	
xposure frequency for fish ingestion		-	-		
action of daily fish intake from site	unitless	I	l	Not an applicable pathway	
gestion of freshwater crustaceans and molluscs					
aily shellfish ingestion rate	g/day			Not an applicable pathway	
sposure frequency for shellfish ingestion	days/year			Not an applicable pathway	
		+			
action of daily shellfish intake from site	unitless	<u></u>	I	Not an applicable pathway	
gestion of marine crustaceans and molluscs					
aily shellfish ingestion rate	g/day	-	-	Not an applicable pathway	
	17				
	days/year			Not an applicable pathway	1
xposure frequency for shellfish ingestion raction of daily shellfish intake from site	days/year unitless	-		Not an applicable pathway Not an applicable pathway	

Human Health Exposure Parameters - Adult Resident V Parameter	Units	Typical Estimate	Upper Estimate	Notes	Reference
General					
				The upper estimate is based upon the lifetime average value for males and	
				females combined. The typical estimate is the average weight of male and	
Sody weight	kg	78	70	female adults, combined.	enHealth (2012)
	1			Per enHealth (2012), the mean and 95th percentile duration of residence	
				are 10 years and 35 years, respectively. However, in the case of the	
		1		indigenous Wreck Bay community, it is conservatively assumed that	
		1		individuals may spend their entire lives in the region. This is reflected in the	
		1		upper estimate value. It is assumed that residence times begin at birth.	A SECTION OF THE RESERVE
				However, regardless of this assumption, number of years does not affect	enHealth (2012);
Exposure duration	year	4	72	calculations in non-carcinogenic risk calculations.	Professional judgemen
					enHealth (2012);
veraging time (non-carcinogens)	year	4	72	Same as exposure duration.	Professional judgeme
otal skin surface area	cm ²	24000	20000	Total skin surface area for males and females combined.	enHealth (2012)
kin surface area - head	cm ²	1350	1250	Surface area by body part, averaged for males and females.	enHealth (2012)
kin surface area - trunk	cm ²	9750	7400	Surface area by body part, averaged for males and females.	enHealth (2012)
kin surface area - arms	cm ²	3350		Surface area by body part, averaged for males and females.	enHealth (2012)
kin surface area - hands	cm ²	1200		Surface area by body part, averaged for males and females.	enHealth (2012)
	cm ²				
kin surface area - legs		8050		Surface area by body part, averaged for males and females.	enHealth (2012)
kin surface area - feet	cm ²	1550	1300	Surface area by body part, averaged for males and females.	enHealth (2012)
kin surface area - exposed (feet, legs, hands, arms)	cm ²	7900	6300	Recommended value per enHealth (2012; Section 3.2.4).	enHealth (2012)
ngestion of surface water					
xposure frequency	days/year	365	365	Indicated from the Water Use Survey	Professional Judgeme
				The lifetime average daily intake of water by most Australians is 2 litres per	
	1			day, while a reasonable intake of water for individuals undertaking	
	1			moderate activity in temperate climates is 5 litres per day (enHealth, 2012).	l
	1			The results of the water use survey supplied to the community indicated	
	1			that individuals drink or used to drink from creeks and streams in the area.	
	1			It is assumed that 20% of total daily drinking water is consumed from	enHealth (2012);
urface water intake rate	L/day	0.5	1	surface water (rounded up to half a litre for the typical estimate).	Professional judgeme
eliberate ingestion of sediment (geophagy)	14,007	1 0.5		pariate mater (realists up to hair a little for the Aprell Continue).	i roressionar judgeme
(80-51-61)	T	T		Typical estimate assumes pregnant woman consumes clay/sediment over	T T
				two months of her pregnancy. Upper estimate determined by assuming	
				pregnant women consume clay/sediment each day for six months of their	Ogallo (2008);
xposure frequency	days/year	60	190	pregnancies.	Professional judgeme
Aposure requercy	uays/year	- 00	160	pregnancies.	r toressional judgeme
	1			Average number of children per family in the Jervis Bay area is 1.9 (rounded	ARS 2016 Census
ears (number of pregnancies)	years	2	4	up to two).	Professional judgeme
ears (named or pregnancies)	years			ap to two).	r roressionar judgemen
	1			50 grams/day is estimated by US EPA and adopted by enHealth for	
				individuals with soil-pica or geophagic behaviour. The upper estimate of 80	enHealth (2012); Luol
	1				et al. 2004; Profession
Naile and in and in anotice and		50000	00000	grams is the upper end of the mean daily soil intake for pregnant Kenyan	
Daily sediment ingestion rate	mg/day	50000	80000	women, reported per Luoba et al. 2004, and referenced in enHealth (2012).	judgement
insting of codiment intoles from contaminated course				Based upon the community survey and to provide a conservative estimate,	Deefeestenal tudasma
raction of sediment intake from contaminated source	unitless	1	1	all clay ingested is expected to come from affected sources.	Professional judgeme
ncidental ingestion of soil	I			[5-1]	L11leb (2012)
ally incidental soil ingestion rate	mg/day	50		Soil ingestion values for outside soil plus indoor dust.	enHealth (2012)
xposure frequency dermal contact with soil	days/year	365	365	Recommendation value per enHealth (2012).	enHealth (2012)
Permai contact with soil	T #/ 2			<u> </u>	
	mg soil/cm2			Recommended value for outdoor and indoor residential child and adult	
oil to skin adherence factor	skin	0.5		exposures.	enHealth (2012)
xposure frequency	days/year	365	365	Recommended value per NEPM (2013).	NEPM (2013)
ncidental ingestion of sediment					
	l		500	Assumed to be equal to the number of days using clay and sediments as	
xposure frequency	days/year	14	27	sunscreens or during cultural ceremonies.	Professional judgemen
	1				
	1			L	enHealth (2012);
aily sediment ingestion rate	mg/day	50	60	Assumed to be equal to incidental soil ingestion values	Professional judgemen
				Based upon the community survey and to provide a conservative estimate,	
raction of sediment intake from contaminated source	unitless	1	1	all clay is expected to come from affected sources.	Professional judgemen
ermal Contact with Sediment					
	1				
	1				
	1				Bureau of Meteorolog
					Jervis Bay (Point
	1			_ 4	Perpendicular AWS,
	1			Upper estimate assumes sunscreen is used when temperature exceeds 28°C	
			2	(15 days/year), and used for traditional ceremonies once per month. Typical	
xposure frequency	days/year	14	27	estimate is half this value.	Professional judgeme
		17	27	Typical estimate assumes sunscreen is applied to forearms, lower legs, and	Sicosionai juugeme
				face (assumed to be 25% of head surface area). Upper estimate assumes	
surface area of experted this	cm2	4040	16400	sunscreen is applied to lower legs, trunk, arms, and face (25% of head	anthodah (2012)
urface area of exposed skin	cm2	4313	16488	surface area). Surface area averaged for males and females.	enHealth (2012)
urface area of exposed skin	cm2	4313	16488	surface area). Surface area averaged for males and females. In agreement with Massachusetts Department of Environmental Protection,	enHealth (2012)
urface area of exposed skin	cm2	4313	16488	surface area). Surface area averaged for males and females. In agreement with Massachusetts Department of Environmental Protection, 1 mg/cm2 has ben adopted as the default value for sediment. This assumes	enHealth (2012)
urface area of exposed skin ediment to skin adherence factor	cm2 mg/cm2	4313		surface area). Surface area averaged for males and females. In agreement with Massachusetts Department of Environmental Protection,	enHealth (2012) DEP (2002)

Human Health Exposure Parameters - Adult Resident Wr. Parameter	eck Bay Village Units	Typical Estimate	Upper Estimate	Notes	Reference
Inhalation of dust - indoors		Theore Estimate	- pper zatimate		
		Γ	l T	Due to the temperate climate in the area, it is anticipated that more time	
				will be spent outdoors by residents at this location than the general	
		1		population. As such, indoor values represent the remaining amount of time	
Exposure time (indoor air)	hours/day	21	19	in a day after outdoor hours have been subtracted.	Professional judgemen
Exposure frequency	days/year	365	365	Recommended value per NEPM (2013).	
Particulate emission factor	m3/kg	2.60E+07	2.60E+07	Refer to Equation 21 in Appendix B of Schedule B7.	NEPM (2013)
Lung retention factor	unitless	0.375		Value adopted per Schedule B7, Table 5.	NEPM (2013)
Inhalation of dust - outdoors					
		T	Γ		
				enHealth recommends 3 hours/day as the average time spent outdoors for	ĺ
1			1	Australians, based upon the 2006 Time Use Survey by the Australian Bureau	
1				of Statistics. The upper estimate was selected from USEPA (2011), which	enHealth (2012), USEP
1	8.11			reports a mean of 281 minutes/day (4.7 hours/day) spent outdoors for	(2011), Professional
Exposure time (outdoor air)	hours/day	3	5	individuals aged 18-64. This value has been rounded up to 5 hours/day.	Judgement
Exposure frequency	days/year	365	365	Recommended value per NEPM (2013).	NEPM (2013)
exposure nequency	0073/7001	303	303	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low	,,
Particulate emission factor	m3/kg	2.90E+10	2 905+10	density dwellings selected.	NEPM (2013)
	unitless	0.375		Value adopted per Schedule B7, Table 5.	NEPM (2013)
	unitiess	0.373	0.373	value adopted per scriedule b7, rable 3.	NET IN (2015)
Domestic food and drink preparation and clean up		1		Donal on water was supply sacults. Most supply sacults indicate that this	
				Based on water use survey results. Most survey results indicate that this	
1				practice no longer occurs (i.e., occurred historically), however some	
				individuals identified water features being utilized for making tea or cooking	
la l				(mostly around Lake McKenzie). Most results indicate water is used from	
				these sources occasionally (i.e. less than once per month). Therefore, the	
		1		typical estimate assumes useage bi-monthly, while the upper estimate	Water Use Survey,
Exposure frequency	days/year	6	12	assumes usage once per month.	Professional judgemen
200 A CONTRACTOR AND A CO				Typical value based upon the average time for all persons (48 minutes). The	
Activity Duration	hours/day	0.8	1.12	upper estimate is the average participant time spent (67 minutes).	enHealth (2012)
				Potable water intake value includes water used in food preparation,	
				however an allowance has been made for incidental ingestion of water	
				during cooking activities. The upper estimate assumes individuals prepare	
Water ingestion rate	L/hour	0.005	0.24	and drink one cup of tea (240 mL).	Professional Judgemen
					enHealth; Professional
Exposed skin surface for water contact	cm2	2880	2400	Based upon hands and forearms.	judgement
Recreational fishing					
	days/year			Not an applicable pathway	
Activity Duration	hours/day	-		Not an applicable pathway	
Incidental water ingestion rate	L/hour			Not an applicable pathway	
Exposed skin surface for water contact	cm2			Not an applicable pathway	
Recreational boating					
	days/year			Not an applicable pathway	
Activity duration	hours/day			Not an applicable pathway	
	L/hour	-		Not an applicable pathway	
	cm2	_	_	Not an applicable pathway	
Swimming in creeks and other surface water bodies (fres				Inc. on opposition partition	
				Not an applicable pathway	
	days/year	-	-		
Activity duration	hours/day			Not an applicable pathway	
Incidental water ingestion rate	L/hour	-		Not an applicable pathway	
	cm2	I		Not an applicable pathway	
			CONTRACTOR OF THE PARTY OF THE		THE RESERVE OF THE PERSON OF T
Swimming in creeks and other surface water bodies (mar	ine)				
Swimming in creeks and other surface water bodies (mar Exposure frequency	ine) days/year			Not an applicable pathway	
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration	ine) days/year hours/day		-	Not an applicable pathway	
Swimming in creeks and other surface water bodies (mar Exposure frequency	ine) days/year hours/day L/hour		-	Not an applicable pathway Not an applicable pathway	
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration	ine) days/year hours/day			Not an applicable pathway	
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration ncidental water ingestion rate Exposed skin surface for water contact	ine) days/year hours/day L/hour cm2			Not an applicable pathway Not an applicable pathway	
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration ncidental water ingestion rate Exposed skin surface for water contact	ine) days/year hours/day L/hour cm2			Not an applicable pathway Not an applicable pathway	
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration ncidental water ingestion rate Exposed skin surface for water contact	ine) days/year hours/day L/hour cm2			Not an applicable pathway Not an applicable pathway	
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration ncidental water ingestion rate Exposed skin surface for water contact	ine) days/year hours/day L/hour cm2			Not an applicable pathway Not an applicable pathway	Bureau of Meteorolog
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration ncidental water ingestion rate Exposed skin surface for water contact	ine) days/year hours/day L/hour cm2			Not an applicable pathway Not an applicable pathway Not an applicable pathway	Bureau of Meteorolog Jervis Bay (Point
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration ncidental water ingestion rate Exposed skin surface for water contact	ine) days/year hours/day L/hour cm2			Not an applicable pathway Not an applicable pathway Not an applicable pathway Exposure frequencies assumed to be half those for children. Upper estimate based upon the number of days with greater than 10 mm of rainfall during	Jervis Bay (Point
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration ncidental water ingestion rate Exposed skin surface for water contact	ine) days/year hours/day L/hour cm2			Not an applicable pathway Not an applicable pathway Not an applicable pathway Exposure frequencies assumed to be half those for children. Upper estimate based upon the number of days with greater than 10 mm of rainfall during months where the temperature is above 22° C (November - March; 14	Jervis Bay (Point Perpendicular AWS,
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration ncidental water ingestion rate Exposed skin surface for water contact	ine) days/year hours/day L/hour cm2			Not an applicable pathway Not an applicable pathway Not an applicable pathway Exposure frequencies assumed to be half those for children. Upper estimate based upon the number of days with greater than 10 mm of rainfall during months where the temperature is above 22° C (November - March; 14 days). Typical estimate is based upon half that value (7 days), assuming	Jervis Bay (Point Perpendicular AWS, data from 2001-2017;
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration incidental water ingestion rate Exposed skin surface for water contact Splashing in pooled/flooded groundwater after heavy rai	ine) days/year hours/day L/hour cm2 n events			Not an applicable pathway Not an applicable pathway Not an applicable pathway Exposure frequencies assumed to be half those for children. Upper estimate based upon the number of days with greater than 10 mm of rainfall during months where the temperature is above 22° C (November - March; 14 days). Typical estimate is based upon half that value (7 days), assuming activity does not occur after each rainfall, and assuming that not all rainfall	Jervis Bay (Point Perpendicular AWS, data from 2001-2017; accessed 21 Sept 2017
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration incidental water ingestion rate Exposed skin surface for water contact Splashing in pooled/flooded groundwater after heavy rai	ine) days/year hours/day L/hour cm2		7	Not an applicable pathway Not an applicable pathway Not an applicable pathway Exposure frequencies assumed to be half those for children. Upper estimate based upon the number of days with greater than 10 mm of rainfall during months where the temperature is above 22° C (November - March; 14 days). Typical estimate is based upon half that value (7 days), assuming	Jervis Bay (Point Perpendicular AWS, data from 2001-2017; accessed 21 Sept 2017
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Splashing in pooled/flooded groundwater after heavy rai	days/year hours/day L/hour cm2 n events		7	Not an applicable pathway Not an applicable pathway Not an applicable pathway Not an applicable pathway Exposure frequencies assumed to be half those for children. Upper estimate based upon the number of days with greater than 10 mm of rainfall during months where the temperature is above 22° C (November - March; 14 days). Typical estimate is based upon half that value (7 days), assuming activity does not occur after each rainfall, and assuming that not all rainfall events result in enough pooled water for wading.	Jervis Bay (Point Perpendicular AWS, data from 2001-2017; accessed 21 Sept 2017 Professional judgemen
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Splashing in pooled/flooded groundwater after heavy rai	ine) days/year hours/day L/hour cm2 n events	4	7	Not an applicable pathway Not an applicable pathway Not an applicable pathway Exposure frequencies assumed to be half those for children. Upper estimate based upon the number of days with greater than 10 mm of rainfall during months where the temperature is above 22° C (November - March; 14 days). Typical estimate is based upon half that value (7 days), assuming activity does not occur after each rainfall, and assuming that not all rainfall	Jervis Bay (Point
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Splashing in pooled/flooded groundwater after heavy rai	days/year hours/day L/hour cm2 n events	4	7	Not an applicable pathway Not an applicable pathway Not an applicable pathway Not an applicable pathway Exposure frequencies assumed to be half those for children. Upper estimate based upon the number of days with greater than 10 mm of rainfall during months where the temperature is above 22° C (November - March; 14 days). Typical estimate is based upon half that value (7 days), assuming activity does not occur after each rainfall, and assuming that not all rainfall events result in enough pooled water for wading. Professional judgement	Jervis Bay (Point Perpendicular AWS, data from 2001-2017; accessed 21 Sept 2017 Professional judgemen
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Splashing in pooled/flooded groundwater after heavy rai	ine) days/year hours/day L/hour cm2 n events days/year hours/day	4		Not an applicable pathway Not an applicable pathway Not an applicable pathway Not an applicable pathway Exposure frequencies assumed to be half those for children. Upper estimate based upon the number of days with greater than 10 mm of rainfall during months where the temperature is above 22° C (November - March; 14 days), Typical estimate is based upon half that value (7 days), assuming activity does not occur after each rainfall, and assuming that not all rainfall events result in enough pooled water for wading. Professional judgement Recommended incidental water ingestion value for swimming halved as	Jervis Bay (Point Perpendicular AWS, data from 2001-2017; accessed 21 Sept 2017 Professional judgemen Professional judgemen enHealth (2012);
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Splashing in pooled/flooded groundwater after heavy rai	days/year hours/day L/hour cm2 n events	4		Not an applicable pathway Not an applicable pathway Not an applicable pathway Not an applicable pathway Exposure frequencies assumed to be half those for children. Upper estimate based upon the number of days with greater than 10 mm of rainfall during months where the temperature is above 22° C (November - March; 14 days). Typical estimate is based upon half that value (7 days), assuming activity does not occur after each rainfall, and assuming that not all rainfall events result in enough pooled water for wading. Professional judgement	Jervis Bay (Point Perpendicular AWS, data from 2001-2017; accessed 21 Sept 2017 Professional judgemen Professional judgemen enHealth (2012); Professional judgemen
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Splashing in pooled/flooded groundwater after heavy rai	ine) days/year hours/day L/hour cm2 n events days/year hours/day	4 1 0.0125		Not an applicable pathway Not an applicable pathway Not an applicable pathway Not an applicable pathway Exposure frequencies assumed to be half those for children. Upper estimate based upon the number of days with greater than 10 mm of rainfall during months where the temperature is above 22° C (November - March; 14 days). Typical estimate is based upon half that value (7 days), assuming activity does not occur after each rainfall, and assuming that not all rainfall events result in enough pooled water for wading. Professional judgement Recommended incidental water ingestion value for swimming halved as sitting in pooled water is not expected to be a fully immersive activity.	Jervis Bay (Point Perpendicular AWS, data from 2001-2017; accessed 21 Sept 2017 Professional judgemen Professional judgemen enHealth (2012); Professional judgemen Professional
Swimming in creeks and other surface water bodies (mar Exposure frequency Activity duration ncidental water ingestion rate Exposed skin surface for water contact Splashing in pooled/flooded groundwater after heavy rai	ine) days/year hours/day L/hour cm2 n events days/year hours/day	4		Not an applicable pathway Not an applicable pathway Not an applicable pathway Not an applicable pathway Exposure frequencies assumed to be half those for children. Upper estimate based upon the number of days with greater than 10 mm of rainfall during months where the temperature is above 22° C (November - March; 14 days), Typical estimate is based upon half that value (7 days), assuming activity does not occur after each rainfall, and assuming that not all rainfall events result in enough pooled water for wading. Professional judgement Recommended incidental water ingestion value for swimming halved as	Jervis Bay (Point Perpendicular AWS, data from 2001-2017; accessed 21 Sept 2017 Professional judgemen Professional judgemen enHealth (2012); Professional judgemen

Human Health Exposure Parameters - Adult Resident \ Parameter	Units		Linear Feliana	Notes	Deference
Parameter Ingestion of plant produce	Units	Typical Estimate	Opper Estimate	Notes	Reference
ingestion of plant produce	T	T	ı	Per the Australian Bureau of Statistics (2014), 58.1% of persons over 19	
		1		years of age consumed fruit the day prior to the survey. These statistics	1
		1		come from a 24-hour dietary recall, and are only based on a single day's	
		1			
	1	1	1	intake. These results indicate that fruit may not be consumed every day. As	100 (0014)
				such, the typical value represents 58% of days in a year, while the upper	ABS (2014),
Exposure frequency - fruit	days/year	212	365	estimate assumes fruit is eaten daily.	Professional judgemen
	1			Per the Australian Bureau of Statistics (2014), 77.2% of persons over 19	
		1		years of age consumed vegetables the day prior to the survey. These	
	1	1		statistics come from a 24-hour dietary recall, and are only based on a single	
		1		day's intake. These results indicate that vegetables may not be consumed	
				every day. As such, the typical value represents 77.2% of days in a year,	ABS (2014),
xposure frequency - vegetables	days/year	282	365	while the upper estimate assumes vegetables are eaten daily.	Professional judgemen
	1			Typical value is the mean daily food intake for cabbage and leaf and stalk	
		1		vegetables, combined. The upper estimate is the recommended value per	ABS (2014), NEPM
Consumption rate - green vegetables	g/day	16.9	153.4	NEPM (2013).	(2013)
	1				
	1			Typical value is the mean daily food intake for carrots and root vegetables	
		1		by individuals >19 years of age. The upper estimate is the median daily food	
Consumption rate - root vegetables	g/day	14.7	50.4	intake for carrots and root vegetables by individuals >19 years of age.	ABS (2014)
				Typical value is the mean daily food intake for potatoes by individuals >19	
				years of age. The upper estimate is the median daily food intake for	
Consumption rate - tuber vegetables	g/day	46.3	122.1	potatoes by individuals >19 years of age.	ABS (2014)
				The typical value is the recommended fruit consumption value per enHealth	
	1			(2012), and is less than the mean value reported by ABS (2014). The median	enHealth (2012), ABS
Consumption rate - fruit	g/day	140	190.6	value for consumers >19 years of age is used as the upper estimate.	(2014)
Percentage of total fruit and vegetable ingestion for su					
Green vegetables	percent	59		Table 7, Schedule B7	NEPM 2013
Root vegetables	percent	18		Table 7, Schedule B7	NEPM 2013
Tuber vegetables	percent	23		Table 7, Schedule B7	NEPM 2013
Tree fruit	percent	100	100	Table 7, Schedule B7	NEPM 2013
				Based on water use survey results for individuals identifying home grown	
Fraction of home grown produce - fruit	unitless	0.1	0.5	produce.	Professional judgemen
				Based on water use survey results for individuals identifying home grown	
raction of home grown produce - vegetables	unitless	0.3	0.75	produce.	Professional judgemen
ngestion of freshwater fish					
Daily fish ingestion rate (finfish only)	g/day		-	Not an applicable pathway	
exposure frequency for fish ingestion	days/year			Not an applicable pathway	
raction of daily fish intake from site	unitless			Not an applicable pathway	
ngestion of marine fish					
Daily fish ingestion rate (finfish only)	g/day			Not an applicable pathway	
xposure frequency for fish ingestion	days/year		-	Not an applicable pathway	
raction of daily fish intake from site	unitless			Not an applicable pathway	
ngestion of freshwater crustaceans and molluscs					
Daily shellfish ingestion rate	g/day			Not an applicable pathway	
xposure frequency for shellfish ingestion	days/year		-	Not an applicable pathway	
raction of daily shellfish intake from site	unitless			Not an applicable pathway	
ngestion of marine crustaceans and molluscs					
Daily shellfish ingestion rate	g/day		-	Not an applicable pathway	
xposure frequency for shellfish ingestion	days/year			Not an applicable pathway	
raction of daily shellfish intake from site	unitless			Not an applicable pathway	
ngestion of terrestrial mammals					
Paily game meat ingestion rate	g/day			Not an applicable pathway	
	_				
xposure frequency for mammalian meat ingestion	days/year			Not an applicable pathway	

