

Atlantic RBCA - Ecological Tier I Environmental Quality Standards (EQS) for Groundwater (µg/L)

Groundwater		(>10 metres from Surface Water Body) Ground Water		(<10 metres from Surface Water Body) Ground Water	
Pathway		Discharge to Fresh Water	Discharge to Marine Water	Discharge to Fresh Water	Discharge to Marine Water
Parameter	Units	Value	Value	Value	Value
Inorganic Parameters					
Aluminum	µg/L	50	-	5	-
Antimony	µg/L	90	2500	9	250
Arsenic	µg/L	50	125	5	12.5
Barium	µg/L	10,000	5000	1000	500
Beryllium	µg/L	1.5	1000	0.15	100
Boron	µg/L	15,000	12,000	1500	1200
Cadmium	µg/L	0.9	1.2	0.09	0.12
Chromium (hexavalent)	µg/L	10	15	1	1.5
Chromium (total)	µg/L	89	560	8.9	56
Cobalt	µg/L	10	40	1	4
Copper	µg/L	20	20	2	2
Cyanide	µg/L	50	10	5	1
Iron	µg/L	3000	-	300	-
Lead	µg/L	10	20	1	2
Manganese	µg/L	4300	-	430	-
Mercury (total)	µg/L	0.26	0.16	0.026	0.016
Methylmercury	µg/L	0.04	0.04	0.004	0.004
Molybdenum	µg/L	730	10,000	73	1000
Nickel	µg/L	250	83	25	8.3
Selenium	µg/L	10	20	1	2
Silver	µg/L	2.5	15	0.25	1.5
Strontium	µg/L	210,000	-	21000	-
Thallium	µg/L	8	3	0.8	0.3
Tin	µg/L	-	-	-	-
Uranium	µg/L	150	85	15	8.5
Vanadium	µg/L	1200	50	120	5
Zinc	µg/L	70	100	7	10
General Chemistry Parameters					
Ammonia	µg/L	pH and temperature dependent; consult CCME fact sheet.	pH, salinity and temperature dependent; consult BCMOE schedule.	pH and temperature dependent; consult CCME fact sheet.	pH, salinity and temperature dependent; consult BCMOE schedule.
Chloride	µg/L	1,200,000	No more than a 10% change in ambient sea water salinity (as NaCl).	120,000	No more than a 10% change in ambient sea water salinity (as NaCl).
Colour	TCU	True Colour: Mean absorbance of filtered samples at 456 nm shall not be significantly higher than seasonally adjusted expected value for system under consideration. Apparent Colour: Mean percent transmission of white light per metre shall not be significantly less than seasonally adjusted value for system under consideration (CCME, 2001).		True Colour: Mean absorbance of filtered samples at 456 nm shall not be significantly higher than seasonally adjusted expected value for system under consideration. Apparent Colour: Mean percent transmission of white light per metre shall not be significantly less than seasonally adjusted value for system under consideration (CCME, 2001).	
Fluoride	µg/L	1200	15,000	120	1500
Hydrogen Sulphide	µg/L	20	-	2	-
Nitrate (as N)	µg/L	130,000	2,000,000	13,000	200,000
Nitrate + Nitrite (as N)	µg/L	-	-	-	-
Nitrite (as N)	µg/L	600	-	60	-
pH	Units	6.5 to 9	7.0 to 8.7	6.5 to 9	7.0 to 8.7
Sodium	µg/L	-	-	-	-
Sulphate	µg/L	1,280,000	-	128,000	-
Total Dissolved Solids (TDS)	µg/L	-	-	-	-