			Southern the second		
Human Health Exposure Parameters - Child Resident Wro Parameter	ck Bay Village Units	Typical Estimate	Upper Estimate	Notes	Reference
General					
				The typical estimate is based upon the 95th percentile value for 2-	
				I he typical estimate is based upon the 95th percentile value for 2- 3 year old males and females combined. The upper estimate is the	
Body weight	kg	17	15	average weight of 2-3 year old male and females combined.	enHealth (2012)
,				The mean and 95th percentile duration of residence are 10 years	
				and 35 years, respectively. It is assumed that residence times	
Exposure duration Averaging time (non-carcinogens)	year	6		begin at birth. Same as exposure duration.	enHealth (2012) enHealth (2012)
Total skin surface area	cm ²	7000		Total skin surface area for males and females combined.	enHealth (2012)
Total Still Sallace area				Calculated surface area based upon the mean percentage of total	
Skin surface area - head	cm ²	994	866.2	surface area for children.	enHealth (2012)
	cm ²	2605	2249.5	Calculated surface area based upon the mean percentage of total surface area for children.	enHealth (2012)
Skin surface area - trunk	cm	2695	2348.5	Calculated surface area based upon the mean percentage of total	enneath (2012)
Skin surface area - arms	cm ²	826	719.8	surface area for children.	enHealth (2012)
				Calculated surface area based upon the mean percentage of total	
Skin surface area - hands	cm ²	371	323.2	surface area for children.	enHealth (2012)
Skin surface area - legs	cm ²	1624	1415.2	Calculated surface area based upon the mean percentage of total surface area for children.	enHealth (2012)
Skill Surface area - legs	CIII	1024	1415.1	Calculated surface area based upon the mean percentage of total	, , , , , , , , , , , , , , , , , , , ,
Skin surface area - feet	cm ²	497	433.1	surface area for children.	enHealth (2012)
Skin surface area - exposed (feet, legs, hands, arms)	cm ²	2100	1800	Recommended value per enHealth (2012; Section 3.2.4).	enHealth (2012)
Ingestion of surface water					0-6
Exposure frequency	days/year	365	365	Professional Judgement The recommended mean and 95th percentile drinking water	Professional Judgement
				ingestion rates for children aged 2-3 are 0.36 and 0.91 L/day,	
1				respectively (enHealth, 2012). Ingestion of surface water by	n ga prema
1				children may occur, however it is assumed that surface water will	enHealth (2012);
Surface water intake rate	L/day	0.1	0.2	account for less than 20% of total drinking water intake.	Professional judgement
Incidental ingestion of soil Daily incidental soil ingestion rate	mg/day	50	100	Soil ingestion values for outside soil plus indoor dust.	enHealth (2012)
Exposure frequency	days/year	365		Recommendation value per enHealth (2012).	enHealth (2012)
Dermal contact with soil					
	mg soil/cm2			Recommended value for outdoor and indoor residential child and	enHealth (2012)
Soil to skin adherence factor Exposure frequency	skin days/year	0.5 365		adult exposures. Recommended value per NEPM (2013).	NEPM (2013)
Incidental ingestion of sediment	adjoj year				
				Assumed to be equal to the number of days using clay and	
Exposure frequency	days/year	39	77	sediments as sunscreens or during cultural ceremonies.	Professional judgement enHealth (2012);
Daily sediment ingestion rate	mg/day	50	60	Assumed to be equal to incidental soil ingestion values	Professional judgement
Daily sediment ingestion rate	mg/day	30		Assumed to be educate melacinal son ingestion range.	
				Based upon the community survey and to provide a conservative	
Fraction of sediment intake from contaminated source	unitless	1	1	estimate, all clay is expected to come from affected sources.	Professional judgement
Deliberate Ingestion of sediment (geophagy)	days/year	I			
Exposure frequency Years (number of pregnancies)	years				
Daily sediment ingestion rate	mg/day				
Fraction of sediment intake from contaminated source	unitless				
Dermal Contact with Sediment	l				Bureau of Meteorology,
				Upper estimate assumes sunscreen is used when temperature	Jervis Bay (Point
				exceeds 25°C (65 days/year), and used for traditional ceremonies	Perpendicular AWS, data
				once per month. Typical estimate is half this value. This activity is	from 2001-2017; accessed 21
	days/year	39	77	not expected to occur in children aged 2-3, however will provide a conservative estimate of exposure to children up to age 6.	judgement
Exposure frequency	uays/year	33	,,	Typical estimate assumes sunscreen is applied to forearms and	juagoment
1				lower legs (assumed to be 50% of arm and leg surface area), and	
				face (assumed to be 25% of head surface area). Upper estimate	
Surface area of aureand skip		1375	4035	assumes sunscreen is applied to lower legs, trunk, arms, and face (25% of head surface area).	enHealth (2012)
Surface area of exposed skin	cm2	13/5	4025	(20% of field surface died).	(EVEZ)
				In agreement with Massachusetts Department of Environmental	
				Protection, 1 mg/cm2 has ben adopted as the default value for	
				sediment. This assumes that only the monolayer against the skin	DEP (2002)
Sediment to skin adherence factor Inhalation of dust - indoors	mg/cm2	1	1	has implications in dermal absorption.	DEF (2002)
initialization of dust - illuoors				Due to the temperate climate in the area, it is anticipated that	
				more time will be spent outdoors by residents at this location than	
				the general population. As such, indoor values represent the	
Eventura tima lindoor siri	hours (de-	22	20	remaining amount of time in a day after outdoor hours have been	Professional judgement
Exposure time (indoor air) Exposure frequency	hours/day days/year	22 365			Professional judgement NEPM (2013)
Exposure time (indoor air) Exposure frequency Particulate emission factor	hours/day days/year m3/kg	365 2.60E+07	365 2.60E+07	remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7.	NEPM (2013) NEPM (2013)
Exposure frequency Particulate emission factor Lung retention factor	days/year	365	365 2.60E+07	remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013).	NEPM (2013)
Exposure frequency Particulate emission factor	days/year m3/kg	365 2.60E+07	365 2.60E+07	remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5.	NEPM (2013) NEPM (2013) NEPM (2013)
Exposure frequency Particulate emission factor Lung retention factor	days/year m3/kg	365 2.60E+07	365 2.60E+07	remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7.	NEPM (2013) NEPM (2013)
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors	days/year m3/kg	365 2.60E+07	365 2.60E+07	remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 2 hours/day as the average time spent	NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA
Exposure frequency Particulate emission factor Lung retention factor	days/year m3/kg unitless	365 2.60E+07	365 2.60E+07 0.375	remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 2 hours/day as the average time spent outdoors for children aged 2-3. The upper estimate is based on professional judgement. Recommended value per NEPM (2013).	NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency	days/year m3/kg unitless hours/day days/year	365 2.60E+07 0.375	365 2.60E+07 0.375 4 365	remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 2 hours/day as the average time spent outdoors for children aged 2-3. The upper estimate is based on professional judgement. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for	NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013)
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor	days/year m3/kg unitless hours/day days/year m3/kg	365 2.60E+07 0.375 2 365 2.90E+10	365 2.60E+07 0.375 4 365 2.90E+10	remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 2 hours/day as the average time spent outdoors for children aged 2-3. The upper estimate is based on professional judgement. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected.	NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013) NEPM (2013)
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor	days/year m3/kg unitless hours/day days/year	365 2.60E+07 0.375	365 2.60E+07 0.375 4 365 2.90E+10	remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 2 hours/day as the average time spent outdoors for children aged 2-3. The upper estimate is based on professional judgement. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for	NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013)
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Domestic food and drink preparation and clean up Exposure frequency	days/year m3/kg unitless hours/day days/year m3/kg	365 2.60E+07 0.375 2 365 2.90E+10	365 2.60E+07 0.375 4 365 2.90E+10	remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 2 hours/day as the average time spent outdoors for children aged 2-3. The upper estimate is based on professional judgement. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table 5.	NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013) NEPM (2013)
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Domestic food and drink preparation and clean up Exposure frequency Activity Duration	days/year m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day	365 2.60E+07 0.375 2 365 2.90E+10	365 2.60E+07 0.375 4 365 2.90E+10	remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 2 hours/day as the average time spent outdoors for children aged 2-3. The upper estimate is based on professional judgement. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway for children < 6 years of age. Not an applicable pathway for children < 6 years of age.	NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013)
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Domestic food and drink preparation and clean up Exposure frequency	days/year m3/kg unitless hours/day days/year m3/kg unitless days/year	365 2.60E+07 0.375 2 365 2.90E+10	365 2.60E+07 0.375 4 365 2.90E+10	remaining amount of time in a day after outdoor hours have been subtracted. Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. enHealth recommends 2 hours/day as the average time spent outdoors for children aged 2-3. The upper estimate is based on professional judgement. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. Value for low density dwellings selected. Value adopted per Schedule B7, Table 5.	NEPM (2013) NEPM (2013) NEPM (2013) NEPM (2013) enHealth (2012), USEPA (2011), Professional Judgement NEPM (2013) NEPM (2013)

Human Health Exposure Parameters - Child Resident Wr					
Parameter	Units	Typical Estimate	Upper Estimate	Notes	Reference
Recreational fishing		A STATE OF STATE OF			
Exposure frequency	days/year	I_	L	Not an applicable pathway	
			-		
Activity Duration	hours/day			Not an applicable pathway	
Incidental water ingestion rate	L/hour	-	-	Not an applicable pathway	
Exposed skin surface for water contact	cm2	-		Not an applicable pathway	
Recreational boating					
Exposure frequency	days/year			Not an applicable pathway	
Activity duration	hours/day			Not an applicable pathway	
Incidental water ingestion rate	L/hour	_	_	Not an applicable pathway	
Exposed skin surface for water contact	cm2	_	_	Not an applicable pathway	
				Not all applicable patriway	
Swimming in creeks and other surface water bodies (free	_				
Exposure frequency	days/year		-	Not an applicable pathway	
Activity duration	hours/day	-		Not an applicable pathway	
Incidental water ingestion rate	L/hour		-	Not an applicable pathway	
Exposed skin surface for water contact	cm2		-	Not an applicable pathway	
Swimming in creeks and other surface water bodies (mai		No. of the last of	Contract Market Street		
				In the state of th	
Exposure frequency	days/year			Not an applicable pathway	
Activity duration	hours/day	-		Not an applicable pathway	and the second second second
Incidental water ingestion rate	L/hour			Not an applicable pathway	
Exposed skin surface for water contact	cm2		-	Not an applicable pathway	
Sitting/splashing in pooled/flooded groundwater after he					
sitting/splasning in pooled/hooded groundwater after hi	T event				Bureau of Meteorology,
				Upper estimate is the number of days with greater than 10 mm of rainfall during months where the mean temperature is above 22° C (November - March). Typical estimate is half that value, assuming children don't play after each rainfall, and assuming that not all	Jervis Bay (Point Perpendicular AWS, data from 2001-2017; accessed 21 Sept 2017); Professional
Exposure frequency	days/year	7		rainfall events result in enough pooled water for wading.	judgement
Activity duration	hours/day	1	2	Professional judgement	Professional judgement
				Recommended incidental water ingestion value for swimming	
	1	1	I	halved as sitting in pooled water is not expected to be a fully	enHealth (2012);
Incidental water ingestion rate	L/hour	0.025	0.075	immersive activity.	Professional judgement
mater ingestion rate	411001	0.020	0.075	Exposed skin assumed to be legs, feet, hands, and lower third of	Professional judgement;
Francisco de della confessa di constanti di					
Exposed skin surface for water contact	cm2	3390	2954	trunk.	enHealth (2012)
Ingestion of plant produce					
				Per the Australian Bureau of Statistics (2014), 84% of children	
				between 2 and 3 years old consumed fruit the day prior to the survey. These statistics come from a 24-hour dietary recall, and are only based on a single day's intake. These results indicate that fruit may not be consumed every day. As such, the typical value	—p.
		1	l	represents 84% of days in a year, while the upper estimate	ABS (2014), Professional
Exposure frequency - fruit	days/year	307	365	assumes fruit is eaten daily.	judgement
				Per the Australian Bureau of Statistics (2014), 67.4% of children between 2 and 3 years old consumed vegetables the day prior to the survey. These statistics come from a 24-hour dietary recall, and are only based on a single day's intake. These results indicate that vegetables may not be consumed every day. As such, the typical value represents 67.4% of days in a year, while the upper	ABS (2014), Professional
Exposure frequency - vegetables	days/year	246	365	estimate assumes vegetables are eaten daily. Due to uncertainty surrounding the mean and median values	judgement
	g/day	25.1	55	provided by ABS (2014) for green vegetables, the average of the mean (5.9 g/day) and median (44.3 g/day) values for cabbage and leaf and stalk values is used as the typical estimate. The upper estimate is the recommended value per NEPM (2013).	ABS (2014), NEPM (2013)
Consumption rate - green vegetables				Typical value is the mean daily food intake for carrots and root	
Consumption rate - green vegetables				vegetables for children aged 2-3. The upper estimate is the median daily food intake for carrots and root vegetables by children aged 2	
Consumption rate - green vegetables Consumption rate - root vegetables	g/day	8.7	37.2	daily food intake for carrots and root vegetables by children aged 2	ABS (2014)
	g/day	8.7	37.2	daily food intake for carrots and root vegetables by children aged 2 3.	
	g/day	8.7	37.2	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children	
Consumption rate - root vegetables				daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per	ABS (2014)
	g/day g/day	8.7 20.6		daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013).	
Consumption rate - root vegetables				daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per	ABS (2014)
Consumption rate - root vegetables				daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013).	ABS (2014)
Consumption rate - root vegetables Consumption rate - tuber vegetables	g/day	20.€	122.1	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per	ABS (2014) ABS (2014), NEPM (2013)
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit	g/day g/day		122.1	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The	ABS (2014)
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for sub	g/day g/day groups	20. 6 172.4	122.1	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013).	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014)
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subj Green vegetables	g/day g/day roups percent	20.6 172.4	122.1 180	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subsequences are subsequences.	g/day g/day groups	20.6 172.4 55	122.1 180	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Table 7, Schedule B7	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subj Green vegetables	g/day g/day roups percent	20.6 172.4	122.1 180	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subgreen vegetables Root vegetables Tuber vegetables	g/day g/day proups percent percent	20.6 172.4 55 17 28	122.1 180 55 17 28	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subsequences are subsequences.	g/day g/day roups percent percent	20.6 172.4 55	122.1 180 55 17 28	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subj Green vegetables Root vegetables Tuber vegetables Tree fruit	g/day g/day groups percent percent percent percent	20.6 172.4 55 17 28 100	122.1 180 55 17 28	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Based on water use survey results for individuals identifying home	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subgreen vegetables Root vegetables Tuber vegetables	g/day g/day proups percent percent	20.6 172.4 55 17 28	122.1 180 55 17 28	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce.	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subj Green vegetables Root vegetables Tuber vegetables Tree fruit	g/day g/day groups percent percent percent percent	20.6 172.4 55 17 28 100	122.1 180 55 17 28	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Based on water use survey results for individuals identifying home	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subgreen vegetables Root vegetables Tuber vegetables Tree fruit Fraction of home grown produce - fruit	g/day g/day groups percent percent percent percent	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subsection for subs	g/day g/day roups percent percent percent percent unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce.	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subsequence of total fruit and vegetable ingestion for subsequence regetables Tuber vegetables Tuber vegetables Tree fruit Fraction of home grown produce - fruit Fraction of home grown produce - vegetables Ingestion of freshwater fish	g/day g/day groups percent percent percent unitless unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce.	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subsequence of total fruit and vegetable ingestion for subsequence of the subsequence of	g/day g/day groups percent percent percent unitless unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce.	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subgreen vegetables Root vegetables Tuber vegetables Tree fruit Fraction of home grown produce - fruit Fraction of home grown produce - vegetables Ingestion of freshwater fish Daily fish ingestion rate (finfish only) Exposure frequency for fish ingestion	g/day roups percent percent percent unitless unitless g/day days/year	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subsection for sub	g/day g/day groups percent percent percent unitless unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce.	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subsequence of total fruit and vegetable ingestion for subsequence of the following state of the fo	g/day roups percent percent percent unitless unitless g/day days/year	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subsection for full forms fruit Fraction of home grown produce - fruit Fraction of home grown produce - vegetables Ingestion of freshwater fish Daily fish ingestion rate (finfish only) Exposure frequency for fish ingestion Fraction of daily fish intake from site Ingestion of marine fish	g/day g/day groups percent percent percent unitless unitless g/day days/year unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway Not an applicable pathway Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - truit Percentage of total fruit and vegetable ingestion for subsequence of total fruit and vegetable ingestion for subsequence of total fruit and vegetable ingestion for subsequence of the following fruit and vegetables Tuber vegetables Tree fruit Fraction of home grown produce - fruit Fraction of home grown produce - vegetables ingestion of freshwater fish Daily fish ingestion rate (finfish only) Exposure frequency for fish ingestion Fraction of daily fish intake from site ingestion of marine fish Daily fish ingestion rate (finfish only)	g/day g/day groups percent percent percent unitless unitless g/day days/year unitless g/day	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway Not an applicable pathway Not an applicable pathway Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subject of the subject of	g/day g/day g/day percent percent percent unitless unitless g/day days/year unitless g/day days/year	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subject of the subject of	g/day g/day groups percent percent percent unitless unitless g/day days/year unitless g/day	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway Not an applicable pathway Not an applicable pathway Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subset of the sub	g/day g/day g/day percent percent percent unitless unitless g/day days/year unitless g/day days/year	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subset of the sub	g/day g/day g/day percent percent percent percent unitless unitless g/day days/year unitless g/day days/year unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subgreen vegetables Root vegetables Tuber vegetables Tree fruit Fraction of home grown produce - fruit Fraction of home grown produce - vegetables Ingestion of freshwater fish Daily fish ingestion rate (finfish only) Exposure frequency for fish ingestion Fraction of marine fish Daily fish ingestion rate (finfish only) Exposure frequency for fish ingestion Fraction of daily fish intake from site Ingestion of marine fish Daily fish ingestion rate (finfish only) Exposure frequency for fish ingestion Fraction of daily fish intake from site Ingestion of freshwater crustaceans and molluscs Daily shellfish ingestion rate	g/day g/day groups percent percent percent unitless unitless g/day days/year unitless g/day days/year unitless g/day days/year unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subset of the sub	g/day g/day g/day percent percent percent percent unitless unitless g/day days/year unitless g/day days/year unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subsequence of the subsequence	g/day g/day g/day percent percent percent unitless g/day days/year unitless g/day days/year unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subsequence of total fruit and vegetable ingestion for subsequence of the subsequence of	g/day g/day groups percent percent percent unitless unitless g/day days/year unitless g/day days/year unitless g/day days/year unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subsequence of total fruit and vegetable ingestion for subsequence of the subsequence of total fruit and vegetable ingestion for subsequence of the subsequence of t	g/day g/day g/day groups percent percent percent unitless g/day days/year unitless g/day days/year unitless g/day days/year unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subset of the sub	g/day g/day g/day percent percent percent unitless g/day days/year unitless g/day days/year unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for sub Green vegetables Root vegetables Tree fruit Fraction of home grown produce - fruit Fraction of home grown produce - vegetables Ingestion of freshwater fish Daily fish ingestion rate (finfish only) Exposure frequency for fish ingestion Fraction of marine fish Daily fish ingestion rate (finfish only) Exposure frequency for fish ingestion Fraction of daily fish intake from site Ingestion of freshwater fish Daily fish ingestion rate (finfish only) Exposure frequency for fish ingestion Fraction of daily fish intake from site Ingestion of freshwater crustaceans and molluscs Daily shellfish ingestion rate Exposure frequency for shellfish ingestion Fraction of daily shellfish intake from site Ingestion of marine crustaceans and molluscs Daily shellfish ingestion rate	g/day g/day g/day groups percent percent percent unitless unitless g/day days/year unitless g/day days/year unitless g/day days/year unitless g/day days/year unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subsequence of the subsequence	g/day g/day g/day percent percent percent percent unitless g/day days/year unitless g/day days/year unitless g/day days/year unitless g/day days/year unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subset of the sub	g/day g/day g/day groups percent percent percent unitless unitless g/day days/year unitless g/day days/year unitless g/day days/year unitless g/day days/year unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subset of the sub	g/day g/day g/day groups percent percent percent percent unitless g/day days/year unitless g/day days/year unitless g/day days/year unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - tuber vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subsequence of total fruit and vegetable ingestion for subsequence of the subsequence of	g/day g/day g/day percent percent percent percent unitless g/day days/year unitless g/day days/year unitless g/day days/year unitless g/day days/year unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subset of the subset of th	g/day g/day g/day groups percent percent percent percent unitless g/day days/year unitless g/day days/year unitless g/day days/year unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement
Consumption rate - root vegetables Consumption rate - fruit Percentage of total fruit and vegetable ingestion for subgreen vegetables Root vegetables Root vegetables Truber vegetables Tree fruit Fraction of home grown produce - fruit Fraction of home grown produce - vegetables Ingestion of freshwater fish Daily fish ingestion rate (finfish only) Exposure frequency for fish ingestion Fraction of marine fish Daily fish ingestion rate (finfish only) Exposure frequency for fish ingestion Fraction of freshwater from site Ingestion of freshwater from site Ingestion of freshwater from site Ingestion of freshwater crustaceans and molluscs Daily shellfish ingestion rate Exposure frequency for shellfish ingestion Fraction of daily shellfish intake from site Ingestion of marine crustaceans and molluscs Daily shellfish ingestion rate Exposure frequency for shellfish intake from site Ingestion of daily shellfish intake from site Exposure frequency for shellfish ingestion Fraction of daily shellfish intake from site Ingestion of terrestrial mammals Daily game meat ingestion rate	g/day g/day g/day groups percent percent percent percent unitless g/day days/year unitless	20.6 172.4 55 17 28 100	122.1 180 555 17 28 100	daily food intake for carrots and root vegetables by children aged 2 3. Typical value is the mean daily food intake for potatoes by children aged 2-3. The upper estimate is the recommended value per NEPM (2013). The typical value is the mean value reported by ABS (2014). The upper estimate is the recommended fruit consumption value per NEPM (2013). Table 7, Schedule B7 Based on water use survey results for individuals identifying home grown produce. Based on water use survey results for individuals identifying home grown produce. Not an applicable pathway	ABS (2014) ABS (2014), NEPM (2013) enHealth (2012), ABS (2014) NEPM 2013 NEPM 2013 NEPM 2013 NEPM 2013 Professional judgement