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Parameter	Units	Value	Value	Value	Value
Petroleum Hydrocarbons (PHC) Parameters					
Benzene	µg/L	4600	4600	2100	2100
Toluene	µg/L	4200	4200	770	770
Ethylbenzene	µg/L	3200	3200	320	320
Xylene	µg/L	2800	2800	330	330
Modified TPH (Gas)	µg/L	13,000	13,000	1500	1500
Modified TPH (Fuel)	µg/L	840	840	100	100
Modified TPH (Lube)	µg/L	480	480	100	100
MTBE	µg/L	100,000	50,000	10,000	5000
Polycyclic Aromatic Hydrocarbons (PAH) Parameters					
Non-Carcinogenic PAH Compounds					
Naphthalene	µg/L	11	14	1.1	1.4
1 - Methylanthracene	µg/L	20	10	2	1
2 - Methylanthracene	µg/L	20	10	2	1
Acenaphthene	µg/L	58	60	5.8	6
Acenaphthylene	µg/L	-	-	-	-
Anthracene	µg/L	0.12	1	0.012	0.1
Fluoranthene	µg/L	0.4	2	0.04	0.2
Fluorene	µg/L	30	120	3	12
Phenanthrene	µg/L	4	3	0.4	0.3
Pyrene	µg/L	0.25	0.2	0.025	0.02
Carcinogenic PAH Compounds					
BaP Total Potency Equivalents	µg/L	-	-	-	-
Benz[a]anthracene	µg/L	0.18	-	0.018	-
Benzo[a]pyrene	µg/L	0.15	0.1	0.015	0.01
Benzo[b,j,k]fluoranthene isomers	µg/L	-	-	-	-
Benzo[g,h,i]perylene	µg/L	-	-	-	-
Chrysene	µg/L	1	1	0.1	0.1
Dibenz[a,h]anthracene	µg/L	-	-	-	-
Indeno[1,2,3-c,d]pyrene	µg/L	-	-	-	-
Volatile Organic Compound (VOC) Parameters					
Bromodichloromethane	µg/L	2000	64,000	200	6400
Bromoform	µg/L	600	64,000	60	6400
Bromomethane	µg/L	9	64,000	0.9	6400
Carbon Tetrachloride (Tetrachloromethane)	µg/L	133	130	13.3	13
Chlorobenzene	µg/L	13	250	1.3	25
Chloroethane	µg/L	11,000	-	1100	-
Chloroform	µg/L	18	20	1.8	2
Chloromethane	µg/L	7000	64,000	700	6400
Dibromochloromethane	µg/L	400	64,000	40	6400
1,2-Dichlorobenzene	µg/L	7	420	0.7	42
1,3-Dichlorobenzene	µg/L	1500	1500	150	150
1,4-Dichlorobenzene	µg/L	260	260	26	26
1,1-Dichloroethane	µg/L	2000	-	200	-
1,2-Dichloroethane	µg/L	1000	1000	100	100
1,1-Dichloroethylene	µg/L	400	-	40	-
cis-1,2-Dichloroethylene	µg/L	2000	-	200	-
trans-1,2-Dichloroethylene	µg/L	2000	-	200	-
1,2-Dichloropropane	µg/L	7	30,400	0.7	3040
1,3-Dichloropropene	µg/L	70	-	7	-
Ethylene Dibromide	µg/L	50	-	5	-
Methylene Chloride (Dichloromethane)	µg/L	981	980	98.1	98
Styrene	µg/L	720	-	72	-
1,1,1,2-Tetrachloroethane	µg/L	200	-	20	-
1,1,2,2-Tetrachloroethane	µg/L	700	-	70	-
Tetrachloroethylene	µg/L	1100	1100	110	110
1,1,1-Trichloroethane	µg/L	100	-	10	-
1,1,2-Trichloroethane	µg/L	8000	-	800	-
Trichloroethylene	µg/L	210	200	21	20
Vinyl Chloride	µg/L	6000	-	600	-