Human Health Exposure Parameters - Booderee Nationa	l Park Worker				
Parameter	Units	Typical Estimate	Upper Estimate	Notes	Reference
General				The upper estimate is based upon the lifetime average value for males and	Γ
				females combined. The typical estimate is the average weight of male and	
Body weight	kg	78	70	female adults, combined.	enHealth (2012)
xposure duration	year	30	30	Commercial working life per NEPM Schedule B7.	NEPM (2013)
veraging time (non-carcinogens)	year	30		Same as exposure duration.	enHealth (2012)
otal skin surface area	cm ²	24000	20000	Total skin surface area for males and females combined.	enHealth (2012)
kin surface area - head	cm ²	1350	1250	Surface area by body part, averaged for males and females.	enHealth (2012)
kin surface area - trunk	cm ²	9750		Surface area by body part, averaged for males and females.	enHealth (2012)
kin surface area - arms	cm ²	3350	2750	Surface area by body part, averaged for males and females.	enHealth (2012)
kin surface area - hands	cm ²	1200	1000	Surface area by body part, averaged for males and females.	enHealth (2012)
kin surface area - legs	cm ²	8050		Surface area by body part, averaged for males and females.	enHealth (2012)
kin surface area - feet	cm ²	1550		Surface area by body part, averaged for males and females.	enHealth (2012)
kin surface area - exposed (feet, legs, hands, arms)	cm ²	7900	6300	Recommended value per enHealth (2012; Section 3.2.4).	enHealth (2012)
ngestion of surface water		F13.70 4 1			Inches de la constitución de la
xposure frequency	days/year	240	240	Assumes 5 days per week for 48 weeks a year.	NEPM (2013)
		1		The lifetime average daily intake of water by most Australians is 2 litres per	1
				day, while a reasonable intake of water for individuals undertaking moderate activity in temperate climates is 5 litres per day (enHealth, 2012).	
				The results of the water use survey supplied to the community indicated	1
				that individuals drink or used to drink from creeks and streams in the area.	
		1		It is not expected that individuals will drink all of their daily water from	
		1		onsite water features however, and as such, these recommended averages	1
			1	have been halved (and rounded up to three litres per day for the upper	enHealth (2012);
urface water intake rate	L/day	1	3	estimate).	Professional judgem
eliberate ingestion of sediment (geophagy)					
xposure frequency	days/year	-		Not an applicable pathway	
ears (number of pregnancies)	years			Not an applicable pathway	
aily sediment ingestion rate	mg/day			Not an applicable pathway	
raction of sediment intake from contaminated source	unitless	<u> -</u>	<u> -</u>	Not an applicable pathway	
ncidental ingestion of soil	I/d	25	T 50	Soil ingestion values based upon the HIL C open space scenario.	enHealth (2012)
aily incidental soil ingestion rate xposure frequency	mg/day days/year	240		Recommendation value for commercial workers per NEPM (2013).	NEPM (2013)
ermal contact with soil	uays/year	240	240	neconfine idation value for commercial workers per inter in (2015).	1421 141 (2015)
oil to skin adherence factor	skin	0.02	0.1	Recommended value for commercial/industrial adult groundskeepers.	enHealth (2012)
xposure frequency	days/year	240		Recommendation value for commercial workers per NEPM (2013).	NEPM (2013)
ncidental ingestion of sediment					
xposure frequency	days/year	T		Not an applicable pathway	
Paily sediment ingestion rate	mg/day			Not an applicable pathway	
raction of sediment intake from contaminated source	unitless			Not an applicable pathway	
Dermal Contact with Sediment					
xposure frequency	days/year			Not an applicable pathway	
ourface area of exposed skin	cm2		-	Not an applicable pathway	
ediment to skin adherence factor	mg/cm2	<u> -</u>		Not an applicable pathway	
nhalation of dust - indoors	(ALEXACTOR END.)			Based upon daily operating hours at the Booderee National Park Visitor	
				Centre. Outdoor selected as the primary location and therefore, values	
				selected for indoor exposure time are secondary to equal a total of 8 hours	
xposure time (indoor air)	hours/day	6	2	spent at work per day.	Parks Australia
xposure frequency	days/year	240	240	Recommended value per NEPM (2013).	NEPM (2013)
				Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational)	
Particulate emission factor	- "				
	m3/kg	2.60E+07	2.60E+07	value selected.	NEPM (2013)
ung retention factor	m3/kg unitless	2.60E+07 0.375			NEPM (2013) NEPM (2013)
				value selected. Value adopted per Schedule B7, Table 5.	
nhalation of dust - outdoors	unitless		0.375	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic	NEPM (2013)
nhalation of dust - outdoors xposure time (outdoor air)	unitless hours/day	0.375	0.375	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions.	NEPM (2013) Professional judgeme
nhalation of dust - outdoors xposure time (outdoor air)	unitless		0.375	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013).	NEPM (2013)
nhalation of dust - outdoors xposure time (outdoor air) xposure frequency	hours/day days/year	0.375 2 240	0.375 6 240	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational)	Professional judgeme
nhalation of dust - outdoors xposure time (outdoor air) xposure frequency articulate emission factor	hours/day days/year m3/kg	0.375 2 240 2.60E+07	0.375 6 240 2.60E+07	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected.	Professional judgement (2013) NEPM (2013)
nhalation of dust - outdoors xposure time (outdoor air) xposure frequency articulate emission factor ung retention factor	hours/day days/year	0.375 2 240	0.375 6 240 2.60E+07	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational)	Professional judgeme
nhalation of dust - outdoors xposure time (outdoor air) xposure frequency articulate emission factor ung retention factor decreational fishing	hours/day days/year m3/kg unitless	0.375 2 240 2.60E+07	0.375 6 240 2.60E+07	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected.	Professional judgement (2013) NEPM (2013)
nhalation of dust - outdoors xposure time (outdoor air) xposure frequency articulate emission factor ung retention factor ecreational fishing xposure frequency	hours/day days/year m3/kg	2 240 2.60E+07	0.375 6 240 2.60E+07	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5.	Professional judgement (2013) NEPM (2013)
nhalation of dust - outdoors xposure time (outdoor air) xposure frequency articulate emission factor ung retention factor tecreational fishing xposure frequency citivity Duration	hours/day days/year m3/kg unitless	2 240 2.60E+07	0.375 6 240 2.60E+07	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	Professional judgement (2013) NEPM (2013)
nhalation of dust - outdoors xposure time (outdoor air) xposure frequency articulate emission factor ung retention factor ecreational fishing xposure frequency ctivity Duration ncidental water ingestion rate	hours/day days/year m3/kg unitless days/year hours/day	2 240 2.60E+07	0.375 6 240 2.60E+07	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway Not an applicable pathway	Professional judgement (2013) NEPM (2013)
nhalation of dust - outdoors xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	hours/day days/year m3/kg unitless days/year hours/day L/hour	2 240 2.60E+07	0.375 6 240 2.60E+07	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	Professional judgement (2013) NEPM (2013)
nhalation of dust - outdoors xposure time (outdoor air) xposure frequency articulate emission factor ung retention factor ecreational fishing xposure frequency citivity Duration cidental water ingestion rate xposed skin surface for water contact ecreational boating xposure frequency	hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year	2 240 2.60E+07	0.375 6 240 2.60E+07	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	Professional judgement (2013) NEPM (2013)
nhalation of dust - outdoors xposure time (outdoor air) xposure frequency articulate emission factor ung retention factor ecreational fishing xposure frequency ctivity Duration ncidental water ingestion rate xposed skin surface for water contact ecreational boating xposure frequency ctivity duration	hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day	2 240 2.60E+07	0.375 6 240 2.60E+07	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	Professional judgement (2013) NEPM (2013)
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nhalation of dust - outdoors xposure time (outdoor air) xposure frequency articulate emission factor ung retention factor ecreational fishing xposure frequency ctivity Duration ncidental water ingestion rate xposed skin surface for water contact ecreational boating xposure frequency ctivity duration ncidental water ingestion rate xposed skin surface for water contact ecreational boating xposure frequency ctivity duration cidental water ingestion rate xposed skin surface for water contact wimming in creeks and other surface water bodies (fres xposure frequency ctivity duration	hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 hwater) days/year hours/day	2 240 2.60E+07	0.375 6 240 2.60E+07	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	Professional judgement (2013) NEPM (2013)
nhalation of dust - outdoors xposure time (outdoor air) xposure frequency articulate emission factor ung retention factor ecreational fishing xposure frequency ctivity Duration ncidental water ingestion rate xposed skin surface for water contact ecreational boating xposure frequency ctivity duration ncidental water ingestion rate xposed skin surface for water contact ecreational boating xposure frequency ctivity duration ncidental water ingestion rate xposed skin surface for water contact wimming in creeks and other surface water bodies (fres xposure frequency ctivity duration ncidental water ingestion rate	hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour days/year hours/day L/hour cm2 hwater) days/year hours/day L/hour	2 240 2.60E+07	0.375 6 240 2.60E+07	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	Professional judgement (2013) NEPM (2013)
nhalation of dust - outdoors xposure time (outdoor air) xposure frequency articulate emission factor ung retention factor ecreational fishing xposure frequency ctivity Duration cidental water ingestion rate xposed skin surface for water contact ecreational boating xposure frequency ctivity duration cidental water ingestion rate xposed skin surface for water contact wimming in creeks and other surface water bodies (fres xposure frequency ctivity duration cidental water ingestion rate xposure frequency ctivity duration cidental water ingestion rate xposure frequency	hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 hwater) days/year hours/day L/hour cm2	2 240 2.60E+07	0.375 6 240 2.60E+07	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	Professional judgement (2013) NEPM (2013)
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shalation of dust - outdoors Exposure time (outdoor air) Exposure frequency articulate emission factor ung retention factor ecreational fishing Exposure frequency ctivity Duration Incidental water ingestion rate Exposed skin surface for water contact Exposure frequency Ctivity duration Incidental water ingestion rate Exposed skin surface for water contact Wimming in creeks and other surface water bodies (frest Exposed skin surface for water contact Wimming in creeks and other surface water bodies (man Exposure frequency Ctivity duration Incidental water ingestion rate Incidental water ingestion rate Incidental water ingestion rate	hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 hwater) days/year hours/day L/hour cm2 hwater) days/year hours/day L/hour cm2 hours/day L/hour cm2 hours/day hours/day	2 240 2.60E+07	0.375 6 240 2.60E+07	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	Professional judgement (2013) NEPM (2013)
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shalation of dust - outdoors Exposure time (outdoor air) Exposure frequency articulate emission factor ung retention factor ecreational fishing Exposure frequency ctivity Duration cidental water ingestion rate Exposed skin surface for water contact ecreational boating Exposure frequency ctivity duration cidental water ingestion rate Exposed skin surface for water contact ecreational boating Exposure frequency ctivity duration cidental water ingestion rate Exposed skin surface for water contact Exposed skin surface for water contact Exposer frequency ctivity duration cidental water ingestion rate Exposed skin surface for water contact Exposed skin surfac	hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 tine) days/year hours/day L/hour cm2 tine)	2 240 2.60E+07	0.375 6 240 2.60E+07	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	Professional judgement (2013) NEPM (2013)
shalation of dust - outdoors Exposure time (outdoor air) Exposure frequency articulate emission factor ung retention factor ung retention factor ecreational fishing Exposure frequency ctivity Duration ncidental water ingestion rate Exposed skin surface for water contact ecreational boating Exposure frequency ctivity duration Incidental water ingestion rate Exposed skin surface for water contact Exposed skin surface for water c	hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 hwater) days/year hours/day L/hour cm2 hwater) days/year hours/day L/hour cm2 hwater) days/year hours/day L/hour cm2 hours/day L/hour cm2 hwater) days/year hours/day L/hour cm2 n events	2 240 2.60E+07	0.375 6 240 2.60E+07	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	Professional judgement (2013) NEPM (2013)
ung retention factor nhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Recreational fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Exposed skin surface for water contact Exposed skin surface for water contact Exposure frequency Activity duration Incidental water ingestion rate Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Exposed skin surface	hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 ine)	2 240 2.60E+07	0.375 6 240 2.60E+07	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway Not an applicable pathway	Professional judgement (2013) NEPM (2013)
inhalation of dust - outdoors ixposure time (outdoor air) ixposure frequency carticulate emission factor ung retention factor tecreational fishing ixposure frequency citivity Duration ncidental water ingestion rate ixposed skin surface for water contact tecreational boating ixposure frequency citivity duration ncidental water ingestion rate ixposed skin surface for water contact wimming in creeks and other surface water bodies (fres ixposure frequency citivity duration ncidental water ingestion rate ixposed skin surface for water contact wimming in creeks and other surface water bodies (fres ixposure frequency citivity duration ncidental water ingestion rate ixposed skin surface for water contact wimming in creeks and other surface water bodies (mai ixposure frequency citivity duration ncidental water ingestion rate ixposed skin surface for water contact wimming in creeks and other surface water bodies (mai ixposure frequency ixposure frequ	hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 ine) days/year hours/day L/hour cm2 ine) days/year hours/day L/hour cm2 ine) days/year hours/day L/hour cm2 ine) days/year hours/day L/hour cm2 ine) hours/day L/hour cm2 ine)	2 240 2.60E+07	0.375 6 240 2.60E+07	value selected. Value adopted per Schedule B7, Table 5. Estimated time spent outdoors in natural resource management or botanic garden positions. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	Professional judgement (2013) NEPM (2013)

Parameter	Units	Typical Estimate	Upper Estimate	Notes	Reference
Ingestion of plant produce		A Company of the Company			
				Upper estimate assumes some flora consumed daily by park workers.	
Exposure frequency - fruit	days/year	48	240	Typical estimate assumes flora consumed once per week for 48 weeks.	Professional judgement
					Community survey,
Exposure frequency - vegetables	days/year			Only fruit assumed to be consumed by park workers.	professional judgement
		1			Community survey,
Consumption rate - green vegetables	g/day		-	Only fruit assumed to be consumed by park workers.	professional judgement
		1			Community survey,
Consumption rate - root vegetables	g/day			Only fruit assumed to be consumed by park workers.	professional judgement
					Community survey,
Consumption rate - tuber vegetables	g/day			Only fruit assumed to be consumed by park workers.	professional judgement
				Assumed to be a half serve or full serve of fruit per NHMRC nutritional	NHMRC (2013),
Consumption rate - fruit	g/day	75	150	guidelines for typical and upper estimates, respectively.	professional judgement
Fraction of flora found in affected areas	unitless	1	1	Conservative estimate of exposure.	Professional judgement
Ingestion of freshwater fish					
Daily fish ingestion rate (finfish only)	g/day			Not an applicable pathway	
Exposure frequency for fish ingestion	days/year			Not an applicable pathway	
Fraction of daily fish intake from site	unitless			Not an applicable pathway	
Ingestion of marine fish					
Daily fish ingestion rate (finfish only)	g/day			Not an applicable pathway	
Exposure frequency for fish ingestion	days/year			Not an applicable pathway	
Fraction of daily fish intake from site	unitless			Not an applicable pathway	
Ingestion of freshwater crustaceans and molluscs					
Daily shellfish ingestion rate	g/day			Not an applicable pathway	
Exposure frequency for shellfish ingestion	days/year	-		Not an applicable pathway	
Fraction of daily shellfish intake from site	unitless			Not an applicable pathway	
Ingestion of marine crustaceans and molluscs					
Daily shellfish ingestion rate	g/day			Not an applicable pathway	
Exposure frequency for shellfish ingestion	days/year			Not an applicable pathway	
Fraction of daily shellfish intake from site	unitless			Not an applicable pathway	
Ingestion of terrestrial mammals			re de la companya de		
Daily game meat ingestion rate	g/day			Not an applicable pathway	
Exposure frequency for mammalian meat ingestion	days/year			Not an applicable pathway	
Fraction of daily mammalian meat intake from site	unitless		-	Not an applicable pathway	

Human Health Exposure Parameters - JBRF Personnel					
Parameter	Units	Typical Estimate	Upper Estimate	Notes	Reference
General				The upper estimate is based upon the lifetime average value for males and	
				females combined. The typical estimate is the average weight of male and	
Body weight	kg	78	70	female adults, combined.	enHealth (201)
Exposure duration	year	30		Commercial working life per NEPM Schedule B7.	NEPM (2013)
Averaging time (non-carcinogens)	year	30		Same as exposure duration.	enHealth (201
otal skin surface area	cm ²	24000	20000	Total skin surface area for males and females combined.	enHealth (201
kin surface area - head	cm ²	1350	1250	Surface area by body part, averaged for males and females.	enHealth (201
kin surface area - trunk	cm ²	9750		Surface area by body part, averaged for males and females.	enHealth (201
ikin surface area - arms	cm ²	3350		Surface area by body part, averaged for males and females.	enHealth (201
ikin surface area - arms	cm ²	1200		Surface area by body part, averaged for males and females.	enHealth (201
	cm ²	8050		Surface area by body part, averaged for males and females.	enHealth (201
kin surface area - legs		-			enHealth (201
kin surface area - feet	cm ²	1550		Surface area by body part, averaged for males and females.	enHealth (201
kin surface area - exposed (feet, legs, hands, arms)	cm ²	7900	6300	Recommended value per enHealth (2012; Section 3.2.4).	Jennealth (201
ngestion of surface water		SEMENAS SEE		II	
xposure frequency	days/year	-	-	Not an applicable pathway	
urface water intake rate	L/day	-	-	Not an applicable pathway	
Peliberate ingestion of sediment (geophagy)	1			Not an applicable pathway	
xposure frequency	days/year	-	-	Not an applicable pathway	
ears (number of pregnancies)	years	-		Not an applicable pathway	
Paily sediment ingestion rate	mg/day		-	Not an applicable pathway Not an applicable pathway	
raction of sediment intake from contaminated source	unitless	F	-	Inot an applicable pathway	HOS IN CASE
ncidental ingestion of soil	I/d-	-		Soil ingestion values for outside soil plus indoor dust.	enHealth (201
Daily incidental soil ingestion rate	mg/day	240		Recommendation value for commercial workers per NEPM (2013).	NEPM (2013)
xposure frequency	days/year	240	240	preconstruction reads for confinencial workers per incrim (2023).	1 (2023)
Dermal contact with soil	Ima call/am 3	I	I	Recommended value for commercial/industrial adult constructed workers	
Call to aldo adhassas forter	mg soil/cm2	0.1		(moderate values of soil to skin adherence factors).	enHealth (201
oil to skin adherence factor	-	240		Recommendation value for commercial workers per NEPM (2013).	NEPM (2013)
exposure frequency	days/year	1 240	240	neconstitution value for constitutional workers per HEF III (2013).	1 (2023)
ncidental ingestion of sediment	Identina			Not an applicable pathway	Г
Exposure frequency	days/year	-	_	Not an applicable pathway	
Daily sediment ingestion rate	mg/day unitless	-	-	Not an applicable pathway	
raction of sediment intake from contaminated source	unitiess			Not all applicable patriney	SALE EVER
Dermal Contact with Sediment	Idam (mar	I-		Not an applicable pathway	
xposure frequency	days/year cm2	-	-	Not an applicable pathway	
Surface area of exposed skin Sediment to skin adherence factor	mg/cm2	-		Not an applicable pathway	
Inhalation of dust - indoors	Img/cm2			Inot all applicable patients	
nnalation of dust - illudors	T	1		Assumed half of working day spent indoors, with a reasonable maximum of	Professional
Exposure time (indoor air)	hours/day			total work time spent indoors.	judgement
Connector francisco		240	240	Recommended value per NEPM (2013).	[NEPM (2013)
	days/year	2.60E+07		Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7.	NEPM (2013) NEPM (2013)
Particulate emission factor	m3/kg	2.60E+07	2.60E+07	Refer to Equation 21 in Appendix B of Schedule B7.	
Particulate emission factor Lung retention factor			2.60E+07		NEPM (2013)
Particulate emission factor Lung retention factor	m3/kg	2.60E+07	2.60E+07	Refer to Equation 21 in Appendix B of Schedule B7.	NEPM (2013)
Exposure frequency Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air)	m3/kg	2.60E+07	2.60E+07	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5.	NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air)	m3/kg unitless hours/day	2.60E+07	2.60E+07 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable	NEPM (2013) NEPM (2013) Professional
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air)	m3/kg unitless	2.60E+07 0.375	2.60E+07 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors.	NEPM (2013) NEPM (2013) Professional judgement
Particulate emission factor Lung retention factor nhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency	m3/kg unitless hours/day days/year	2.60E+07 0.375	2.60E+07 0.375 8 240	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013).	NEPM (2013) NEPM (2013) Professional judgement
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor	m3/kg unitless hours/day	2.60E+07 0.375 4 240	2.60E+07 0.375 8 240 3.70E+10	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor	m3/kg unitless hours/day days/year m3/kg	2.60E+07 0.375 4 240 3.70E+10	2.60E+07 0.375 8 240 3.70E+10	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table S. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected.	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor ung retention factor nhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor ung retention factor Recreational fishing	m3/kg unitless hours/day days/year m3/kg unitless	2.60E+07 0.375 4 240 3.70E+10	2.60E+07 0.375 8 240 3.70E+10	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table S. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected.	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor ung retention factor nhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor ung retention factor Recreational fishing Exposure frequency	m3/kg unitless hours/day days/year m3/kg	2.60E+07 0.375 4 240 3.70E+10	2.60E+07 0.375 8 240 3.70E+10	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5.	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Excreational fishing Exposure frequency Activity Duration	m3/kg unitless hours/day days/year m3/kg unitless	2.60E+07 0.375 4 240 3.70E+10	2.60E+07 0.375 8 240 3.70E+10	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Recreational fishing Exposure frequency Activity Duration Incidental water ingestion rate	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day	2.60E+07 0.375 4 240 3.70E+10	2.60E+07 0.375 8 240 3.70E+10	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Recreational fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour	2.60E+07 0.375 4 240 3.70E+10	2.60E+07 0.375 8 240 3.70E+10	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway Not an applicable pathway Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Recreational fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour	2.60E+07 0.375 4 240 3.70E+10	2.60E+07 0.375 8 240 3.70E+10	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway Not an applicable pathway Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Recreational fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2	2.60E+07 0.375 4 240 3.70E+10	2.60E+07 0.375 8 240 3.70E+10	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table S. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor .ung retention factor nhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor .ung retention facto	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table S. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Recreational fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Recreational fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table S. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor ung retention factor nhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor ung retention factor Recreational fishing Exposure frequency Activity Duration notidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration notidental water ingestion rate Exposure frequency Activity duration notidental water ingestion rate Exposure skin surface for water contact Swimming in creeks and other surface water bodies (fin	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table S. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Lung retention factor Recreational fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposure serve frequency Activity duration Incidental water ingestion rate Exposure frequency Activity duration Incidental water ingestion rate Exposure serve frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Swimming in creeks and other surface water bodies (fre Exposure frequency	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Recreational fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Exposure frequency Activity duration Incidental water ingestion rate Exposure frequency Activity duration Incidental water ingestion rate Exposure frequency Activity duration	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour days/year hours/day L/hour days/year	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor ung retention factor inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor ung retention factor Recreational fishing Exposure frequency Activity Duration incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration incidental water ingestion rate Exposed skin surface for water contact Swimming in creeks and other surface water bodies (free Exposure frequency Activity duration incidental water ingestion rate	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour days/year hours/day L/hour cm2 days/year hours/day L/hour cm2	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table S. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Particulate of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Lung retention factor Recreational fishing Exposure frequency Lactivity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Lactivity duration Incidental water ingestion rate Exposed skin surface for water contact Swimming in creeks and other surface water bodies (fri Exposure frequency Lactivity duration Incidental water ingestion rate Exposed skin surface for water contact Exposure frequency Lactivity duration Incidental water ingestion rate Exposed skin surface for water contact	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 eshwater) days/year hours/day L/hour cm2	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor .ung retention factor nhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor .ung retention facto	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 eshwater) days/year hours/day L/hour cm2	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Recreational fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Exposure frequency Activity duration Incidental water ingestion rate Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Swimming in creeks and other surface water bodies (mexposure frequency) Exposure frequency Exposure frequency Exposure frequency Exposure frequency Exposure frequency Exposure frequency	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 cm2 cm2 cm2 asine)	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor ung retention factor inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor ung retention factor Recreational fishing Exposure frequency Activity Duration incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration incidental water ingestion rate Exposed skin surface for water contact Exposer frequency Activity duration incidental water ingestion rate Exposed skin surface for water contact Exposer frequency Activity duration Exposure frequency Activity duration	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 ashwater) days/year hours/day L/hour cm2 ashwater) days/year hours/day L/hour days/year hours/day L/hour days/year hours/day L/hour days/year	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor ung retention factor inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor ung retention factor ung retention factor Recreational fishing Exposure frequency Activity Duration incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration incidental water ingestion rate Exposed skin surface for water contact Exposure frequency Activity duration incidental water ingestion rate Exposed skin surface for water contact Exposure frequency Activity duration incidental water ingestion rate Exposed skin surface for water contact Exposed skin surface for water conta	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 eshwater) days/year hours/day L/hour days/year hours/day L/hour days/year hours/day L/hour cm2 arine) days/year hours/day	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table S. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section S.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table S. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor .ung retention factor nhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor .ung retention facto	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 arine) days/year hours/day L/hour cm2	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor ung retention factor inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor ung retention factor ung retention factor Recreational fishing Exposure frequency Activity Duration incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration incidental water ingestion rate Exposed skin surface for water contact Exposed skin surface for water contact Exposure frequency Activity duration incidental water ingestion rate Exposed skin surface for water contact Exposure frequency Activity duration incidental water ingestion rate Exposed skin surface for water contact	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 arine) days/year hours/day L/hour cm2	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Lung retention factor Recreational fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Exposed skin surface for water contact Exposure frequency Activity duration Incidental water ingestion rate Exposure frequency Activity duration Incidental water ingestion rate Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Exposed skin surface for water co	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 ashwater) days/year hours/day L/hour cm2 arine) days/year hours/day L/hour cm2 arine) days/year hours/day L/hour cm2 arine)	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor .ung retention factor nhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor .ung retention rate .ung	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 eshwater) days/year hours/day L/hour cm2 aine) days/year hours/day L/hour cm2 aine) days/year hours/day L/hour cm2 aine days/year	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor .ung retention factor nhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor .ung retention facto	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 eshwater) days/year hours/day L/hour cm2 arine) days/year	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor ung retention factor inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor ung retention factor Recreational fishing Exposure frequency Activity Duration incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration incidental water ingestion rate Exposed skin surface for water contact Swimming in creeks and other surface water bodies (free Exposed skin surface for water contact Swimming in creeks and other surface water bodies (free Exposed skin surface for water contact Swimming in creeks and other surface water bodies (mexposure frequency Activity duration incidental water ingestion rate Exposed skin surface for water contact Splashing in pooled/flooded groundwater after heavy re Exposure frequency Activity duration incidental water ingestion rate Exposed skin surface for water contact Splashing in pooled/flooded groundwater after heavy re Exposed skin surface for water contact Splashing in pooled/flooded groundwater after heavy re Exposed skin surface for water contact	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 arine) days/year hours/day L/hour cm2 arine) days/year hours/day L/hour cm2 arine) days/year hours/day L/hour cm2 ain events days/year hours/day L/hour cm2 ain events	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Recreational fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Splashing in pooled/flooded groundwater after heavy of the pooled of the p	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 arine) days/year hours/day L/hour cm2 arine) days/year hours/day L/hour cm2 arine) days/year hours/day L/hour cm2 ain events days/year hours/day L/hour cm2 ain events	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Recreational fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Swimming in creeks and other surface water bodies (free Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Ingestion of plant produce Exposure frequency - fruit	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 eshwater) days/year hours/day L/hour cm2 aine) days/year hours/day L/hour cm2 aine) days/year hours/day L/hour cm2 aine hours/day L/hour cm2 ain events days/year hours/day L/hour cm2 ain events	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table S. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section S.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table S. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Lung retention factor Lung retention factor Recreational fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposure frequency Activity duration Incidental water ingestion rate Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Swimming in creeks and other surface water bodies (fre Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Swimming in creeks and other surface water bodies (fre Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Swimming in creeks and other surface water bodies (fre Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Splashing in pooled/flooded groundwater after heavy re Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Incidental water ingestion rate Exposed skin surface for water contact Incidental water ingestion rate Exposed skin surface for water contact Incidental water ingestion rate Exposer frequency - regetables	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 arine) days/year hours/day L/hour cm2 arine) days/year hours/day L/hour cm2 arine) days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Lung retention factor Lung retention factor Recreational fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Swimming in creeks and other surface water bodies (frexposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Swimming in creeks and other surface water bodies (frexposure frequency Activity duration Incidental water ingestion rate Exposure frequency Activity duration Incidental water ingestion rate Exposure frequency Activity duration Incidental water ingestion rate Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Splashing in pooled/flooded groundwater after heavy re Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Splashing in pooled/flooded groundwater after heavy re Exposure frequency - vegetables Consumption rate - green vegetables Consumption rate - green vegetables	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 arine) days/year hours/day L/hour cm2 arine) days/year hours/day L/hour cm2 ain events days/year hours/day L/hour cm2 ain events days/year days/year days/year days/year days/year days/year	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Recreational fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Swimming in creeks and other surface water bodies (free Exposure frequency Activity duration Incidental water ingestion rate Exposure frequency Exposure frequency Activity duration Incidental water ingestion rate Exposure frequency - fruit Exposure frequency - fruit Exposure frequency - regetables Consumption rate - green vegetables Consumption rate - green vegetables Consumption rate - green vegetables	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 ainey days/year hours/day L/hour cm2 ainey days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year days/year days/year hours/day L/hour cm2 days/year g/day g/day	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Inhalation of dust - outdoors Exposure time (outdoor air) Exposure frequency Particulate emission factor Lung retention factor Recreational fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Swimming in creeks and other surface water bodies (frexposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Swimming in creeks and other surface water bodies (frexposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Swimming in creeks and other surface water bodies (mexposure frequency Activity duration Incidental water ingestion rate Exposure frequency Activity duration Incidental water ingestion rate Exposure frequency Activity duration Incidental water ingestion rate Exposure frequency Activity duration Incidental water ingestion rate Exposure frequency - vegetables Consumption rate - green vegetables Consumption rate - green vegetables	m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 ainey days/year hours/day L/hour cm2 aineyents days/year hours/day L/hour cm2 days/year hours/day L/hour cm2	2.60E+07 0.375 4 240 3.70E+10 0.375	2.60E+07 0.375 8 240 3.70E+10 0.375	Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table S. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Recommended value per NEPM (2013). Refer to Appendix B and Section S.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table S. Not an applicable pathway Not an applicable pathway	NEPM (2013) NEPM (2013) Professional judgement NEPM (2013) NEPM (2013)

Parameter	Units	Typical Estimate	Upper Estimate	Notes	Reference
Ingestion of freshwater fish		Typicor Estimate	opper Estimate		
Daily fish ingestion rate (finfish only)	g/day	-	-	Not an applicable pathway	
Exposure frequency for fish ingestion	days/year	-	-	Not an applicable pathway	
Fraction of daily fish intake from site	unitless	-	-	Not an applicable pathway	
Ingestion of marine fish			2 10 10 10 10 10 10 10 10 10 10 10 10 10		
Daily fish ingestion rate (finfish only)	g/day	-	-	Not an applicable pathway	
Exposure frequency for fish ingestion	days/year	-	-	Not an applicable pathway	
Fraction of daily fish intake from site	unitless	-	-	Not an applicable pathway	
Ingestion of freshwater crustaceans and molluscs					
Daily shellfish ingestion rate	g/day	-	-	Not an applicable pathway	
Exposure frequency for shellfish ingestion	days/year		-	Not an applicable pathway	
Fraction of daily shellfish intake from site	unitless	-	-	Not an applicable pathway	
Ingestion of marine crustaceans and molluscs					
Daily shellfish ingestion rate	g/day	-	-	Not an applicable pathway	
Exposure frequency for shellfish ingestion	days/year	-	-	Not an applicable pathway	
Fraction of daily shellfish intake from site	unitless	-		Not an applicable pathway	
Ingestion of terrestrial mammals					
Daily game meat ingestion rate	g/day	-	-	Not an applicable pathway	
Exposure frequency for mammalian meat ingestion	days/year	-	-	Not an applicable pathway	
Fraction of daily mammalian meat intake from site	unitless	-		Not an applicable pathway	

Human Health Exposure Parameters - HMAS Creswell N			Name of the	Nata	Reference
arameter	Units	Typical Estimate	Upper Estimate	Notes	Reference
Seneral Senera		T CONTRACTOR OF THE PARTY OF TH	1	The upper estimate is based upon the lifetime average value for males and	1
	1			females combined. The typical estimate is the average weight of male and	
-d	1	7.0	70	female adults, combined.	enHealth (2012)
ody weight	kg	78			NEPM (2013)
xposure duration	year	30		Commercial working life per NEPM Schedule B7.	
veraging time (non-carcinogens)	year	30		Same as exposure duration.	enHealth (2012)
otal skin surface area	cm ⁴	24000	20000	Total skin surface area for males and females combined.	enHealth (2012)
rin surface area - head	cm ²	1350	1250	Surface area by body part, averaged for males and females.	enHealth (2012)
rin surface area - trunk	cm ²	9750	7400	Surface area by body part, averaged for males and females.	enHealth (2012)
cin surface area - arms	cm ²	3350	2750	Surface area by body part, averaged for males and females.	enHealth (2012)
xin surface area - hands	cm ²	1200		Surface area by body part, averaged for males and females.	enHealth (2012)
	1			Surface area by body part, averaged for males and females.	enHealth (2012)
kin surface area - legs	cm²	8050			
kin surface area - feet	cm²	1550	1300	Surface area by body part, averaged for males and females.	enHealth (2012)
cin surface area - exposed (feet, legs, hands, arms)	cm ²	7900	6300	Recommended value per enHealth (2012; Section 3.2.4).	enHealth (2012)
gestion of surface water					
posure frequency	days/year	-		Not an applicable pathway	
rface water intake rate	L/day			Not an applicable pathway	
diberate ingestion of sediment (geophagy)		The same of the sa			
posure frequency	days/year	-		Not an applicable pathway	
ars (number of pregnancies)	years	-	-	Not an applicable pathway	
ily sediment ingestion rate	mg/day	-		Not an applicable pathway	
action of sediment intake from contaminated source	unitless	-		Not an applicable pathway	
	Tameress				
idental ingestion of soil	Ima/d	T 50	T 60	Soil ingestion values for outside soil plus indoor dust.	enHealth (2012)
ily incidental soil ingestion rate	mg/day	50			NEPM (2013)
posure frequency	days/year	240	1 240	Recommendation value for commercial workers per NEPM (2013).	[NEFW (2015)
rmal contact with soil	1			In	Leettecht (2010)
l to skin adherence factor	skin	0.08		Recommended value for commercial/industrial adult irrigation installers.	enHealth (2012)
posure frequency	days/year	240	240	Recommendation value for commercial workers per NEPM (2013).	NEPM (2013)
idental ingestion of sediment					
posure frequency	days/year			Not an applicable pathway	
ily sediment ingestion rate	mg/day			Not an applicable pathway	
ection of sediment intake from contaminated source	unitless			Not an applicable pathway	
idental ingestion of water spray/mist during mainten	nance activities				
posure frequency	days/year	240	240	Recommendation value for commercial workers per NEPM (2013).	NEPM (2013)
tivity duration	hours/day	2		Professional judgement	Professional judgen
				Recommended incidental water ingestion value for swimming halved as	enHealth (2012);
Id4-I4 I4I4-	1./5	0.0125	0.0635	activities not expected to be fully immersive.	Professional judgen
idental water ingestion rate	L/hour	0.0125	0.0623		riolessional judgen
				Workers assumed to be wearing long pants and closed toed shoes. Exposed	1
N 50 B 15	1 700			skin assumed to be forearms and hands. Values averaged for males and	1
sposed skin surface for water contact	cm2	2500	3200	females.	
ermal Contact with Sediment					
posure frequency	days/year			Not an applicable pathway	
rface area of exposed skin	cm2			Not an applicable pathway	
diment to skin adherence factor	mg/cm2			Not an applicable pathway	
halation of dust - indoors					
				Outdoor selected as the primary working location and therefore, values	
	1		1	selected for indoor exposure time are secondary to equal a total of 8 hours	
posure time (indoor air)	hours/day	4	0	spent at work per day.	Professional judger
		240		spent at work per day. Recommended value per NEPM (2013).	Professional judger NEPM (2013)
posure frequency	days/year		240	Recommended value per NEPM (2013).	NEPM (2013)
posure frequency rticulate emission factor	days/year m3/kg	2.60E+07	240 2.60E+07	Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7.	NEPM (2013) NEPM (2013)
posure frequency rticulate emission factor ng retention factor	days/year		240 2.60E+07	Recommended value per NEPM (2013).	NEPM (2013)
posure frequency rticulate emission factor ng retention factor	days/year m3/kg	2.60E+07	240 2.60E+07	Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5.	NEPM (2013) NEPM (2013)
posure frequency rticulate emission factor ng retention factor nalation of dust - outdoors	days/year m3/kg unitless	2.60E+07	240 2.60E+07 0.375	Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum	NEPM (2013) NEPM (2013) NEPM (2013)
posure frequency rticulate emission factor ng retention factor nalation of dust - outdoors posure time (outdoor air)	days/year m3/kg unitless hours/day	2.60E+07 0.375	240 2.60E+07 0.375	Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5.	NEPM (2013)
oosure frequency rticulate emission factor ng retention factor valation of dust - outdoors voosure time (outdoor air)	days/year m3/kg unitless	2.60E+07	240 2.60E+07 0.375	Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors.	NEPM (2013) NEPM (2013) NEPM (2013)
posure frequency rticulate emission factor ng retention factor nalation of dust - outdoors posure time (outdoor air) posure frequency	days/year m3/kg unitless hours/day days/year	2.60E+07 0.375 4 240	240 2.60E+07 0.375 8 240	Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgen
posure frequency rticulate emission factor ng retention factor nalation of dust - outdoors posure time (outdoor air) posure frequency rticulate emission factor	days/year m3/kg unitless hours/day days/year m3/kg	2.60E+07 0.375 4 240 3.70E+10	240 2.60E+07 0.375 8 8 240 3.70E+10	Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected.	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgen NEPM (2013)
posure frequency rticulate emission factor ng retention factor ralation of dust - outdoors posure time (outdoor air) posure frequency rticulate emission factor	days/year m3/kg unitless hours/day days/year	2.60E+07 0.375 4 240	240 2.60E+07 0.375 8 8 240 3.70E+10	Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgen
posure frequency rticulate emission factor ng retention factor nalation of dust - outdoors posure time (outdoor air) posure frequency rticulate emission factor ng retention factor	days/year m3/kg unitless hours/day days/year m3/kg	2.60E+07 0.375 4 240 3.70E+10	240 2.60E+07 0.375 8 8 240 3.70E+10	Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5.	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgen NEPM (2013)
oosure frequency rticulate emission factor ng retention factor relation of dust - outdoors relation of dust - outd	days/year m3/kg unitless hours/day days/year m3/kg	2.60E+07 0.375 4 240 3.70E+10	240 2.60E+07 0.375 8 8 240 3.70E+10	Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected.	NEPM (2013) NEPM (2013) NEPM (2013) Professional judger
oosure frequency rticulate emission factor gretention factor gratation of dust - outdoors possure time (outdoor air) possure frequency rticulate emission factor gretention factor reactional fishing possure frequency	days/year m3/kg unitless hours/day days/year m3/kg unitless	2.60E+07 0.375 4 240 3.70E+10	240 2.60E+07 0.375 8 8 240 3.70E+10	Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5.	NEPM (2013) NEPM (2013) NEPM (2013) Professional judger
posure frequency rticulate emission factor nalation of dust - outdoors posure time (outdoor air) posure frequency rticulate emission factor ng retention factor creational fishing posure frequency tivity Duration	days/year m3/kg unitless hours/day days/year m3/kg unitless days/year	2.60E+07 0.375 4 240 3.70E+10 0.375	240 2.60E+07 0.375 8 240 3.70E+10 0.375	Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5.	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgen NEPM (2013)
posure frequency rticulate emission factor ng retention factor nalation of dust - outdoors posure time (outdoor air) posure frequency rticulate emission factor ng retention factor creational fishing posure frequency pitity Duration cidental water ingestion rate	days/year m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour	2.60E+07 0.375 4 240 3.70E+10 0.375	240 2.60E+07 0.375 8 240 3.70E+10 0.375	Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway Not an applicable pathway	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgen NEPM (2013)
posure frequency rticulate emission factor ng retention factor relation of dust - outdoors posure time (outdoor air) posure frequency rticulate emission factor ng retention factor reactional fishing posure frequency titity Duration idental water ingestion rate posed skin surface for water contact	days/year m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day	2.60E+07 0.375 4 240 3.70E+10 0.375	240 2.60E+07 0.375 8 240 3.70E+10 0.375	Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway Not an applicable pathway Not an applicable pathway	NEPM (2013) NEPM (2013) NEPM (2013) Professional judger
posure frequency rticulate emission factor malation of dust - outdoors posure time (outdoor air) posure time (outdoor air) posure frequency rticulate emission factor mg retention factor reactional fishing posure frequency tivity Duration idental water ingestion rate posed skin surface for water contact creational footing	days/year m3/kg unitless hours/day days/year m3/kg unitless days/year hours/day L/hour cm2	2.60E+07 0.375 4 240 3.70E+10 0.375	240 2.60E+07 0.375 8 240 3.70E+10 0.375	Recommended value per NEPM (2013). Refer to Equation 21 in Appendix B of Schedule B7. Value adopted per Schedule B7, Table 5. Assumed half of working day is spent outdoors, with a reasonable maximum of total work time spent outdoors. Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL D (commercial/industrial) value selected. Value adopted per Schedule B7, Table 5. Not an applicable pathway	NEPM (2013) NEPM (2013) NEPM (2013) Professional judger
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Parameter	Units	Typical Estimate	Upper Estimate	Notes	Reference
Ingestion of plant produce					
Exposure frequency - fruit	days/year	-		Not an applicable pathway	
Exposure frequency - vegetables	days/year			Not an applicable pathway	
Consumption rate - green vegetables	g/day	-		Not an applicable pathway	
Consumption rate - root vegetables	g/day			Not an applicable pathway	
Consumption rate - tuber vegetables	g/day	-		Not an applicable pathway	
Consumption rate - fruit	g/day	-		Not an applicable pathway	
Fraction of flora found in affected areas	unitless		-	Not an applicable pathway	
Ingestion of freshwater fish					
Daily fish ingestion rate (finfish only)	g/day	-		Not an applicable pathway	
Exposure frequency for fish ingestion	days/year			Not an applicable pathway	
Fraction of daily fish intake from site	unitless	-		Not an applicable pathway	
Ingestion of marine fish		CHICAGO WINES			
Daily fish ingestion rate (finfish only)	g/day		-	Not an applicable pathway	
Exposure frequency for fish ingestion	days/year	-		Not an applicable pathway	
Fraction of daily fish intake from site	unitless	-	-	Not an applicable pathway	
ngestion of freshwater crustaceans and molluscs					
Daily shellfish ingestion rate	g/day		-	Not an applicable pathway	
Exposure frequency for shellfish ingestion	days/year			Not an applicable pathway	
Fraction of daily shellfish intake from site	unitless			Not an applicable pathway	
Ingestion of marine crustaceans and molluscs			No. of the last		
Daily shellfish ingestion rate	g/day			Not an applicable pathway	
Exposure frequency for shellfish ingestion	days/year	-	-	Not an applicable pathway	
Fraction of daily shellfish intake from site	unitless	-		Not an applicable pathway	
Ingestion of terrestrial mammals					
Daily game meat ingestion rate	g/day		-	Not an applicable pathway	
Exposure frequency for mammalian meat ingestion	days/year		-	Not an applicable pathway	
Fraction of daily mammalian meat intake from site	unitless			Not an applicable pathway	

Human Health Exposure Parameters - Adult Recreational					Reference
Parameter	Units	Typical Estimate	Upper Estimate	Notes	Reference
General				The upper estimate is based upon the lifetime average value for males and	
			1	females combined. The typical estimate is the average weight of male and	
Rody weight	ka	78	70	female adults, combined.	enHealth (2012)
Body weight	kg	70	/0	The recreational exposure duration defined by NEPM (2013) is 29 years (35	cinicanii (2022)
				years minus 6 years of childhood). This has been used as the upper	
				estimate, while 10 years has been adopted as the typical estimate (minus 6	NEPM (2013); enHea
Exposure duration	year	4	29	years of childhood).	(2012)
Averaging time (non-carcinogens)	year	4		Same as exposure duration.	NEPM (2013)
Total skin surface area	cm ²	24000		Total skin surface area for males and females combined.	enHealth (2012)
Skin surface area - head	cm ²	1350		Surface area by body part, averaged for males and females.	enHealth (2012)
Skin surface area - trunk	cm ²	9750		Surface area by body part, averaged for males and females.	enHealth (2012)
	cm ²	3350		Surface area by body part, averaged for males and females.	enHealth (2012)
Skin surface area - arms	cm ²				
Skin surface area - hands		1200		Surface area by body part, averaged for males and females.	enHealth (2012)
Skin surface area - legs	cm ²	8050		Surface area by body part, averaged for males and females.	enHealth (2012)
Skin surface area - feet	cm²	1550		Surface area by body part, averaged for males and females.	enHealth (2012)
Skin surface area - exposed (feet, legs, hands, arms)	cm ²	7900	6300	Recommended value per enHealth (2012; Section 3.2.4).	enHealth (2012)
ngestion of surface water			Later		
Exposure frequency	days/year			Not an applicable pathway	
Surface water intake rate	L/day			Not an applicable pathway	
Deliberate ingestion of sediment (geophagy)					
Exposure frequency	days/year	-		Not an applicable pathway	
Years (number of pregnancies)	years			Not an applicable pathway	
Daily sediment ingestion rate	mg/day			Not an applicable pathway	
Fraction of sediment intake from contaminated source	unitless			Not an applicable pathway	
Incidental ingestion of soil					
Daily incidental soil ingestion rate	mg/day	50		Estimated value for outdoor soil.	enHealth (2012)
Exposure frequency	days/year	365	365	Recommendation value per NEPM (2013).	NEPM (2013)
Dermal contact with soil					
	mg soil/cm2			Recommended value for outdoor and indoor residential child and adult	
Soil to skin adherence factor	skin	0.5	1.7	exposures.	enHealth (2012)
Exposure frequency	days/year	365	365	Recommendation value per NEPM (2013).	NEPM (2013)
Incidental ingestion of sediment					
	1			Typical value assumes recreational user participates in at least one aquatic	
Exposure frequency	days/year	52	365	activity per week, with an upper estimate of one aquatic activity per day.	Professional judgeme
Exposure frequency	00/3/100			As no values for sediment ingestion are available, values are considered to	enHealth (2012);
				be equal to values derived for incidental ingestion of soil.	professional judgeme
Daily sediment ingestion rate	mg/day	50		Conservative estimate of exposure.	Professional judgeme
Fraction of sediment intake from contaminated source	unitless	1	1	Conservative estimate of exposure.	Professional Judgettie
Dermal Contact with Sediment				Typical value assumes recreational user participates in at least one aquatic	
E-manus francisco	days/was	52	365	activity per week, with an upper estimate of one aquatic activity per day.	Professional judgeme
Exposure frequency	days/year	32	303	Mean and 95th percentile estimates for surface area of lower legs and feet	enHealth (2012);
Surface area of exposed skin	cm2	4600	3900	averaged for men and women.	professional judgeme
Surface area of exposed skill	Cinz	4000	3000	In agreement with Massachusetts Department of Environmental Protection,	7
				1 mg/cm2 has ben adopted as the default value for sediment. This assumes	
				that only the monolayer against the skin has implications in dermal	
Sediment to skin adherence factor	mg/cm2	,	1	absorption.	DEP (2002)
Inhalation of dust - indoors	Img/cm2	1		absorption.	DEF (2002)
	Thouse /day			Not an applicable pathway	
Exposure time (indoor air)	hours/day	-	-	Not an applicable pathway	
Exposure frequency	days/year				
Particulate emission factor	m3/kg		-	Not an applicable pathway	
Lung retention factor	unitless			Not an applicable pathway	
Inhalation of dust - outdoors					
	1	1		As per recreational scenario in NEPM (2013). Upper estimate is based on	NEPM (2013);
Exposure time (outdoor air)	hours/day	2		professional judgement.	professional judgeme
Exposure frequency	days/year	365	365	As per recreational scenario in NEPM (2013).	NEPM (2013)
				Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational)	
Particulate emission factor	m3/kg	2.60E+07		value selected.	NEPM (2013)
Lung retention factor	unitless	0.375	0.375	Value adopted per Schedule B7, Table 5.	NEPM (2013)
Recreational ocean fishing		(CONTROL OF)		(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	
				Typical value assumes recreational user fishes the marine environment once	
		1		per week. Upper estimate assumes recreational user fishes the marine	
Exposure frequency	days/year	52	365	environment daily.	Professional judgeme
Activity Duration	hours/day	1	2	Professional judgement.	Professional judgeme
	l. a.	0.0125	0.0625	Half the values for incidental ingestion while swimming.	Professional judgeme
Incidental water ingestion rate	L/hour			Recommended value for exposed lower legs, feet, hands and forearms.	enHealth (2012)
	L/hour cm2	7900	0300		
Exposed skin surface for water contact	cm2	7900	0300		
Exposed skin surface for water contact		7900	0300	Typical value assumes recreational user collects crustaceans from the	
Exposed skin surface for water contact		7900	6300	Typical value assumes recreational user collects crustaceans from the freshwater environment once per month. Upper estimate assumes	
Exposed skin surface for water contact		7900	6300	freshwater environment once per month. Upper estimate assumes	
Exposed skin surface for water contact Recreational freshwater fishing/gathering of yabbies	cm2			freshwater environment once per month. Upper estimate assumes recreational user collects crustaceans from the freshwater environment	Professional judgem
Exposed skin surface for water contact Recreational freshwater fishing/gathering of yabbies Exposure frequency	cm2	7900	52	freshwater environment once per month. Upper estimate assumes recreational user collects crustaceans from the freshwater environment once per week.	
Exposure frequency Activity Duration	days/year hours/day	12	52	freshwater environment once per month. Upper estimate assumes recreational user collects crustaceans from the freshwater environment once per week. Professional judgement	Professional judgeme
Exposed skin surface for water contact Recreational freshwater fishing/gathering of yabbies Exposure frequency	cm2		52 1 0.0625	freshwater environment once per month. Upper estimate assumes recreational user collects crustaceans from the freshwater environment once per week.	

Human Health Exposure Parameters - Adult Recreation Parameter	Units	Typical Estimate			Reference
Recreational boating		100000			
				Typical value assumes recreational boating occurs once per month. Upper	
Exposure frequency	days/year	12		estimate assumes recreational boating occurs once per week.	Professional judgement
Activity duration	hours/day	1		Professional judgement	Professional judgement
Incidental water ingestion rate	L/hour	0.0125		Half the values for incidental ingestion while swimming.	Professional judgement
Exposed skin surface for water contact	cm2	7900	6300	Recommended value for exposed lower legs, feet, hands and forearms.	enHealth (2012)
Swimming in creeks and other freshwater surface water	r bodies				
				Typical value assumes recreational user swims in freshwater once per	
				month. Upper estimate assumes recreational user swims in freshwater once	
Exposure frequency	days/year	12	52	per week.	Professional judgement
Activity duration	hours/day	1	2	Professional judgement	Professional judgement
Incidental water ingestion rate	L/hour	0.025	0.125	Recommended values per enHealth (2012).	enHealth (2012)
Exposed skin surface for water contact	cm2	24000	20000	Entire body	enHealth (2012)
Swimming in the ocean					
	T	T		Typical value assumes recreational user swims once per week. Upper	
Exposure frequency	days/year	52	365	estimate assumes recreational user swims every day.	Professional judgemen
Activity duration	hours/day	0.5		Professional judgement	Professional judgemen
Incidental water ingestion rate	L/hour	0.025		Recommended values per enHealth (2012).	enHealth (2012)
Exposed skin surface for water contact	cm2	24000		Entire body	enHealth (2012)
Splashing in pooled/flooded groundwater after heavy r		24000	20000	Finance body	Tennesicii (2022)
				Not an applicable pathurau	
Exposure frequency	days/year	-		Not an applicable pathway	
Activity duration	hours/day	-	-	Not an applicable pathway	
Incidental water ingestion rate	L/hour	-	-	Not an applicable pathway	
Exposed skin surface for water contact	cm2	-		Not an applicable pathway	
Ingestion of plant produce					
				Upper estimate assumes some flora consumed four times per week by	
				recreational users. Typical estimate assumes flora consumed once per	
Exposure frequency - fruit	days/year	52	208	week.	Professional judgement
Exposure frequency - vegetables	days/year			Only fruit assumed to be consumed by recreational users.	Professional judgement
Consumption rate - green vegetables	g/day			Only fruit assumed to be consumed by recreational users.	Professional judgement
		-			
Consumption rate - root vegetables	g/day			Only fruit assumed to be consumed by recreational users.	Professional judgement
Consumption rate - tuber vegetables	g/day			Only fruit assumed to be consumed by recreational users.	Professional judgement
				Assumed to be a half serve or full serve of fruit per NHMRC nutritional	NHMRC (2013),
Consumption rate - fruit	g/day	75	150	guidelines for typical and upper estimates, respectively.	professional judgement
Fraction of flora found in affected areas	unitless	1	1	Conservative estimate of exposure.	Professional judgement
Ingestion of freshwater fish	West State of the		- 17 Ch - 200		Treats believed to the
Daily fish ingestion rate (finfish only)	g/day			Not an applicable pathway	
Exposure frequency for fish ingestion	days/year			Not an applicable pathway	
Fraction of daily fish intake from site	unitless			Not an applicable pathway	
Ingestion of marine fish	OVER STREET		S PERSONS		
	_			Typical value is the mean daily food intake finfish for adults. The upper	
				estimate is the median daily food intake finfish for adults. It is	
Daily fich ingestion sate (finfish anky)	g/day	7.6	110	conservatively assumed that all finfish consumed are marine.	ABS (2014)
Daily fish ingestion rate (finfish only)	g/day	7.0	110		AB3 (2014)
			200	Typical value assumes one meal of fish per week. Upper estimate assumes	Denfordant hudeamant
Exposure frequency for fish ingestion	days/year	52		one meal of fish per day.	Professional judgement
Fraction of daily fish intake from site	unitless	0.5	1	Conservative estimate of exposure.	Professional judgement
Ingestion of freshwater crustaceans and molluscs					
				Typical and upper values derived from the mean and median daily food	
l.	1			intake for crustacean and molluscs for adults. It is assumed that 1/4 of the	
				shellfish consumed are freshwater organisms, while 3/4 are marine based	
	1			upon assumptions regarding shellfish collection (i.e., once per month for	ABS (2014);
Detharkatifish tanantina anta	g/day	0.4	17	freshwater, and once per week for marine).	professional judgement
Daily sneiltish ingestion rate				Typical value assumes one meal of shellfish per week. Upper estimate	
Daily sneimsn ingestion rate					
	days/vear	52	365		Professional judgement
Exposure frequency for shellfish ingestion	days/year	52		assumes one meal of shellfish per day.	
Exposure frequency for shellfish ingestion Fraction of daily shellfish intake from site	days/year unitless	52			
Exposure frequency for shellfish ingestion Fraction of daily shellfish intake from site		52		assumes one meal of shellfish per day. Conservative estimate of exposure.	
Exposure frequency for shellfish ingestion Fraction of daily shellfish intake from site		52		assumes one meal of shellfish per day. Conservative estimate of exposure. Typical and upper values derived from the mean and median daily food	
Exposure frequency for shellfish ingestion Fraction of daily shellfish intake from site		52		assumes one meal of shellfish per day. Conservative estimate of exposure. Typical and upper values derived from the mean and median daily food intake for crustacean and molluscs for adults. It is assumed that 1/4 of the	
Exposure frequency for shellfish ingestion Fraction of daily shellfish intake from site		52		assumes one meal of shellfish per day. Conservative estimate of exposure. Typical and upper values derived from the mean and median daily food intake for crustacean and molluscs for adults. It is assumed that 1/4 of the shellfish consumed are freshwater organisms, while 3/4 are marine based	Professional judgement
Daily shellfish ingestion rate Exposure frequency for shellfish ingestion Fraction of daily shellfish intake from site Ingestion of marine crustaceans and molluscs	unitless	1	1	assumes one meal of shellfish per day. Conservative estimate of exposure. Typical and upper values derived from the mean and median daily food intake for crustacean and molluscs for adults. It is assumed that 1/4 of the shellfish consumed are freshwater organisms, while 3/4 are marine based upon assumptions regarding shellfish collection (i.e., once per month for	Professional Judgement ABS (2014);
Exposure frequency for shellfish ingestion Fraction of daily shellfish intake from site Ingestion of marine crustaceans and molluscs		1.2	1	assumes one meal of shellfish per day. Conservative estimate of exposure. Typical and upper values derived from the mean and median daily food intake for crustacean and molluscs for adults. It is assumed that 1/4 of the shellfish consumed are freshwater organisms, while 3/4 are marine based upon assumptions regarding shellfish collection (i.e., once per month for freshwater, and once per week for marine).	Professional Judgement ABS (2014);
Exposure frequency for shellfish ingestion Fraction of daily shellfish intake from site Ingestion of marine crustaceans and molluscs Daily shellfish ingestion rate	unitless g/day	1.2	50.9	assumes one meal of shellfish per day. Conservative estimate of exposure. Typical and upper values derived from the mean and median daily food intake for crustacean and molluscs for adults. It is assumed that 1/4 of the shellfish consumed are freshwater organisms, while 3/4 are marine based upon assumptions regarding shellfish collection (i.e., once per month for freshwater, and once per week for marine). Typical value assumes one meal of shellfish per week. Upper estimate	Professional judgement ABS (2014); professional judgement
Exposure frequency for shellfish ingestion Fraction of daily shellfish intake from site Ingestion of marine crustaceans and molluscs Daily shellfish ingestion rate	unitless	1	50.9	assumes one meal of shellfish per day. Conservative estimate of exposure. Typical and upper values derived from the mean and median daily food intake for crustacean and molluscs for adults. It is assumed that 1/4 of the shellfish consumed are freshwater organisms, while 3/4 are marine based upon assumptions regarding shellfish collection (i.e., once per month for freshwater, and once per week for marine).	Professional judgement ABS (2014); professional judgement
Exposure frequency for shellfish ingestion Fraction of daily shellfish intake from site Ingestion of marine crustaceans and molluscs Daily shellfish ingestion rate	unitless g/day	1.2	50.9	assumes one meal of shellfish per day. Conservative estimate of exposure. Typical and upper values derived from the mean and median daily food intake for crustacean and molluscs for adults. It is assumed that 1/4 of the shellfish consumed are freshwater organisms, while 3/4 are marine based upon assumptions regarding shellfish collection (i.e., once per month for freshwater, and once per week for marine). Typical value assumes one meal of shellfish per week. Upper estimate	Professional judgement ABS (2014); professional judgement
Exposure frequency for shellfish ingestion Fraction of daily shellfish intake from site Ingestion of marine crustaceans and molluscs Daily shellfish ingestion rate Exposure frequency for shellfish ingestion	g/day days/year	1.2	50.9	assumes one meal of shellfish per day. Conservative estimate of exposure. Typical and upper values derived from the mean and median daily food intake for crustacean and molluscs for adults. It is assumed that 1/4 of the shellfish consumed are freshwater organisms, while 3/4 are marine based upon assumptions regarding shellfish collection (i.e., once per month for freshwater, and once per week for marine). Typical value assumes one meal of shellfish per week. Upper estimate assumes one meal of shellfish per day.	Professional judgement Professional judgement ABS (2014); professional judgement Professional judgement
Exposure frequency for shellfish ingestion Fraction of daily shellfish intake from site Ingestion of marine crustaceans and molluscs Daily shellfish ingestion rate Exposure frequency for shellfish ingestion Fraction of daily shellfish intake from site Ingestion of terrestrial mammals	g/day days/year unitless	1.2	50.9	assumes one meal of shellfish per day. Conservative estimate of exposure. Typical and upper values derived from the mean and median daily food intake for crustacean and molluscs for adults. It is assumed that 1/4 of the shellfish consumed are freshwater organisms, while 3/4 are marine based upon assumptions regarding shellfish collection (i.e., once per month for freshwater, and once per week for marine). Typical value assumes one meal of shellfish per week. Upper estimate assumes one meal of shellfish per day. Conservative estimate of exposure.	Professional judgement ABS (2014); professional judgement
Exposure frequency for shellfish ingestion Fraction of daily shellfish intake from site Ingestion of marine crustaceans and molluscs Daily shellfish ingestion rate Exposure frequency for shellfish ingestion Fraction of daily shellfish intake from site	g/day days/year	1.2	50.9	assumes one meal of shellfish per day. Conservative estimate of exposure. Typical and upper values derived from the mean and median daily food intake for crustacean and molluscs for adults. It is assumed that 1/4 of the shellfish consumed are freshwater organisms, while 3/4 are marine based upon assumptions regarding shellfish collection (i.e., once per month for freshwater, and once per week for marine). Typical value assumes one meal of shellfish per week. Upper estimate assumes one meal of shellfish per day.	Professional judgement ABS (2014); professional judgement

Human Health Exposure Parameters - Child Recreationa Parameter	User of Jervis Units	Bay Area (Jervis Ba Typical Estimate			Reference
General	Onics Control	NAME OF THE PARTY			
	Г			The typical estimate is based upon the 95th percentile value for 2-3 year old	
				males and females combined. The upper estimate is the average weight of 2	
Body weight	kg	17	15	3 year old male and females combined. The mean and 95th percentile duration of residence are 10 years and 35	enHealth (2012)
Exposure duration	year	6	6	years, respectively. It is assumed that residence times begin at birth.	enHealth (2012)
Averaging time (non-carcinogens)	year	6		Same as exposure duration.	enHealth (2012)
Total skin surface area	cm ²	7000	6100	Total skin surface area for males and females combined.	enHealth (2012)
				Calculated surface area based upon the mean percentage of total surface	
Skin surface area - head	cm ²	994	866.2	area for children.	enHealth (2012)
	,			Calculated surface area based upon the mean percentage of total surface	an Haalth (2012)
Skin surface area - trunk	cm ²	2695	2348.5	area for children. Calculated surface area based upon the mean percentage of total surface	enHealth (2012)
Skin surface area - arms	cm ²	826	719.8	area for children.	enHealth (2012)
okiii surrace area - arriis	-			Calculated surface area based upon the mean percentage of total surface	
Skin surface area - hands	cm ²	371	323.2	area for children.	enHealth (2012)
				Calculated surface area based upon the mean percentage of total surface	
Skin surface area - legs	cm ²	1624	1415.2	area for children.	enHealth (2012)
	cm ²		433.	Calculated surface area based upon the mean percentage of total surface	enHealth (2012)
ikin surface area - feet	cm ²	497 2100		area for children. Recommended value per enHealth (2012; Section 3.2.4).	enHealth (2012)
Skin surface area - exposed (feet, legs, hands, arms) ngestion of surface water	Icm	2100	1800	Recommended value per ennealth (2012, Section 5.2.4).	enrieann (2012)
xposure frequency	days/year	I	_	Not an applicable pathway	
urface water intake rate	L/day	-		Not an applicable pathway	
Deliberate Ingestion of sediment (geophagy)		Reserved to			
xposure frequency	days/year			Not an applicable pathway	
rears (number of pregnancies)	years			Not an applicable pathway	
Daily sediment ingestion rate	mg/day			Not an applicable pathway	
raction of sediment intake from contaminated source	unitless		-	Not an applicable pathway	
ncidental ingestion of soil	mg/day	50	50	Estimated value for outdoor soil only for children aged 1-5 years old.	enHealth (2012)
Daily incidental soil ingestion rate	days/year	365		Recommendation value per NEPM (2013).	NEPM (2013)
Dermal contact with soil					
	mg soil/cm2			Recommended value for outdoor and indoor residential child and adult	
Soil to skin adherence factor	skin	0.5	1.7	exposures.	enHealth (2012)
Exposure frequency	days/year	365	365	Recommendation value per NEPM (2013).	NEPM (2013)
incidental ingestion of sediment					
				Typical value assumes children participate with adults in recreational	
				activities fortnightly. Upper value assumes children participate with adults	Professional judgement
Exposure frequency	days/year	26	104	in recreational activities twice per week. As no values for sediment ingestion are available, values are considered to	enHealth (2012);
Daily sediment ingestion rate	mg/day	. 50	50	be equal to values derived for incidental ingestion of soil.	professional judgement
Fraction of sediment intake from contaminated source	unitless	1		Conservative estimate of exposure.	Professional judgement
Dermal Contact with Sediment					
				Typical value assumes children participate with adults in recreational	
			0.7100	activities fortnightly. Upper value assumes children participate with adults	
Exposure frequency	days/year	26		in recreational activities twice per week.	Professional judgement
Surface area of exposed skin	cm2	2100	1800	Recommended exposed surface area value for children aged 2-3. In agreement with Massachusetts Department of Environmental Protection,	enHealth (2012)
	1			1 mg/cm2 has ben adopted as the default value for sediment. This assumes	
				that only the monolayer against the skin has implications in dermal	
Sediment to skin adherence factor	mg/cm2	1	1	absorption.	DEP (2002)
Inhalation of dust - indoors					
Exposure time (indoor air)	hours/day		-	Not an applicable pathway	
Exposure frequency	days/year	-		Not an applicable pathway	
Particulate emission factor	m3/kg			Not an applicable pathway	
ung retention factor	unitless	-		Not an applicable pathway	
nhalation of dust - outdoors				As per recreational scenario in NEPM (2013). Upper estimate is based on	NEPM (2013); profession
Consequentians (authors sin)	hours/day	,		professional judgement.	
Exposure time (outdoor air)					liudgement
		365	365	As per recreational scenario in NEPM (2013).	judgement NEPM (2013)
Exposure frequency	days/year	365	365	As per recreational scenario in NEPM (2013). Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational)	
	days/year	365 2.60E+07			
Particulate emission factor			2.60E+07	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational)	NEPM (2013)
Particulate emission factor Lung retention factor	days/year m3/kg	2.60E+07	2.60E+07	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5.	NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor	days/year m3/kg	2.60E+07	2.60E+07	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational	NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Recreational ocean fishing	days/year m3/kg unitless	2.60E+07 0.375	2.60E+07 0.375	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with	NEPM (2013) NEPM (2013) NEPM (2013)
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency	m3/kg unitless days/year	2.60E+07 0.375	2.60E+07 0.375	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week.	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgement
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency	days/year m3/kg unitless	2.60E+07 0.375	2.60E+07 0.375	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgement Professional judgement
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration	m3/kg unitless days/year hours/day	2.60E+07 0.375	2.60E+07 0.375	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values.	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgement
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration Incidental water ingestion rate	days/year m3/kg unitless days/year hours/day	2.60E+07 0.375	2.60E+07 0.375 52 1	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week.	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgement Professional judgement enHealth (2012);
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact	m3/kg unitless days/year hours/day	2.60E+07 0.375 12 0.5	2.60E+07 0.375 52 1	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming.	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgement enteath (2012); Professional judgement and the latth (2012);
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact	days/year m3/kg unitless days/year hours/day	2.60E+07 0.375 12 0.5	2.60E+07 0.375 52 1	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgement Professional judgement entealth (2012); Professional judgement
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact	days/year m3/kg unitless days/year hours/day	2.60E+07 0.375 12 0.5	2.60E+07 0.375 52 1	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user collects	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgement enteath (2012); Professional judgement and the latth (2012);
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational freshwater fishing/gathering of yabbies	days/year m3/kg unitless days/year hours/day L/hour cm2	2.60E+07 0.375 12 0.5	2.60E+07 0.375 52 1 0.075	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Recommended expossed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user collects crustaceans from the freshwater environment once per month and once	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgement Professional judgement enHealth (2012); Professional judgement enHealth (2012)
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational freshwater fishing/gathering of yabbies Exposure frequency	days/year m3/kg unitless days/year hours/day L/hour cm2 days/year	2.60E+07 0.375 12 0.5	2.60E+07 0.375 52 1 0.075 1800	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user collects crustaceans from the freshwater environment once per month and once per week.	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgement Professional judgement enHealth (2012); Professional judgement enHealth (2012)
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational freshwater fishing/gathering of yabbies Exposure frequency	days/year m3/kg unitless days/year hours/day L/hour cm2	2.60E+07 0.375 12 0.5	2.60E+07 0.375 52 1 0.075 1800	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Recommended expossed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user collects crustaceans from the freshwater environment once per month and once	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgement Professional judgement enHealth (2012); Professional judgement enHealth (2012)
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational freshwater fishing/gathering of yabbies Exposure frequency Activity Duration	days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day	2.60E+07 0.375 12 0.5 0.025 2100	2.60E+07 0.375 52 1 0.075 1800	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user collects crustaceans from the freshwater environment once per month and once per week. Professional judgement	NEPM (2013) NEPM (2013) Professional judgement Professional judgement enHealth (2012) Professional judgement enHealth (2012)
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational freshwater fishing/gathering of yabbies Exposure frequency Activity Duration Incidental water ingestion rate	days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour	2.60E+07 0.375 12 0.5 0.025 2100 6 1	2.60E+07 0.375 52 1 0.075 1800	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user collects crustaceans from the freshwater environment once per month and once per week. Professional judgement Half the values for incidental ingestion while swimming.	NEPM (2013) NEPM (2013) Professional judgement Professional judgement enHealth (2012); Professional judgement enHealth (2012)
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational freshwater fishing/gathering of yabbies Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact	days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day	2.60E+07 0.375 12 0.5 0.025 2100	2.60E+07 0.375 52 1 0.075 1800	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user collects crustaceans from the freshwater environment once per month and once per week. Professional judgement	NEPM (2013) NEPM (2013) Professional judgement Professional judgement enHealth (2012); Professional judgement enHealth (2012) Professional judgement enHealth (2012); Professional judgement enHealth (2012); Professional judgement
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational freshwater fishing/gathering of yabbies Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact	days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour	2.60E+07 0.375 12 0.5 0.025 2100 6 1	2.60E+07 0.375 52 1 0.075 1800	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user collects crustaceans from the freshwater environment once per month and once per week. Professional judgement Half the values for incidental ingestion while swimming.	NEPM (2013) NEPM (2013) Professional judgement Professional judgement enHealth (2012); Professional judgement enHealth (2012) Professional judgement enHealth (2012); Professional judgement enHealth (2012); Professional judgement
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational freshwater fishing/gathering of yabbies Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact	days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour	2.60E+07 0.375 12 0.5 0.025 2100 6 1	2.60E+07 0.375 52 1 0.075 1800	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user collects crustaceans from the freshwater environment once per month and once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3.	NEPM (2013) NEPM (2013) Professional judgement Professional judgement enHealth (2012); Professional judgement enHealth (2012) Professional judgement enHealth (2012); Professional judgement enHealth (2012);
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational freshwater fishing/gathering of yabbies Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating	days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour	2.60E+07 0.375 12 0.5 0.025 2100 6 1	2.60E+07 0.375 52 1 0.075 1800 26 1 0.075 1800	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user collects crustaceans from the freshwater environment once per month and once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult	NEPM (2013) NEPM (2013) Professional judgement Professional judgement enHealth (2012); Professional judgement enHealth (2012) Professional judgement enHealth (2012) Professional judgement enHealth (2012) Professional judgement enHealth (2012)
Particulate emission factor Jung retention factor Lecreational ocean fishing Exposure frequency Lectivity Duration Incidental water ingestion rate Exposed skin surface for water contact Lecreational freshwater fishing/gathering of yabbies Exposure frequency Lectivity Duration Incidental water ingestion rate Exposed skin surface for water contact Lecreational boating Exposure frequency Lectivity Duration Incidental water ingestion rate Exposed skin surface for water contact Lecreational boating	days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour L/hour cm2	2.60E+07 0.375 12 0.5 0.025 2100 6 1	2.60E+07 0.375 52 1 0.075 1800 26 1 0.075 1800	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user collects crustaceans from the freshwater environment once per month and once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values area value for children aged 2-3.	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgement Professional judgement enHealth (2012); Professional judgement enHealth (2012) Professional judgement enHealth (2012) Professional judgement enHealth (2012); Professional judgement enHealth (2012); Professional judgement enHealth (2012)
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational freshwater fishing/gathering of yabbies Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating	days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2	2.60E+07 0.375 12 0.5 0.025 2100 6 1	2.60E+07 0.375 52 1 0.075 1800 26 1 0.075 1800	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user collects crustaceans from the freshwater environment once per month and once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user boats once per month and once per week. Professional judgement	NEPM (2013) NEPM (2013) Professional judgement Professional judgement enhealth (2012); Professional judgement enhealth (2012); Professional judgement enhealth (2012); Professional judgement enhealth (2012); Professional judgement enhealth (2012) Professional judgement enhealth (2012)
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational freshwater fishing/gathering of yabbies Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration	days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2	2.60E+07 0.375 12 0.5 0.025 2100 6 1 0.025 2100	2.60E+07 0.375 52 1 0.075 1800 26 1 0.075 1800	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Exposure frequency values for children halved from estimated adult exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user collects crustaceans from the freshwater environment once per month and once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user boats once per month and once per week. Professional judgement Half the values for incidental ingestion while swimming.	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgement Professional judgement enHealth (2012) Professional judgement enHealth (2012); Professional judgement enHealth (2012); Professional judgement
Particulate emission factor Jung retention factor Lecreational ocean fishing Exposure frequency Lecreational water ingestion rate Exposed skin surface for water contact Lecreational freshwater fishing/gathering of yabbies Exposure frequency Lecreational water ingestion rate Exposed skin surface for water contact Lecreational boating Exposure frequency Lecreational boating Exposure frequency Lecreational boating Exposure frequency Lecreational water ingestion rate Exposure frequency Lecreational water ingestion rate Exposure frequency Lecreational water ingestion rate Exposed skin surface for water contact	days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2	2.60E+07 0.375 12 0.5 0.025 2100 6 1 0.025 2100	2.60E+07 0.375 52 1 0.075 1800 26 1 0.075 1800	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user collects crustaceans from the freshwater environment once per month and once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user boats once per month and once per week. Professional judgement	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgement Professional judgement enHealth (2012); Professional judgement enHealth (2012); Professional judgement enHealth (2012); Professional judgement enHealth (2012); Professional judgement enHealth (2012)
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational freshwater fishing/gathering of yabbies Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Incidental water ingestion rate Exposed skin surface for water contact Swimming in creeks and other freshwater surface wate	days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day	2.60E+07 0.375 12 0.5 0.025 2100 6 1 0.025 2100	2.60E+07 0.375 52 1 0.075 1800 26 1 0.075 1800	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user collects crustaceans from the freshwater environment once per month and once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values assuming adult recreational user boats once per month and once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Reprofessional judgement Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3.	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgement Professional judgement enHealth (2012) Professional judgement enHealth (2012) Professional judgement enHealth (2012); Professional judgement enHealth (2012); Professional judgement enHealth (2012) Professional judgement enHealth (2012)
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational freshwater fishing/gathering of yabbies Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposure frequency rate frequency Activity duration Incidental water ingestion rate Exposure frequency receks and other freshwater surface wate Exposure frequency	days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2	2.60E+07 0.375 12 0.5 0.025 2100 6 1 0.025 2100	2.60E+07 0.375 52 1 0.075 1800 26 1 0.075 1800	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user collects crustaceans from the freshwater environment once per month and once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user boats once per month and once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Children anticipated to swim in freshwater once per month or fortnightly.	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgement Professional judgement enHealth (2012); Professional judgement enHealth (2012); Professional judgement enHealth (2012); Professional judgement enHealth (2012); Professional judgement enHealth (2012) Professional judgement enHealth (2012); Professional judgement enHealth (2012); Professional judgement enHealth (2012);
Exposed skin surface for water contact Recreational freshwater fishing/gathering of yabbies Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Swimming in creeks and other freshwater surface wate Exposure frequency Activity duration	days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 L/hour cm2 days/year hours/day L/hour cm2 r bodies days/year hours/day	2.60E+07 0.375 12 0.5 0.025 2100 6 1 0.025 2100 6 1 0.025 2100	2.60E+07 0.375 52 1 0.075 1800 26 27 0.075 1800	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user collects crustaceans from the freshwater environment once per month and once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user boats once per month and once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Children anticipated to swim in freshwater once per month or fortnightly. Professional judgement	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgement Professional judgement enHealth (2012) Professional judgement enHealth (2012)
Particulate emission factor Lung retention factor Recreational ocean fishing Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational freshwater fishing/gathering of yabbies Exposure frequency Activity Duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Recreational boating Exposure frequency Activity duration Incidental water ingestion rate Exposed skin surface for water contact Swimming in creeks and other freshwater surface wate Exposure frequency	days/year m3/kg unitless days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2 days/year hours/day L/hour cm2	2.60E+07 0.375 12 0.5 0.025 2100 6 1 0.025 2100	2.60E+07 0.375 522 1 0.075 1800 266 1 0.075 1800 266 2 0.075 1800	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational) value selected. Value adopted per Schedule B7, Table 5. Typical value assumes children participate with adults in recreational activities once per month. Upper value assumes children participate with adults in recreational activities once per week. Activity duration halved from adult values. Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user collects crustaceans from the freshwater environment once per month and once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Exposure frequency values for children halved from estimated adult exposure frequency values assuming adult recreational user boats once per month and once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended exposed surface area value for children aged 2-3. Children anticipated to swim in freshwater once per month or fortnightly.	NEPM (2013) NEPM (2013) NEPM (2013) Professional judgement Professional judgement enHealth (2012) Professional judgement enHealth (2012) Professional judgement enHealth (2012); Professional judgement enHealth (2012); Professional judgement enHealth (2012) Professional judgement enHealth (2012) Professional judgement enHealth (2012); Professional judgement enHealth (2012); Professional judgement enHealth (2012)

Human Health Exposure Parameters - Child Recreatior Parameter	Units	Typical Estimate			Reference
vimming in the ocean	Ome	Typical Estimate	opper estimate		
withming in the ocean	1	T	1	Children anticipated to swim with adults in the ocean once per month or	
	dayahaas	12	20	fortnightly.	Professional judgemen
xposure frequency	days/year			Professional judgement	Professional judgemen
ctivity duration	hours/day	0.5			
cidental water ingestion rate	L/hour	0.05		Recommended values per enHealth (2012).	enHealth (2012)
xposed skin surface for water contact	cm2	7000	6100	Entire body	enHealth (2012)
plashing in pooled/flooded groundwater after heavy	rain events				
xposure frequency	days/year			Not an applicable pathway	
ctivity duration	hours/day			Not an applicable pathway	
ncidental water ingestion rate	L/hour			Not an applicable pathway	
xposed skin surface for water contact	cm2			Not an applicable pathway	
gestion of plant produce					
Bestion of pient produce	T	T		Typical estimate assumes flora consumed once per month. Upper estimate	
sposure frequency - fruit	days/year	12	52		Professional judgemen
		12	32	Only fruit assumed to be consumed by recreational users.	Professional judgemen
xposure frequency - vegetables	days/year	-	**		
onsumption rate - green vegetables	g/day			Only fruit assumed to be consumed by recreational users.	Professional judgemen
onsumption rate - root vegetables	g/day			Only fruit assumed to be consumed by recreational users.	Professional judgemen
onsumption rate - tuber vegetables	g/day			Only fruit assumed to be consumed by recreational users.	Professional judgemen
				Assumed to be a half serve or full serve of fruit per NHMRC nutritional	NHMRC (2013),
onsumption rate - fruit	g/day	75	150	guidelines for typical and upper estimates, respectively.	professional judgemen
action of flora found in affected areas	unitless	1		Conservative estimate of exposure.	Professional judgemen
gestion of freshwater fish	The second				
ally fish ingestion rate (finfish only)	g/day	T-	_	Not an applicable pathway	
posure frequency for fish ingestion	days/year			Not an applicable pathway	
		-	-	Not an applicable pathway	
raction of daily fish intake from site	unitless	-		Not an applicable patriway	
gestion of marine fish					
	1	1	l	Typical value is the mean daily food intake of finfish for children aged 2-3.	
	1			The upper estimate is the median daily food intake of finfish for children	
aily fish ingestion rate (finfish only)	g/day	3.6	83.2	aged 2-3. It is conservatively assumed that all finfish consumed are marine.	ABS (2014)
	-			Typical value assumes one meal of fish per week. Upper estimate assumes	
xposure frequency for fish ingestion	days/year	52	365	one meal of fish per day.	Professional judgemen
raction of daily fish intake from site	unitless	0.5		Conservative estimate of exposure.	Professional judgemen
	Turntiess	0.5	1	Conservative estimate of exposure.	i Toressionar judgemen
ngestion of freshwater crustaceans and molluscs					
	1				
	1			The mean and median values for shellfish consumption by children aged 2-3	
		1		are unreliable and are not recommended for use by enHealth (2012).	
	1		151	Therefore, the typical value for adults has been carried through for children.	
	1	1		The upper estimate is based upon consumption rates of all shellfish for	
	1		1	Native American children (Table 10-107 in USEPA (2011)). The 95th	l
	1			percentile value is 1.337 g/kg-day, assuming the average 15 kg child, the	l
	1				ADC (2014), profession
				upper estimate of shellfish consumption is 20.1 g/day. It is assumed that 1/4	
aily shellfish ingestion rate	g/day	0.4	5	of the shellfish consumed is freshwater, and 3/4 is marine.	judgement
				Typical value assumes one meal of shellfish per week. Upper estimate	
				assumes one meal of shellfish per day. It is assumed half of the shellfish	
xposure frequency for shellfish ingestion	days/year	26	183	consumed comes from freshwater and half is marine.	Professional judgemen
raction of daily shellfish intake from site	unitless	1		Conservative estimate of exposure.	Professional judgemen
gestion of marine crustaceans and molluscs	Territora				
gestion of marine crustaceans and moliuses	_	_			
				The mean and median values for shellfish consumption by children aged 2-3	1
				are unreliable and are not recommended for use by enHealth (2012).	l
	1			Therefore, the typical value for adults has been carried through for children	1
			1	The upper estimate is based upon consumption rates of all shellfish for	
				Native American children (Table 10-107 in USEPA (2011)). The 95th	I
	1		1	percentile value is 1.337 g/kg-day, assuming the average 15 kg child, the	1
				upper estimate of shellfish consumption is 20.1 g/day. It is assumed that	ABS (2014); profession
				Tupper estimate of shellish consumption is 20.1 g/day, it is assumed that	Legal (profession
				Life of the school of the first control of the school of t	Ludesmant
aily shellfish ingestion rate	g/day	1.2	15.1	half of the shellfish consumed is freshwater, and half is marine.	judgement
aily shellfish ingestion rate	g/day	1.2		Typical value assumes one meal of shellfish per week. Upper estimate	
	g/day days/year	1.2			Professional judgeme
posure frequency for shellfish ingestion			183	Typical value assumes one meal of shellfish per week. Upper estimate	Professional judgeme
posure frequency for shellfish ingestion action of daily shellfish intake from site	days/year	26	183	Typical value assumes one meal of shellfish per week. Upper estimate assumes one meal of shellfish per day.	Professional judgeme
posure frequency for shellfish ingestion action of daily shellfish intake from site gestion of terrestrial mammals	days/year unitless	26	183	Typical value assumes one meal of shellfish per week. Upper estimate assumes one meal of shellfish per day. Conservative estimate of exposure.	Professional judgemen
xposure frequency for shellfish ingestion raction of daily shellfish intake from site gestion of terrestrial mammals ally game meat ingestion rate	days/year unitless g/day	26	183	Typical value assumes one meal of shellfish per week. Upper estimate assumes one meal of shellfish per day. Conservative estimate of exposure. Not an applicable pathway	Professional judgemen
Exposure frequency for shellfish ingestion rate frequency for shellfish ingestion raction of daily shellfish intake from site ingestion of terrestrial mammals pally game meat ingestion rate frequency for mammalian meat ingestion raction of daily mammalian meat intake from site	days/year unitless	26	183	Typical value assumes one meal of shellfish per week. Upper estimate assumes one meal of shellfish per day. Conservative estimate of exposure.	judgement Professional judgement Professional judgement

Human Health Exposure Parameters - Adult Recreation. Parameter	Units	Bay Area (Wreck Ba Typical Estimate			Reference
eneral	The Arthurson				
				The upper estimate is based upon the lifetime average value for males and	
	1			females combined. The typical estimate is the average weight of male and	
ody weight	kg	78	70	female adults, combined.	enHealth (2012)
ody weight	100	- 19			
				The recreational exposure duration defined by NEPM (2013) is 29 years (35	
	1			years minus 6 years of childhood), however, in the case of the indigenous	
				Wreck Bay community, it is conservatively assumed that individuals may	
	1			spend their entire lives in the region. This is reflected in the upper estimate	
	1	1			
				value. It is assumed that residence times begin at birth. Four years (10 year	1
				residence minus 6 years of childhood) was selected as the typical exposure	NEDNA (2012),
		70.	90	value. However, regardless of this assumption, number of years does not	NEPM (2013); enHe
xposure duration	year	4		affect calculations in non-carcinogenic risk calculations.	(2012)
veraging time (non-carcinogens)	year	4		Same as exposure duration.	NEPM (2013)
otal skin surface area	cm ²	24000	20000	Total skin surface area for males and females combined.	enHealth (2012)
kin surface area - head	cm ²	1350	1250	Surface area by body part, averaged for males and females.	enHealth (2012)
cin surface area - trunk	cm ²	9750	7400	Surface area by body part, averaged for males and females.	enHealth (2012)
	cm ²			Surface area by body part, averaged for males and females.	enHealth (2012)
kin surface area - arms	-	3350			
kin surface area - hands	cm ²	1200	1000	Surface area by body part, averaged for males and females.	enHealth (2012)
cin surface area - legs	cm ²	8050	6400	Surface area by body part, averaged for males and females.	enHealth (2012)
in surface area - feet	cm ²	1550	1300		enHealth (2012)
in surface area - exposed (feet, legs, hands, arms)	cm ²	7900	6300	Recommended value per enHealth (2012; Section 3.2.4).	enHealth (2012)
gestion of surface water			English Street		
posure frequency	days/year		-	Not an applicable pathway	
rface water intake rate	L/day		-	Not an applicable pathway	
liberate ingestion of sediment (geophagy)			A SAME TO A		
posure frequency	days/year	-	-	Not an applicable pathway	
ars (number of pregnancies)	years			Not an applicable pathway	
ily sediment ingestion rate	mg/day			Not an applicable pathway	
	unitless			Not an applicable pathway	
action of sediment intake from contaminated source	Tuniciess	<u> </u>		Inor an approadic pathway	
idental ingestion of soil	**		A CONTRACTOR OF THE PARTY OF TH	Estimated value for outdoor == "	enHealth (2012)
ly incidental soil ingestion rate	mg/day	50		Estimated value for outdoor soil.	
posure frequency	days/year	365	365	Recommendation value per NEPM (2013).	NEPM (2013)
rmal contact with soil			三 为三 7 相		
	mg soil/cm2			Recommended value for outdoor and indoor residential child and adult	
I to skin adherence factor	skin	0.5	1.7	exposures.	enHealth (2012)
posure frequency	days/year	365	365	Recommendation value per NEPM (2013).	NEPM (2013)
	Judys/ year	505	300		
idental ingestion of sediment					
	1			Typical value assumes recreational user participates in at least one aquatic	comment was
posure frequency	days/year	52	365	activity per week, with an upper estimate of one aquatic activity per day.	Professional judgen
				As no values for sediment ingestion are available, values are considered to	enHealth (2012);
lly sediment ingestion rate	mg/day	50	50	be equal to values derived for incidental ingestion of soil.	professional judgen
action of sediment intake from contaminated source	unitless	1	1	Conservative estimate of exposure.	Professional judgen
rmal Contact with Sediment	SHARESTA	SEASTER STATE	1015		
This contact that seemen	T			Typical value assumes recreational user participates in at least one aquatic	
	danakana	52	265	activity per week, with an upper estimate of one aquatic activity per day.	Professional judgen
posure frequency	days/year	52	363		enHealth (2012);
0 1 2 20		0,000	92000	Mean and 95th percentile estimates for surface area of lower legs and feet	
face area of exposed skin	cm2	4600	3800	averaged for men and women.	professional judgen
				In agreement with Massachusetts Department of Environmental Protection,	
				1 mg/cm2 has ben adopted as the default value for sediment. This assumes	
				that only the monolayer against the skin has implications in dermal	
diment to skin adherence factor	mg/cm2	1	1	absorption.	DEP (2002)
alation of dust - indoors			STATE OF THE STATE OF		
posure time (indoor air)	hours/day			Not an applicable pathway	
				Not an applicable pathway	
osure frequency	days/year	-			
ticulate emission factor	m3/kg		-	Not an applicable pathway	
g retention factor	unitless		-	Not an applicable pathway	
alation of dust - outdoors					
				As per recreational scenario in NEPM (2013). Upper estimate is based on	NEPM (2013);
oosure time (outdoor air)	hours/day	2	6	professional judgement.	professional judger
posure frequency	days/year	365	365	As per recreational scenario in NEPM (2013).	NEPM (2013)
rosare medicine)	uayay year	303	303	Refer to Appendix B and Section 5.3.3.1 of Schedule B7. HIL C (recreational)	1-1-1-1
No data and talendar for the	-20-	2 605 .07	2 605.00		NEPM (2013)
ticulate emission factor	m3/kg	2.60E+07		value selected.	
g retention factor	unitless	0.375	0.375	Value adopted per Schedule B7, Table 5.	NEPM (2013)
creational ocean fishing					
		T		Typical value assumes recreational user fishes the marine environment once	
				per week. Upper estimate assumes recreational user fishes the marine	1
posure frequency	days/year	52	365	environment daily.	Professional judger
tivity Duration	hours/day	1		Professional judgement.	Professional judgen
idental water ingestion rate	L/hour	0.0125		Half the values for incidental ingestion while swimming.	Professional judgen
osed skin surface for water contact		7900		Recommended value for exposed lower legs, feet, hands and forearms.	enHealth (2012)
	cm2	/900	6300	Inecommended value for exposed lower legs, reet, names and forearms.	[ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ
		COLUMN ASSESSMENT		In a data to the second	
				Typical value assumes recreational user collects crustaceans from the	
				freshwater environment once per month. Upper estimate assumes	II.
				[[[[[[[[[[[[[[[[[[[ı
				recreational user collects crustaceans from the freshwater environment	
reational freshwater fishing/gathering of yabbies	days/vear	12	52	[[[[[[[[[[[[[[[[[[[Professional judger
reational freshwater fishing/gathering of yabbies osure frequency	days/year	12		recreational user collects crustaceans from the freshwater environment once per week.	
reational freshwater fishing/gathering of yabbies osure frequency ivity Duration	hours/day	1	1	recreational user collects crustaceans from the freshwater environment once per week. Professional judgement	Professional judgen
reational freshwater fishing/gathering of yabbies osure frequency wity Duration dental water ingestion rate	hours/day L/hour	0.0125	0.0625	recreational user collects crustaceans from the freshwater environment once per week. Professional judgement Half the values for incidental ingestion while swimming.	Professional judger Professional judger
reational freshwater fishing/gathering of yabbies course frequency livity Duration dental water ingestion rate cosed skin surface for water contact	hours/day	1	0.0625	recreational user collects crustaceans from the freshwater environment once per week. Professional judgement	Professional judger
oosure frequency ivity Duration didental water ingestion rate oosed skin surface for water contact	hours/day L/hour	0.0125	0.0625	recreational user collects crustaceans from the freshwater environment once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms.	Professional judger Professional judger
oosure frequency ivity Duration didental water ingestion rate oosed skin surface for water contact	hours/day L/hour	0.0125	0.0625	recreational user collects crustaceans from the freshwater environment once per week. Professional judgement Half the values for incidental ingestion while swimming.	Professional judger Professional judger enHealth (2012)
posure frequency Mitty Duration dental water ingestion rate sosed skin surface for water contact creational boating	hours/day L/hour	0.0125	0.0625 6300	recreational user collects crustaceans from the freshwater environment once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms.	Professional judgen Professional judgen enHealth (2012)
creational freshwater fishing/gathering of yabbies cosure frequency civity Duration idental water ingestion rate cosed skin surface for water contact creational boating	hours/day L/hour cm2 days/year	1 0.0125 7900	0.0625 6300	recreational user collects crustaceans from the freshwater environment once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms. Typical value assumes recreational boating occurs once per month. Upper estimate assumes recreational boating occurs once per week.	Professional judgen Professional judgen enHealth (2012) Professional judgen
oosure frequency ivity Duration diental water ingestion rate cosed skin surface for water contact creational boating cosure frequency ivity duration	hours/day L/hour cm2 days/year hours/day	1 0.0125 7900	0.0625 6300 52	recreational user collects crustaceans from the freshwater environment once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms. Typical value assumes recreational boating occurs once per month. Upper estimate assumes recreational boating occurs once per week. Professional judgement	Professional judger Professional judger enHealth (2012) Professional judger Professional judger
reational freshwater fishing/gathering of yabbies osure frequency ivity Duration dental water ingestion rate osed skin surface for water contact creational boating ossure frequency ivity duration dental water ingestion rate	hours/day L/hour cm2 days/year hours/day L/hour	1 0.0125 7900 12 1 0.0125	1 0.0625 6300 52 2 0.0625	recreational user collects crustaceans from the freshwater environment once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms. Typical value assumes recreational boating occurs once per month. Upper estimate assumes recreational boating occurs once per week. Professional judgement Half the values for incidental ingestion while swimming.	Professional judger Professional judger enHealth (2012) Professional judger Professional judger Professional judger
possure frequency sivity Duration idental water ingestion rate possure frequency sivity Duration idental water ingestion rate possed skin surface for water contact possure frequency sivity duration idental water ingestion rate possure frequency sivity duration idental water ingestion rate possed skin surface for water contact	hours/day L/hour cm2 days/year hours/day L/hour cm2	1 0.0125 7900	1 0.0625 6300 52 2 0.0625	recreational user collects crustaceans from the freshwater environment once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms. Typical value assumes recreational boating occurs once per month. Upper estimate assumes recreational boating occurs once per week. Professional judgement	Professional judgen Professional judgen enHealth (2012) Professional judgen Professional judgen
possure frequency Nity Duration Idental water ingestion rate possure frequency Nity Duration Idental water ingestion rate possed skin surface for water contact preational boating possure frequency Nity duration Idental water ingestion rate possed skin surface for water contact	hours/day L/hour cm2 days/year hours/day L/hour cm2	1 0.0125 7900 12 1 0.0125	1 0.0625 6300 52 2 0.0625	recreational user collects crustaceans from the freshwater environment once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms. Typical value assumes recreational boating occurs once per month. Upper estimate assumes recreational boating occurs once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms.	Professional judger Professional judger enHealth (2012) Professional judger Professional judger Professional judger
possure frequency sivity Duration idental water ingestion rate possure frequency sivity Duration idental water ingestion rate possed skin surface for water contact possure frequency sivity duration idental water ingestion rate possure frequency sivity duration idental water ingestion rate possed skin surface for water contact	hours/day L/hour cm2 days/year hours/day L/hour cm2	1 0.0125 7900 12 1 0.0125	1 0.0625 6300 52 2 0.0625	recreational user collects crustaceans from the freshwater environment once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms. Typical value assumes recreational boating occurs once per month. Upper estimate assumes recreational boating occurs once per week. Professional judgement Half the values for incidental ingestion while swimming.	Professional judgen Professional judgen enHealth (2012) Professional judgen Professional judgen Professional judgen
possure frequency tivity Duration idental water ingestion rate possure frequency tivity Duration idental water ingestion rate possed skin surface for water contact creational boating possure frequency tivity duration idental water ingestion rate possed skin surface for water contact	hours/day L/hour cm2 days/year hours/day L/hour cm2	1 0.0125 7900 12 1 0.0125	1 0.0625 6300 52 2 0.0625	recreational user collects crustaceans from the freshwater environment once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms. Typical value assumes recreational boating occurs once per month. Upper estimate assumes recreational boating occurs once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms.	Professional judger Professional judger enHealth (2012) Professional judger Professional judger Professional judger enHealth (2012)
creational freshwater fishing/gathering of yabbies coosure frequency tivity Duration idental water ingestion rate coesid skin surface for water contact creational boating coosure frequency tivity duration idental water ingestion rate posed skin surface for water contact imming in creeks and other freshwater surface water	hours/day L/hour cm2 days/year hours/day L/hour cm2 bodies	1 0.0125 7900 12 1 0.0125 7900	1 0.0625 6300 52 2 0.0625 6300	recreational user collects crustaceans from the freshwater environment once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms. Typical value assumes recreational boating occurs once per month. Upper estimate assumes recreational boating occurs once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms. Typical value assumes recreational user swims in freshwater once per month. Upper estimate assumes recreational user swims in freshwater once	Professional judger Professional judger enHealth (2012) Professional judger Professional judger Professional judger enHealth (2012)
creational freshwater fishing/gathering of yabbies coosure frequency ivity Duration idental water ingestion rate oosure frequency ivity duration idental water ingestion rate oosure frequency ivity duration idental water ingestion rate oosed skin surface for water contact imming in creeks and other freshwater surface water oosure frequency	hours/day L/hour cm2 days/year hours/day L/hour cm2 bodies	1 0.0125 7900 12 1 0.0125 7900	1 0.0625 6300 52 2 2 0.0625 6300	recreational user collects crustaceans from the freshwater environment once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms. Typical value assumes recreational boating occurs once per month. Upper estimate assumes recreational boating occurs once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms. Typical value assumes recreational user swims in freshwater once per month. Upper estimate assumes recreational user swims in freshwater once per week.	Professional judger Professional judger enHealth (2012) Professional judger Professional judger enHealth (2012) Professional judger
posure frequency tivity Duration idental water ingestion rate posed skin surface for water contact creational boating posure frequency tivity duration idental water ingestion rate posed skin surface for water contact creational boating posure frequency tivity duration idental water ingestion rate posed skin surface for water contact rimming in creeks and other freshwater surface water posure frequency tivity duration	hours/day L/hour cm2 days/year hours/day L/hour cm2 r bodies	1 0.0125 7900 12 1 0.0125 7900	1 0.0625 6300 52 2 0.0625 6300	recreational user collects crustaceans from the freshwater environment once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms. Typical value assumes recreational boating occurs once per month. Upper estimate assumes recreational boating occurs once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms. Typical value assumes recreational user swims in freshwater once per month. Upper estimate assumes recreational user swims in freshwater once per week. Professional judgement	Professional judgen Professional judgen Professional judgen enHealth (2012) Professional judgen Professional judgen
posed skin surface for water contact screational freshwater fishing/gathering of yabbies supposure frequency etivity Duration cidental water ingestion rate sposed skin surface for water contact screational boating supposure frequency etivity duration cidental water ingestion rate sposed skin surface for water contact wimming in creeks and other freshwater surface water supposure frequency etivity duration cidental water ingestion rate supposure frequency etivity duration cidental water ingestion rate sposure frequency etions and other freshwater surface water supposure frequency cidental water ingestion rate sposed skin surface for water contact	hours/day L/hour cm2 days/year hours/day L/hour cm2 bodies	1 0.0125 7900 12 1 0.0125 7900	1 0.0625 6300 522 2 0.0625 6300	recreational user collects crustaceans from the freshwater environment once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms. Typical value assumes recreational boating occurs once per month. Upper estimate assumes recreational boating occurs once per week. Professional judgement Half the values for incidental ingestion while swimming. Recommended value for exposed lower legs, feet, hands and forearms. Typical value assumes recreational user swims in freshwater once per month. Upper estimate assumes recreational user swims in freshwater once per week.	Professional judgen Professional judgen enHealth (2012) Professional judgen Professional judgen enHealth (2012) Professional judgen

Human Health Exposure Parameters - Adult Recreation					Poforonco
Parameter	Units	Typical Estimate	Upper Estimate	Notes	Reference
Swimming in the ocean					
	1			Typical value assumes recreational user swims once per week. Upper	
Exposure frequency	days/year	52		estimate assumes recreational user swims every day.	Professional judgeme
Activity duration	hours/day	0.5			Professional judgeme
ncidental water ingestion rate	L/hour	0.025		Recommended values per enHealth (2012).	enHealth (2012)
Exposed skin surface for water contact	cm2	24000	20000	Entire body	enHealth (2012)
Splashing in pooled/flooded groundwater after heavy re					
Exposure frequency	days/year		-	Not an applicable pathway	
Activity duration	hours/day	-		Not an applicable pathway	
ncidental water ingestion rate	L/hour			Not an applicable pathway	
Exposed skin surface for water contact	cm2			Not an applicable pathway	
ngestion of plant produce					
				Upper estimate assumes some flora consumed four times per week by	
				recreational users. Typical estimate assumes flora consumed once per	
Exposure frequency - fruit	days/year	52	208	week.	Professional judgeme
Exposure frequency - vegetables	days/year	-	-	Only fruit assumed to be consumed by recreational users.	Professional judgeme
Consumption rate - green vegetables	g/day			Only fruit assumed to be consumed by recreational users.	Professional judgeme
Consumption rate - root vegetables	g/day	-		Only fruit assumed to be consumed by recreational users.	Professional judgeme
Consumption rate - tuber vegetables	g/day	1	-	Only fruit assumed to be consumed by recreational users.	Professional judgeme
remainipulation rate - tuber vegetables	E/ day			Assumed to be a half serve or full serve of fruit per NHMRC nutritional	NHMRC (2013),
Consumption rate - fruit	g/day	75		guidelines for typical and upper estimates, respectively.	professional judgeme
Fraction of flora found in affected areas	unitless	1 1			Professional judgeme
	unitiess	1	1	Conservative estimate of exposure.	Professional judgeme
ngestion of freshwater fish					
Daily fish ingestion rate (finfish only)	g/day	-		Not an applicable pathway	
xposure frequency for fish ingestion	days/year			Not an applicable pathway	
raction of daily fish intake from site	unitless	-		Not an applicable pathway	
ngestion of marine fish				《江东》的文本的表现的自由的人的意思的意思。	
				Typical value is the mean daily food intake finfish for adults. The upper	
		1		estimate is the median daily food intake finfish for adults. It is	
Daily fish ingestion rate (finfish only)	g/day	7.6	110	conservatively assumed that all finfish consumed are marine.	ABS (2014)
				Typical value assumes one meal of fish per week. Upper estimate assumes	
Exposure frequency for fish ingestion	days/year	52	365	one meal of fish per day.	Professional judgeme
Fraction of daily fish intake from site	unitless	0.5		Conservative estimate of exposure.	Professional judgeme
ngestion of freshwater crustaceans and molluscs	Junicess	0.5		Conservative estimate of exposure.	Troressioner Jaageme
ngescion of neshwater crustaceans and monuscs				Typical and upper values derived from the mean and median daily food	1
		1		intake for crustacean and molluscs for adults. It is assumed that 1/4 of the	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	1				1
	1			shellfish consumed are freshwater organisms, while 3/4 are marine based	
San transport				upon assumptions regarding shellfish collection (i.e., once per month for	ABS (2014); profession
Daily shellfish ingestion rate	g/day	0.4	17	freshwater, and once per week for marine).	judgement
				Typical value assumes one meal of shellfish per week. Upper estimate	
Exposure frequency for shellfish ingestion	days/year	52	365	assumes one meal of shellfish per day.	Professional judgeme
Fraction of daily shellfish intake from site	unitless	1	1	Conservative estimate of exposure.	Professional judgeme
ngestion of marine crustaceans and molluscs					
				Typical and upper values derived from the mean and median daily food	
	1		1	intake for crustacean and molluscs for adults. It is assumed that 1/4 of the	
	1	1		shellfish consumed are freshwater organisms, while 3/4 are marine based	
	1	1	1	upon assumptions regarding shellfish collection (i.e., once per month for	ABS (2014); professio
Daily shellfish ingestion rate	g/day	1.2	500	freshwater, and once per week for marine).	judgement
sany smention ingestion race	B/ way	1.2	30.9	Typical value assumes one meal of shellfish per week. Upper estimate	pagement
	4				Deefeesienel jud
exposure frequency for shellfish ingestion	days/year	52		assumes one meal of shellfish per day.	Professional judgeme
raction of daily shellfish intake from site	unitless	1	1	Conservative estimate of exposure.	Professional judgeme
ngestion of terrestrial mammals					
				Due to an unreliable mean for consumption of mammalian game meat, the	
	1	1	1	mean value for beef, sheep and pork ingestion by adults has been selected	1
	1	1		as the typical value. The upper value is the median daily food intake for	1
	1	1	1	mammalian game meat by adults. It is noted that consumption of game	
	1		1	meat does not currently occur, however this is a culturally significant	
	1	1		pathway and as such, has been included for consideration in the risk	ABS (2014); profession
	g/day	35.8	150	assessment.	judgement
Daily game meat ingestion rate				a second control of the control of t	Danbernern
Daily game meat ingestion rate	g/day	33.0		Typical value accumes one most of mammalian game per month Hones	
				Typical value assumes one meal of mammalian game per month. Upper	Denforcing -1 but-
Daily game meat ingestion rate Exposure frequency for mammalian meat ingestion Fraction of daily mammalian meat intake from site	days/year unitless	12	52	Typical value assumes one meal of mammalian game per month. Upper estimate assumes one meal of mammalian game per week. Conservative estimate of exposure.	Professional judgeme Professional judgeme

Charles I and the Company of the Com	lear of lawis D	av Area Honde De	Flat Back Cross	(Cantains Lagonn)	
	User of Jervis B Units	Typical Estimate			Reference
General				The typical estimate is based upon the 95th percentile value for 2-3 year old	
				males and females combined. The upper estimate is the average weight of 2	
Body weight	kg	17	15	3 year old male and females combined.	enHealth (2012)
body weight	-6			The mean and 95th percentile duration of residence are 10 years and 35	
Exposure duration	year	6	6	years, respectively. It is assumed that residence times begin at birth.	enHealth (2012)
Averaging time (non-carcinogens)	year	6		Same as exposure duration.	enHealth (2012)
otal skin surface area	cm ²	7000	6100	Total skin surface area for males and females combined.	enHealth (2012)
				Calculated surface area based upon the mean percentage of total surface	
Skin surface area - head	cm ²	994	866.2	area for children.	enHealth (2012)
				Calculated surface area based upon the mean percentage of total surface	
Skin surface area - trunk	cm ²	2695	2348.5	area for children.	enHealth (2012)
	,			Calculated surface area based upon the mean percentage of total surface	enHealth (2012)
ikin surface area - arms	cm ²	826	/19.8	area for children. Calculated surface area based upon the mean percentage of total surface	ennearth (2012)
	cm²	371	272.7	area for children.	enHealth (2012)
kin surface area - hands	cm	3/1	323.2	Calculated surface area based upon the mean percentage of total surface	
kin surface area - legs	cm ²	1624	1415.2	area for children.	enHealth (2012)
Mili surface area regs	-	73.7		Calculated surface area based upon the mean percentage of total surface	
kin surface area - feet	cm ²	497	433.1	area for children.	enHealth (2012)
	cm ²	2100		Recommended value per enHealth (2012; Section 3.2.4).	enHealth (2012)
ngestion of surface water					
xposure frequency	days/year	-	-	Not an applicable pathway	
urface water intake rate	L/day			Not an applicable pathway	
eliberate ingestion of sediment (geophagy)					
xposure frequency	days/year	-	**	Not an applicable pathway	
ears (number of pregnancies)	years			Not an applicable pathway	
aily sediment ingestion rate	mg/day	-		Not an applicable pathway	
raction of sediment intake from contaminated source	unitless	-	-	Not an applicable pathway	
ncidental ingestion of soil					anticolth (2012)
aily incidental soil ingestion rate	mg/day	50		Estimated value for outdoor soil only for children aged 1-5 years old.	enHealth (2012)
xposure frequency	days/year	365	365	Recommendation value per NEPM (2013).	NEPM (2013)
Permal contact with soil				In	
	mg soil/cm2			Recommended value for outdoor and indoor residential child and adult	enHealth (2012)
oil to skin adherence factor	skin	0.5		exposures.	NEPM (2013)
xposure frequency	days/year	365	365	Recommendation value per NEPM (2013).	NEFINI (2013)
ncidental ingestion of sediment				Typical value assumes children participate with adults in recreational	
				activities fortnightly. Upper value assumes children participate with adults	
	d===6====	26	104	in recreational activities twice per week.	Professional judgemen
xposure frequency	days/year	26	104	As no values for sediment ingestion are available, values are considered to	enHealth (2012);
And the second translation and a	mg/day	50	50	be equal to values derived for incidental ingestion of soil.	professional judgemen
Daily sediment ingestion rate Fraction of sediment intake from contaminated source	unitless	1		Conservative estimate of exposure.	Professional judgemen
Dermal Contact with Sediment	unitiess			Conservative estimate of exposure.	
Dermai Contact with Sediment	T			Typical value assumes children participate with adults in recreational	
				activities fortnightly. Upper value assumes children participate with adults	
exposure frequency	days/year	26	104	in recreational activities twice per week.	Professional judgemen
	adjoj jear				
Surface area of exposed skin	cm2				enHealth (2012)
Surface area of exposed skin	cm2	2100		Recommended exposed surface area value for children aged 2-3. In agreement with Massachusetts Department of Environmental Protection,	enHealth (2012)
Surface area of exposed skin	cm2			Recommended exposed surface area value for children aged 2-3.	enHealth (2012)
iurface area of exposed skin	cm2			Recommended exposed surface area value for children aged 2-3. In agreement with Massachusetts Department of Environmental Protection,	enHealth (2012)
	cm2 mg/cm2		1800	Recommended exposed surface area value for children aged 2-3. In agreement with Massachusetts Department of Environmental Protection, 1 mg/cm2 has ben adopted as the default value for sediment. This assumes	enHealth (2012) DEP (2002)
ediment to skin adherence factor			1800	Recommended exposed surface area value for children aged 2-3. In agreement with Massachusetts Department of Environmental Protection, 1 mg/cm2 has ben adopted as the default value for sediment. This assumes that only the monolayer against the skin has implications in dermal	
rediment to skin adherence factor nhalation of dust - indoors			1800	Recommended exposed surface area value for children aged 2-3. In agreement with Massachusetts Department of Environmental Protection, 1 mg/cm2 has ben adopted as the default value for sediment. This assumes that only the monolayer against the skin has implications in dermal absorption. Not an applicable pathway	
ediment to skin adherence factor nhalation of dust - indoors xposure time (indoor air)	mg/cm2		1800	Recommended exposed surface area value for children aged 2-3. In agreement with Massachusetts Department of Environmental Protection, 1 mg/cm2 has ben adopted as the default value for sediment. This assumes that only the monolayer against the skin has implications in dermal absorption.	
ediment to skin adherence factor nhalation of dust - Indoors xposure time (Indoor air) xposure frequency	mg/cm2 hours/day		1800	Recommended exposed surface area value for children aged 2-3. In agreement with Massachusetts Department of Environmental Protection, 1 mg/cm2 has ben adopted as the default value for sediment. This assumes that only the monolayer against the skin has implications in dermal absorption. Not an applicable pathway Not an applicable pathway Not an applicable pathway	
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				k, Captains Lagoon)	Reference
arameter	Units	Typical Estimate	Opper Estimate	Notes	Kelerence
wimming in the ocean					
		1		Children anticipated to swim with adults in the ocean once per month or	
xposure frequency	days/year	12		fortnightly.	Professional judgemen
Activity duration	hours/day	0.5		Professional judgement	Professional judgemen
ncidental water ingestion rate	L/hour	0.05	0.15	Recommended values per enHealth (2012).	enHealth (2012)
xposed skin surface for water contact	cm2	7000	6100	Entire body	enHealth (2012)
plashing in pooled/flooded groundwater after heavy	rain events				
xposure frequency	days/year			Not an applicable pathway	
Activity duration	hours/day			Not an applicable pathway	
ncidental water ingestion rate	L/hour			Not an applicable pathway	
xposed skin surface for water contact	cm2			Not an applicable pathway	
ngestion of plant produce	ICINZ			not an applicable pathway	
igestion of plant produce				Typical estimate assumes flora consumed once per month. Upper estimate	
	1				n (
xposure frequency - fruit	days/year	12	52	assumes flora consumed once per week.	Professional judgemen
xposure frequency - vegetables	days/year			Only fruit assumed to be consumed by recreational users.	Professional judgement
onsumption rate - green vegetables	g/day		-	Only fruit assumed to be consumed by recreational users.	Professional judgemen
onsumption rate - root vegetables	g/day			Only fruit assumed to be consumed by recreational users.	Professional judgement
onsumption rate - tuber vegetables	g/day		-	Only fruit assumed to be consumed by recreational users.	Professional judgement
				Assumed to be a half serve or full serve of fruit per NHMRC nutritional	NHMRC (2013),
onsumption rate - fruit	g/day	75	150	guidelines for typical and upper estimates, respectively.	professional judgement
raction of flora found in affected areas	unitless	1		Conservative estimate of exposure.	Professional judgement
	unidess	1	AND DESCRIPTION OF THE PARTY OF	Constitution of Caposare.	Jie Jana na judgemen
ngestion of freshwater fish	la/da		Carl Activities	In	T T T T T T T T T T T T T T T T T T T
Daily fish ingestion rate (finfish only)	g/day	-		Not an applicable pathway	
exposure frequency for fish ingestion	days/year			Not an applicable pathway	
raction of daily fish intake from site	unitless			Not an applicable pathway	
ngestion of marine fish					
				Typical value is the mean daily food intake of finfish for children aged 2-3.	
		1		The upper estimate is the median daily food intake of finfish for children	
aily fish ingestion rate (finfish only)	g/day	3.6	83.2	aged 2-3. It is conservatively assumed that all finfish consumed are marine.	ABS (2014)
				Typical value assumes one meal of fish per week. Upper estimate assumes	
xposure frequency for fish ingestion	days/year	52	365	one meal of fish per day.	Professional judgemen
raction of daily fish intake from site	unitless	0.5	1	Conservative estimate of exposure.	Professional judgement
ngestion of freshwater crustaceans and molluscs					
	T	T		The mean and median values for shellfish consumption by children aged 2-3	
		1		are unreliable and are not recommended for use by enHealth (2012).	1
	1	1			
	1	1			2 2/3/5- 71
				Therefore, the typical value for adults has been carried through for children.	
				Therefore, the typical value for adults has been carried through for children.	
				Therefore, the typical value for adults has been carried through for children. The upper estimate is based upon consumption rates of all shellfish for Native American children (Table 10-107 in USEPA (2011)). The 95th	
				Therefore, the typical value for adults has been carried through for children. The upper estimate is based upon consumption rates of all shellfish for Native American children (Table 10-107 in USEPA (2011)). The 95th percentile value is 1.337 g/kg-day, assuming the average 15 kg child, the	
				Therefore, the typical value for adults has been carried through for children. The upper estimate is based upon consumption rates of all shellfish for Native American children (Table 10-107 in USEPA (2011)). The 95th percentile value is 1.337 g/kg-day, assuming the average 15 kg child, the upper estimate of shellfish consumption is 20.1 g/day. It is assumed that 1/4	ABS (2014); professions
Daily shellfish ingestion rate	g/day	0.4		Therefore, the typical value for adults has been carried through for children. The upper estimate is based upon consumption rates of all shellfish for Native American children (Table 10-107 in USEPA (2011)). The 95th percentile value is 1.337 g/kg-day, assuming the average 15 kg child, the upper estimate of shellfish consumption is 20.1 g/day. It is assumed that 1/4 of the shellfish consumed is freshwater, and 3/4 is marine.	
aily shellfish ingestion rate	g/day	0.4		Therefore, the typical value for adults has been carried through for children. The upper estimate is based upon consumption rates of all shellfish for Native American children (Table 10-107 in USEPA (2011)). The 95th percentile value is 1.337 g/kg-day, assuming the average 15 kg child, the upper estimate of shellfish consumption is 20.1 g/day. It is assumed that 1/4	ABS (2014); professions
aily shellfish ingestion rate	g/day	0.4		Therefore, the typical value for adults has been carried through for children. The upper estimate is based upon consumption rates of all shellfish for Native American children (Table 10-107 in USEPA (2011)). The 95th percentile value is 1.337 g/kg-day, assuming the average 15 kg child, the upper estimate of shellfish consumption is 20.1 g/day. It is assumed that 1/4 of the shellfish consumed is freshwater, and 3/4 is marine.	ABS (2014); professiona
			5	Therefore, the typical value for adults has been carried through for children. The upper estimate is based upon consumption rates of all shellfish for Native American children (Table 10-107 in USEPA (2011)). The 95th percentile value is 1.337 g/kg-day, assuming the average 15 kg child, the upper estimate of shellfish consumption is 20.1 g/day. It is assumed that 1/4 of the shellfish consumed is freshwater, and 3/4 is marine. Typical value assumes one meal of shellfish per week. Upper estimate	ABS (2014); professiona judgement
xposure frequency for shellfish ingestion	days/year	26	183	Therefore, the typical value for adults has been carried through for children. The upper estimate is based upon consumption rates of all shellfish for Native American children (Table 10-107 in USEPA (2011)). The 95th percentile value is 1.337 g/kg-day, assuming the average 15 kg child, the upper estimate of shellfish consumption is 20.1 g/day. It is assumed that 1/4 of the shellfish consumed is freshwater, and 3/4 is marine. Typical value assumes one meal of shellfish per week. Upper estimate assumes one meal of shellfish per day. It is assumed half of the shellfish consumed comes from freshwater and half is marine.	ABS (2014); professioni judgement Professional judgemen
xposure frequency for shellfish ingestion raction of daily shellfish intake from site			183	Therefore, the typical value for adults has been carried through for children. The upper estimate is based upon consumption rates of all shellfish for Native American children (Table 10-107 in USEPA (2011)). The 95th percentile value is 1.337 g/kg-day, assuming the average 15 kg child, the upper estimate of shellfish consumption is 20.1 g/day. It is assumed that 1/4 of the shellfish consumed is freshwater, and 3/4 is marine. Typical value assumes one meal of shellfish per week. Upper estimate assumes one meal of shellfish per day. It is assumed half of the shellfish	ABS (2014); professiona judgement Professional judgement
xposure frequency for shellfish ingestion raction of daily shellfish intake from site	days/year	26	183	Therefore, the typical value for adults has been carried through for children. The upper estimate is based upon consumption rates of all shellfish for Native American children (Table 10-107 in USEPA (2011)). The 95th percentile value is 1.337 g/kg-day, assuming the average 15 kg child, the upper estimate of shellfish consumption is 20.1 g/day. It is assumed that 1/4 of the shellfish consumed is freshwater, and 3/4 is marine. Typical value assumes one meal of shellfish per week. Upper estimate assumes one meal of shellfish per day. It is assumed half of the shellfish consumed comes from freshwater and half is marine. Conservative estimate of exposure.	ABS (2014); profession; judgement Professional judgement
xposure frequency for shellfish ingestion raction of daily shellfish intake from site	days/year	26	183	Therefore, the typical value for adults has been carried through for children. The upper estimate is based upon consumption rates of all shellfish for Native American children (Table 10-107 in USEPA (2011)). The 95th percentile value is 1.337 g/kg-day, assuming the average 15 kg child, the upper estimate of shellfish consumption is 20.1 g/day. It is assumed that 1/4 of the shellfish consumed is freshwater, and 3/4 is marine. Typical value assumes one meal of shellfish per week. Upper estimate assumes one meal of shellfish per day. It is assumed half of the shellfish consumed comes from freshwater and half is marine. Conservative estimate of exposure.	ABS (2014); profession judgement Professional judgemen Professional judgemen
xposure frequency for shellfish ingestion raction of daily shellfish intake from site	days/year	26	183	Therefore, the typical value for adults has been carried through for children. The upper estimate is based upon consumption rates of all shellfish for Native American children (Table 10-107 in USEPA (2011)). The 95th percentile value is 1.337 g/kg-day, assuming the average 15 kg child, the upper estimate of shellfish consumption is 20.1 g/day. It is assumed that 1/4 of the shellfish consumed is freshwater, and 3/4 is marine. Typical value assumes one meal of shellfish per week. Upper estimate assumes one meal of shellfish per day. It is assumed half of the shellfish consumed comes from freshwater and half is marine. Conservative estimate of exposure. The mean and median values for shellfish consumption by children aged 2-3 are unreliable and are not recommended for use by enHealth (2012).	ABS (2014); profession judgement Professional judgemen Professional judgemen
xposure frequency for shellfish ingestion raction of daily shellfish intake from site	days/year	26	183	Therefore, the typical value for adults has been carried through for children. The upper estimate is based upon consumption rates of all shellfish for Native American children (Table 10-107 in USEPA (2011)). The 95th percentile value is 1.337 g/kg-day, assuming the average 15 kg child, the upper estimate of shellfish consumption is 20.1 g/day. It is assumed that 1/4 of the shellfish consumed is freshwater, and 3/4 is marine. Typical value assumes one meal of shellfish per week. Upper estimate assumes one meal of shellfish per day. It is assumed half of the shellfish consumed comes from freshwater and half is marine. Conservative estimate of exposure.	ABS (2014); professioni judgement Professional judgemeni Professional judgemeni
xposure frequency for shellfish ingestion raction of daily shellfish intake from site	days/year	26	183	Therefore, the typical value for adults has been carried through for children. The upper estimate is based upon consumption rates of all shellfish for Native American children (Table 10-107 in USEPA (2011)). The 95th percentile value is 1.337 g/kg-day, assuming the average 15 kg child, the upper estimate of shellfish consumption is 20.1 g/day. It is assumed that 1/4 of the shellfish consumed is freshwater, and 3/4 is marine. Typical value assumes one meal of shellfish per week. Upper estimate assumes one meal of shellfish per day. It is assumed half of the shellfish consumed comes from freshwater and half is marine. Conservative estimate of exposure. The mean and median values for shellfish consumption by children aged 2-3 are unreliable and are not recommended for use by enHealth (2012). Therefore, the typical value for adults has been carried through for children.	ABS (2014); professioni judgement Professional judgemeni Professional judgemeni
xposure frequency for shellfish ingestion raction of daily shellfish intake from site	days/year	26	183	Therefore, the typical value for adults has been carried through for children. The upper estimate is based upon consumption rates of all shellfish for Native American children (Table 10-107 in USEPA (2011)). The 95th percentile value is 1.337 g/kg-day, assuming the average 15 kg child, the upper estimate of shellfish consumption is 20.1 g/day. It is assumed that 1/4 of the shellfish consumed is freshwater, and 3/4 is marine. Typical value assumes one meal of shellfish per week. Upper estimate assumes one meal of shellfish per week. Upper estimate assumes one meal of shellfish per way. It is assumed half of the shellfish consumed comes from freshwater and half is marine. Conservative estimate of exposure. The mean and median values for shellfish consumption by children aged 2-3 are unreliable and are not recommended for use by enHealth (2012). Therefore, the typical value for adults has been carried through for children. The upper estimate is based upon consumption rates of all shellfish for	ABS (2014); professioni judgement Professional judgemeni Professional judgemeni
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Appendix C - Community Survey Results





Department of Defence

Water Use and Biota Survey Jervis Bay Range Facility and HMAS Creswell – Jervis Bay Territory Commonwealth of Australia

DRAFT Report of Findings

August 2017

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Appendix B - Water Use Survey

1. Introduction

1.1 Background

The Department of Defence (Defence) has commenced a detailed investigation program at Jervis Bay Range Facility (JBRF) and HMAS Creswell (the base) and surrounding areas of Jervis Bay Territory, Commonwealth of Australia.

The investigation is part of Defence's review of a number of its sites around Australia that used fire-fighting foams containing perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). PFOS and PFOA are two of a number of compounds that are collectively known as PFAS and are emerging as an international concern due to their persistence in the environment.

GHD consulted with residents of Jervis Bay and Wreck Bay villages to understand how they use locally sourced food and water within the field investigation area surrounding JBRF and the base. This information will help inform the off-site investigation program.

This report summarises the findings from surveys that comprised 23 interviews of people who live and/or use water (including animals or plants that are consumed – biota) in the investigation area. The survey was conducted over two weeks, from 19 June to 29 June 2017 with additional information collected during two community barbeque events held on Sunday 9 and Tuesday 11 July, 2017.

1.2 Purpose

The purpose of this survey was to obtain information from local residents about water and land use at their properties and within the investigation area. The results presented in this report will assist Defence in recommending appropriate management strategies throughout the JBRF and HMAS Creswell Investigation.

1.3 Methodology

The chosen survey method was a questionnaire developed to act as a guide when interviewing community members through the collation of both qualitative and quantitative responses. For seven days between 19 and 26 June team members were located at Jervis Bay Territory Administration (JBTA) office (located in Jervis Bay village) or Wreck Bay Aboriginal Community Council (WBACC) office (located in Wreck Bay village). Dates and locations were arranged in collaboration with the WBACC and promoted to the community through notices via letterbox drops. Residents were invited to drop in or make an appointment to complete a survey. Fourteen surveys were completed during the period.

On 9 and 11 July, community barbeques were held with the assistance of members of the Wreck Bay Community, outside the WBACC office in Wreck Bay village. The barbeques were promoted by WBACC through a mailout to their registered members (roughly 300). Attendees spoke to GHD team members to complete a survey. A second method used to capture data at this time was using large coloured aerial maps of the investigation area to allow residents to place coloured coded dots to visually demonstrate how and where they have interacted with land and water in this area. There were 14 attendees at the two barbeques, with nine new surveys being completed (four attendees had previously completed a survey). This is discussed in more detail in section 3.14. and illustrated in Figure 13.

The original map used at the barbeque showing the investigation area and coloured dot legend is attached as **Appendix A – Map and legend used at community barbeque**. A blank copy of the water use survey is attached to this report as **Appendix B – Water Use Survey**.

2. Summary of key findings

There are a number of findings from the water use and biota survey responses that provide an insight into how residents of Jervis Bay Territory use land and water.

The key findings include:

- The majority of respondents (86%) indicated they are private renters. The remaining respondents were the Jervis Bay Village School, shop and police station.
- No respondents had bores located on their properties.
- One respondent, the Jervis Bay Primary School, has rainwater tanks that are used to flush some of the toilets, and to water the school vegetable garden. Town water is used for all other purposes.
- Seven respondents (30%) reported that after wet weather events, water pooled on their property and did not quickly drain away.
- Eighteen respondents (78%) regularly swim (or used to swim, when younger) in the oceans in Jervis Bay Territory.
- Thirteen respondents (57%) regularly swim (or used to swim, when younger) in the rivers or creeks in Jervis Bay Territory.
- Sixteen respondents (70%) regularly fish (or used to fish, or used to fish when younger) from the oceans in Jervis Bay Territory.
- Eight respondents (35%) regularly fish (or used to fish, when younger) from the rivers or creeks in Jervis Bay Territory.
- Nineteen respondents (83%) have consumed or continue to consume flora/vegetation collected from within the investigation area.
- Seventeen of the respondents (74%) have, at some point, used or consumed clay collected from within the investigation area on a regular basis.

3. Water use

The findings of the survey showed that all people surveyed use mains water as their primary water source.

The results also indicate that respondents regularly use land and water around Jervis Bay Territory. All respondents reported using land or water in some way including swimming, fishing, consuming flora or using clay.

All respondents had, at one point lived within the investigation area, with the majority currently living in Wreck Bay village.

3.1 Property type

Nineteen responses (83%) indicated that they rented a private residence. The remaining 13% of respondents (three) were the Jervis Bay Village Primary School, the local takeaway shop/general store and the Australian Federal Police station located in Jervis Bay Village. 57% of respondents (13) currently live in Wreck Bay Village and 26% of respondents (six) live in Jervis Bay Village. Of the 13% of respondents (three) who did not live in either village, two had previously lived in Wreck Bay village and one had lived in Jervis Bay village.

3.2 Type of supplied water

The majority of respondents indicated that there were no bores or water tanks on their property. Survey respondents are all supplied with mains water. The one respondent with water tanks was the Jervis Bay Primary School and water from rainwater tanks is used only to flush some of the toilets and to water the school vegetable garden.

3.3 Surface water on property

Respondents were asked if there was any surface water on the property, including; dam, wetland, creek, surface drain, pond or other. One respondent reported that they had a pond on their property, which was filled by a tap (mains water). 30% of respondents (seven) indicated that after wet weather, water pooled in their front or back yards and did not drain away quickly. Respondents did not indicate that this water was used in any way other than eventually draining away.

3.4 Drinking water from creeks/rivers

The survey asked respondents if they drank water from the creeks and rivers around the Territory. 74% of respondents (seventeen) indicated that they drank (or used to drink) from a number of creeks and rivers around the Territory, while 22% of respondents (five) said they did not. Locations were primarily Mary's Creek and Blacks Waterhole, but also included Summercloud Creek, Whiting Bay and Green Patch. Figure 2 below shows the breakdown of drinking water locations, and the most popular locations for drinking water.

Respondents have been drinking from these creeks and rivers for a range of 12 to 60+ years. Four respondents no longer drink creek or river water; one stopped drinking water from Mary's Creek 20-30 years ago. One stopped drinking from Whiting Bay 16 years ago and one stopped drinking at the Falls (Mary's Creek) about 40 years ago. Both of these respondents were not specific about why they had stopped drinking the water. One respondent stopped drinking around five years ago as they were concerned about potential contamination.

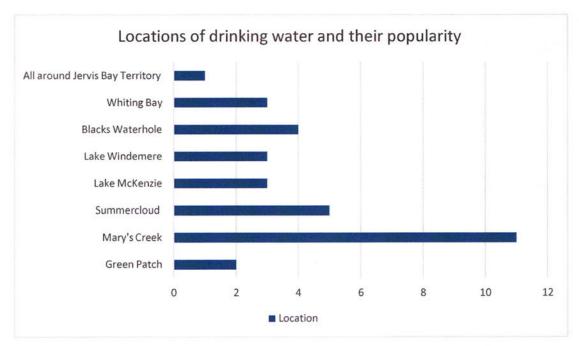


Figure 1 Locations and popularity of water consumed from creeks/river

3.5 Swimming in the ocean

The survey asked respondents if and where they swim in the ocean. 83% of respondents (nineteen) indicated that they swim in oceans around the investigation area regularly, while 13% of respondents (three) said they did not. Locations were primarily Mary's Beach and Summercloud Beach (also known as "Front Beach"). Figure 2 shows the breakdown of where respondents indicated that they swim in the ocean, and the number of people who swim at those spots. Respondents have been swimming in these locations for a range of 12 to 60+ years.



Figure 2 Locations where respondents swim in the ocean

3.6 Swimming in creeks/rivers

The survey asked respondents if and where they swim in creeks or rivers within the investigation area. 65% of respondents (fifteen) indicated that they swim (or in two cases used to swim) in creeks or rivers, while 30% of respondents (seven) said they did not.

Locations were primarily Mary's Beach (also known as 'Front Beach') and Summercloud Beach. Figure 3 below indicates where respondents swim in creeks or rivers. Respondents have been swimming in these locations for a range of 12 to 60+ years. Some older respondents no longer swim, or swim rarely.

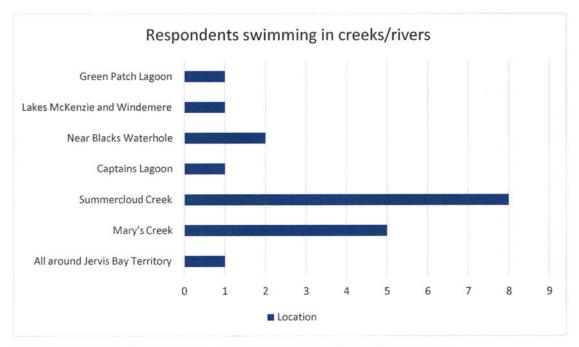


Figure 3 Locations where respondents swim in the creeks/rivers

3.7 Fishing from the ocean

The survey asked respondents if they fished from the ocean, the location of where they fished in the ocean and what they mostly caught. 83% of respondents (nineteen) indicated that they fished at beaches within the investigation area, while 13% of respondents (three) said they did not. The majority of respondents reported that they fished all around Jervis Bay Territory. Figure 4 shows where respondents indicated they fish from the ocean.

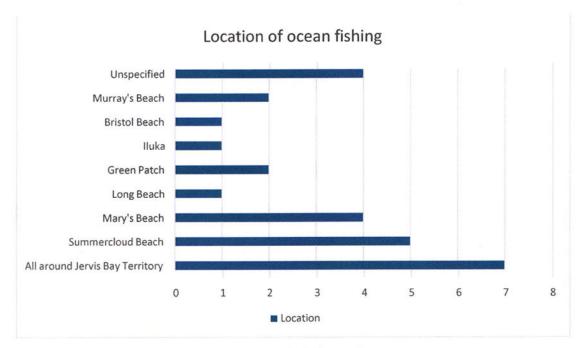


Figure 4 Locations where respondents fish from the ocean

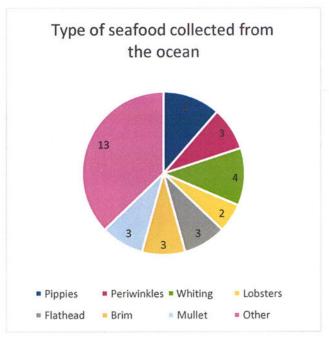


Figure 5 shows the types of seafood caught or collected. Respondents have been fishing at these locations for a range of 12 to 60+ years. One respondent said that they had stopped fishing in the area in the last six months due to concerns about potential contamination.

Figure 5 Types of seafood collected

3.8 Fishing from creeks/rivers

The survey asked respondents if they fished from creeks or rivers, the location of freshwater fishing and what they caught. 61% of respondents (fourteen) indicated that they fished in creeks or rivers within the investigation area, while 35% of respondents (eight) said they did not. The majority of respondents reported that they fished from Mary's Creek and Summercloud Creek (or the surrounding areas). Figure 6 shows which creeks and rivers respondents use for fishing.

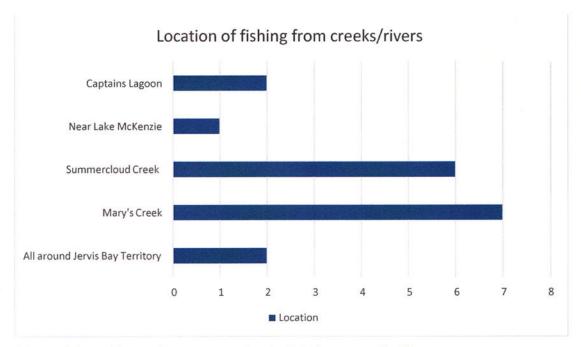


Figure 6 Locations where respondents fish from creeks/rivers

Figure 7 shows the types of fish collected from creeks and rivers. Respondents have been fishing at these locations for a range of 12 to 60+ years. One respondent reported that they fished for yabbies from Mary's and Summercloud Creeks 40 years ago, but doesn't any longer. They stopped collecting yabbies due to contamination concerns.

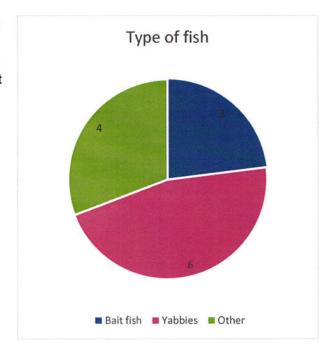


Figure 7 Types of fish collected from creeks/rivers

3.9 Eating flora

The survey asked respondents if they consumed flora/vegetation collected within the investigation area. 78% of respondents (eighteen) indicated that they collected and consumed flora, while 13% of respondents (three) said they did not. The majority of respondents reported that they collected flora from all over Jervis Bay Territory. Figure 8 indicates where respondents collect flora.



Figure 8 Locations where respondents collect flora

Figure 9 illustrates the type of flora that respondents collect. Respondents have been collecting and consuming flora from these locations for a range of 12 to 60+ years. Two respondents reported that they no longer collected flora but did not specify why. All of these plants are collected for consumption.

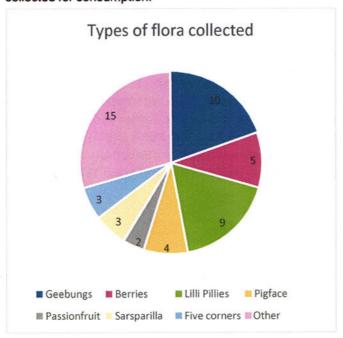


Figure 9 Types of flora collected and consumed

3.10 Eating fauna

No respondents indicated that they are fauna found in Jervis Bay Territory. Two people reported that they knew that historically, people did eat fauna such as, kangaroo, possum, rabbit and birds in the area but this no longer occurs.

3.11 Using water collected from creeks for cooking

Respondents were asked if they used water collected from creeks or rivers for cooking. 30% of respondents (seven) indicated that they have cooked with water collected from creeks and rivers, while 65% of respondents (fifteen) said they did not. Figure 10 describes where respondents collected water.

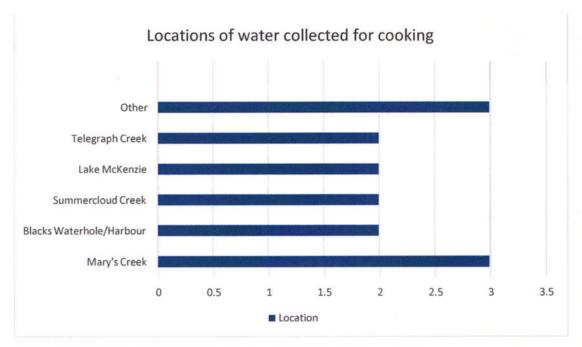


Figure 10 Where water has been or is collected for cooking

3.12 Using water collected from creeks for washing

Respondents were asked if they used water collected from creeks or rivers for washing. 87% of respondents (twenty) said that they did not collect water from creeks or rivers for washing, while 9% of respondents (two) indicated that they had. One respondent said that they have occasionally used water from the creek west of the aerodrome (JBRF) for washing. Another respondent said that they had occasionally washed at The Falls (Mary's Creek) as a child. The two respondents washed in the creeks as children in the 1950s and 1970s.

3.13 Eating or using clay

Respondents were asked if they consumed or used locally sourced clay. Clay can be applied to the skin for sun protection or ceremony, may be consumed for mineral benefits or may be played with by children. 70% of respondents (sixteen) indicated that they used clay from within the investigation area, while 26% respondents (six) said they did not. The majority of respondents reported that they used it as a topical application, usually as a sunscreen. 13% respondents (three) said they knew that in the past pregnant women consumed the clay when they had cravings. Figure 11 indicates the areas where respondents collected clay.

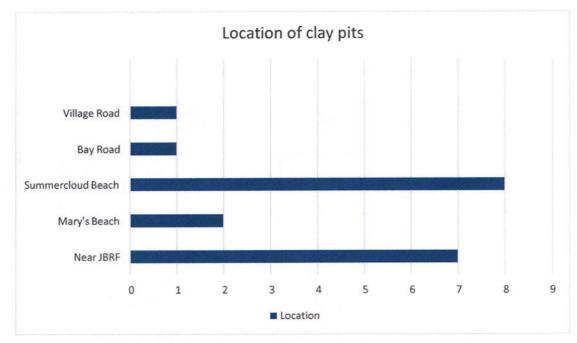


Figure 11 Where clay is collected

Figure 12 illustrates the reason respondents used clay. Respondents have been collecting and consuming clay from these locations for a range of 12 to 60+ years. 17% respondents (four) said that they had only used the clay as children.

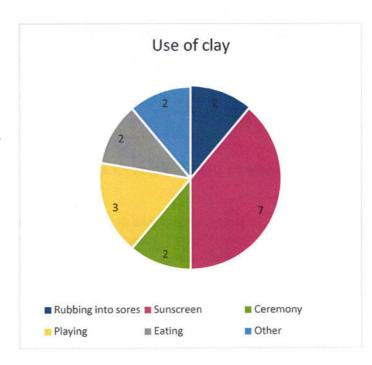


Figure 12 Use of clay

3.14 Additional comments

On 9 and 11 July, community barbeques were held and surveys taken. A second method used to capture data from the community members who attended the barbecues was using large coloured aerial maps of the investigation area to allow residents to place coloured coded dots to visually demonstrate how and where they have interacted with land and water in this area. There were 14 attendees at the two barbeques, with nine new surveys being completed (four attendees had previously completed a survey).

The data collected visually indicates the ongoing activities occurring between the Wreck Bay and Jervis Bay Communities and the environment within and close to the investigation area.

The map with collated responses which also shows the investigation area, and colour dot legend is shown below as Figure 13 - Collated Map Responses.

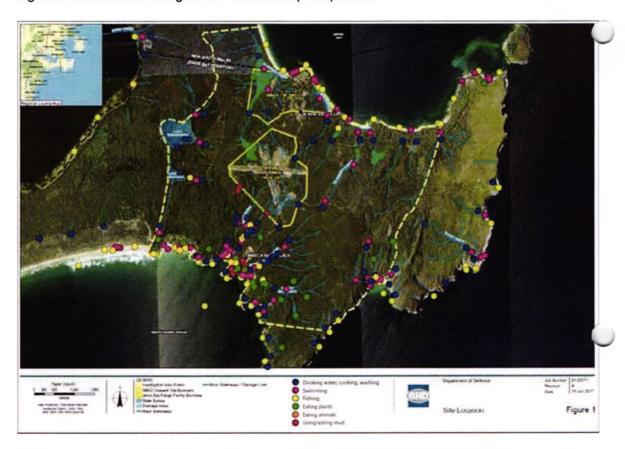


Figure 13 Collated Map Responses

A small number of respondents provided some additional comments that may be relevant to the investigations. Table 1, below summarises the comments and the number of respondents who raised the same issues.

Table 1 Additional comments

Number of respondents	Comments
Three	"There are a lot of community members who have died because of cancer or heart disease. We are dealing with different exposures over different generations."
Three	There are historical stories of people born in the 1930s and 1940s eating fauna. This included possums, birds, kangaroo, rabbits and porcupine [we assume this is echidna].
Three	References to the Coffey report:
	 Contamination in firefighting area which is referenced in the Report.
	 "Level of contamination was to be monitored (at border [on WB] of JBRF) but Defence hasn't done anything. Remediation Action Plan from the Coffey Report laid out actions to be taken by Defence in partnership with the community but nothing has happened. This has caused the lack of trust."
	 "Health risks (Coffey Report) around carcinogens haven't been communicated."
Two	How do you quantify the loss of cultural knowledge, through not being able to forage, etc. We lived off land, it was our whole life.
Two D	Defence used to do burn offs on JBRF using rubber tyres. In North Easterly winds, black smoke used to come towards community. It would go for hours on a daily basis.
Two	Buried drums with unknown contents:
	 "There was talk of Defence burying drums down the back of the JBRF, on the south western side."
	 "There were 44 gallon drums buried [outside the testing area], near Bherwerre Track. Pippi's are collected in the area on a regular basis."
Two	Wells:
	 There was an old well used for water (30 years ago) - near Summercloud Beach.
	There were wells in mission days.
Two	Since awareness of contamination, kids have been banned from eating yabbies (which are deformed), bush food, etc.
Two	In 1964 Lake McKenzie was overflowing and running into Lake Windemere.
One	Information about Booderee National Park and worker practices.
One	Request for blood tests.
One	"At the moment [June 2017] there is a white substance on the bottom of Mary's Creek, we don't know what it is."

Number of respondents	Comments
One	Kids sit in the water laying around the village after wet weather.
One	There is no link between health providers monitoring the area and the community.
One	"Flight patterns and high usage (of planes and helicopters) in the area affects plants. The fuel goes over the land, but no one has captured environmental impacts or impacts on people. They look at impacts that are visible but miss the invisible impacts."
One	"Lack of consultation/communication from the WBACC board about this investigation/project (amongst other issues) is frustrating for the community."
One	Used to be a firefighter and did drills at JBRF. I thought foam was going into a holding.
One	Foams used to run into Lake Windemere.

4. Conclusion

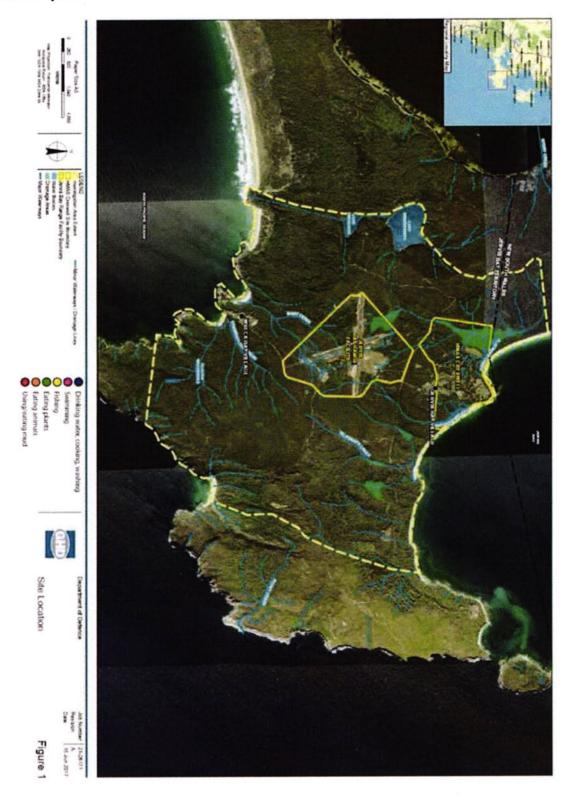
Residents of Jervis Bay Territory are connected to mains water; no respondents who lived in a private residence reported that they had bores or water tanks.

The survey results indicate that the residents of Jervis Bay Territory regularly use the land and water within the investigation area.

Given the number of people who regularly consume seafood, flora, clay or water it is recommended that investigation includes sampling in the areas indicated on the maps. A number of testing sites and different types of media (e.g. biota, surface water, soils, sediment) may need to be sampled and tested for PFAS and other chemicals.

Appendices

Appendix A – Map and legend used at community barbeque



Appendix B – Water Use Survey

Water Use Survey – Jervis Bay Territory

The Department of Defence is seeking to understand how water is used in the local area and requests your help to answer survey questions about water and land use on your property, and the quantity and type of local foods you and your family eat (such as meat, fruit and vegetables). This survey is an important part of the investigation and will assist in developing the detailed sampling program.

This investigation will determine the extent and levels of per- and poly-fluoroalkyl substances (PFAS) on, and around some of its bases around Australia. For more information regarding this investigation you can contact us on 1800 987 618 or at JervisBay@ghd.com

Your participation in this survey is voluntary and you do not have to provide an answer to each question if you choose not to. The privacy statement below explains how the information you provide will be used.

Privacy Statement

This information is being collected by GHD on behalf of the Department of Defence.

Your response will inform Defence's investigation of the environmental conditions in the Jervis Bay Range Facility investigation area. Supply of this information is voluntary. If you choose not to provide this information, Defence will not be able to take into account your specific circumstances. For more information about the investigation go to http://www.defence.gov.au/JervisBay or contact us through the telephone or email address provided (1800 987 618 or JervisBay@ghd.com)

The information you provide may be shared with Defence's technical advisors, relevant government agencies and organisations, and business entities directly involved in the environmental assessment program. Such organisations may include but are not limited to: Wreck Bay Aboriginal Community Council, Parks Australia, NSW Environmental Protection Agency, ACT Health, NSW Health, Jervis Bay Territory Administration.

The Defence Privacy Policy is available at. http://www.defence.gov.au/Privacy.asp The Defence Privacy Policy contains information on how an individual may apply for access to their personal information and how an individual may apply to have their personal information amended. The Defence Privacy Policy also contains information for individuals on how to make a privacy complaint to Defence if they consider Defence may have breached the Australian Privacy Principles. The Defence Privacy Officer can be contacted by email at: defence.gov.au/Privacy.asp The Defence Privacy Policy also contains information for individuals on how to make a privacy complaint to Defence if they consider Defence may have breached the Australian Privacy Principles. The Defence Privacy Officer can be contacted by email at: defence.gov.au/.

Date:	/ /
Name:	
Property address:	the second base
Postal address:	
Phone number:	
Email address:	
	property are you responding about? (if your property is used for more please select multiple answers)
☐ private residential	– owned
☐ private residential	- rented
□ school / childcare	
Other (please specify	
2. How many pe	ople usually live at this property?
3. How long have	e you lived at this property?
4. How is water of if required.	currently supplied to your property? Please select more than one answer
☐ mains water	☐ rain water ☐ bore water
Other (e.g. recycled v	water):
5. Do you have v	vater tanks on your property?
☐ Yes	□ No
If there a	re no water tanks on your property, please go to Question 10.

6.	How many water tanks are on your property and what material they are made from? (e.g. concrete, iron, poly, fibreglass)							
7.	Are your water t	anks above or l	below ground?					
8.	Have your water select more than			either currently o	r in the past? Please			
	No							
	Yes – my water tan	k/s are currently	mixed with bore	water				
	Yes – in the past m	y household rain	water tank/s we	re mixed with bore v	water			
	I use / have used bo w often do you clear							
9.	Are your water purposes?	tanks plumbe	ed directly into	the house and	used for household			
	☐ Yes – the water	tanks are plumb	ed directly to the	house to supply ho	usehold water			
	☐ No - the water to household purp		nected to the ho	use but water is son	netimes used for			
	□ No - water is us	ed for outdoor p	urposes only					
10.	Is there any surfa	ace water on yo	our property?					
	□ dam		creek		pond			
	□ wetland		surface drain		other			
	none							
If ye	s – please specify an	d outline any use	es of surface wate	er that you may be a	ware of			

If there is no bore on your property, please go to Question 15.

11. How many bores do you have on your property?
Active bores
Inactive bores
12. Please provide further details about your bore(s) if known.
What is / are the depth(s) of your bore(s)?
When were the bores installed?
Has the water quality of your bore ever been tested? If yes, would you be able to provide the results?
How much water do you take from the bore in a year?
Do you take water from your bore and store it on site (in dams, tanks etc.)?
☐ Yes ☐ No
If yes - please specify how many dams / tanks and their capacity
If you extract bore water and store on site in a dam, what is that water generally used for?
13. Is, or has your bore/s ever been, plumbed directly into the house and used for household purposes?
☐ Yes – the bore is / was plumbed directly to the house to supply household water
☐ No – the bore is not directly connected to the house

14.	How often do you or your family use water (other than mains water) on your property
	for the activities listed below? Please tick all that apply.

	Daily	Weekly	Monthly	Occasionally	Never	Years of use
Drinking						
Cooking						
Other indoor use (e.g. showering, washing up)						
Outdoor use (e.g. swimming pool, sprinkler play, washing vehicles)						
Watering fruit / vegetable garden						
Lawn watering						
Watering for livestock (drinking or irrigation of feed)						
Watering for poultry (drinking or irrigation of feed)						
Irrigation of commercial horticulture / crops						
Dust suppression (commercial sites)					0	
Fire fighting water (commercial sites)						
Aquaculture (growing fish) (private or commercial)						,
Other uses (please specify						

15. How often do you, or your family do the following activities? Please tick all that apply. Feel free to use the supplied maps to show locations.

	Daily	Weekly	Monthly	Occasionally	Never	For how many years?
Drinking water from creeks/rivers/etc						
If so, whereabouts?						
Swimming in ocean						
If so, whereabouts?						
Swimming in creeks/rivers/etc						
If so, whereabouts?						
Fishing from ocean						
If so, whereabouts?						
Fishing from creeks/rivers/etc						
If so, whereabouts?						
Eating flora (vegetables/leaves/etc)						
If so, whereabouts?						·
Eating fauna						
If so, whereabouts?						
Using water collected from creeks for cooking						
If so, whereabouts?						
Using water collected from creeks for washing						
If so, whereabouts?						
Eating clay/mud						
If so, whereabouts?						

		Daily	Weekly	Monthly	Occasionally	Never	For how many years?
Other	r uses (please fy						
Wher	eabouts?					*	
16.	If you answered fruit and /or v consumes it.						
17.	If you answered types of animal is consumed (e.	s you curre	ntly have o	r previously	had on your		
18.	Please provide	any additio	onal comm	ents here.			

Thank you for completing this questionnaire. If you have any questions, please contact the GHD Team:

email: JervisBay@ghd.com or phone 1800 876 618.

GHD

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^{*}Approved saved on file

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Appendix D - Proposed biota sampling locations