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Parameter	Units	Value	Value	Value	Value
Pesticides					
Aldicarb	µg/L	10	1.5	1	0.15
Aldrin	µg/L	See Dieldrin;EQS applies to sum of aldrin + dieldrin	-	See Dieldrin;EQS applies to sum of aldrin + dieldrin	-
Atrazine	µg/L	18	-	1.8	-
Azinphos-methyl	µg/L	0.1	0.1	0.01	0.01
Bendiocarb	µg/L	-	-	-	-
Bromoxynil	µg/L	50	-	5	-
Carbaryl	µg/L	2	2.9	0.2	0.29
Carbofuran	µg/L	18	-	1.8	-
Chlorothalonil	µg/L	1.8	3.6	0.18	0.36
Chlorpyrifos	µg/L	0.02	0.02	0.002	0.002
Cyanazine	µg/L	20	-	2	-
2,4-D	µg/L	40	40	4	4
DDT*	µg/L	0.01	0.01	0.001	0.001
Diazinon	µg/L	0.03	8.2	0.003	0.82
Dicamba	µg/L	100	-	10	-
Dichlorfop-methyl	µg/L	61	-	6.1	-
Dieldrin*	µg/L	0.01	0.019	0.001	0.0019
Dimethoate	µg/L	62	-	6.2	-
Dinoseb	µg/L	0.5	-	0.05	-
Diquat	µg/L	5	-	0.5	-
Diuron	µg/L	16	-	1.6	-
Endosulfan	µg/L	0.03	0.02	0.003	0.002
Endrin*	µg/L	0.02	0.023	0.002	0.0023
Glyphosate	µg/L	8000	-	800	-
Heptachlor*	µg/L	0.01	0.036	0.001	0.0036
Lindane	µg/L	0.1	-	0.01	-
Linuron	µg/L	70	-	7	-
Malathion	µg/L	1	1	0.1	0.1
MCPA	µg/L	26	42	2.6	4.2
Methoxychlor	µg/L	0.3	-	0.03	-
Metolachlor	µg/L	78	-	7.8	-
Metribuzin	µg/L	10	-	1	-
Paraquat	µg/L	160	-	16	-
Parathion	µg/L	0.08	-	0.008	-
Phorate	µg/L	-	-	-	-
Picloram	µg/L	290	-	29	-
Simazine	µg/L	100	-	10	-
Tebuthiuron	µg/L	16	-	1.6	-
Terbufos	µg/L	-	-	-	-
Toxaphene*	µg/L	0.08	0.002	0.008	0.0002
Triallate	µg/L	2.4	-	0.24	-
Trifluralin	µg/L	2	-	0.2	-
PFAS Substances					
Perfluorooctane sulfonate (PFOS)	µg/L	68	-	6.8	-
Perfluorooctanoic acid (PFOA)	µg/L	-	-	-	-
Perfluorobutanoate (PFBA)	µg/L	-	-	-	-
Perfluorobutanesulfonate (PFBS)	µg/L	-	-	-	-
Perfluorohexanesulfonate (PFHxS)	µg/L	-	-	-	-
Perfluoropentanoate (PFPeA)	µg/L	-	-	-	-
Perfluorohexanoate (PFHxA)	µg/L	-	-	-	-
Perfluorheptanoate (PFHpA)	µg/L	-	-	-	-
Perfluorononanoate (PFNA)	µg/L	-	-	-	-

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Other Parameters					
Polychlorinated Biphenyls (Total PCB)	µg/L	0.01	-	0.001	-
Dioxins and Furans (TEQ)	µg/L	-	-	-	-
Pentachlorophenol (PCP)	µg/L	5	79	0.5	7.9
Organotins - Tributyltin	µg/L	0.08	0.01	0.008	0.001
Ethylene Glycol	µg/L	1,920,000	1,920,000	192,000	192,000
Propylene Glycol	µg/L	5,000,000	5,000,000	500,000	500,000
Phenol	µg/L	40	2000	4	200

Notes:

All values in µg/L unless otherwise noted.

"-" indicates no guideline available.

* Indicates the benchmark value is below currently achievable analytical RDLs. For sites with potential surface water or groundwater contamination in relation to this substance, additional aquatic assessment and/or consultation with provincial regulators should occur to confirm this substance is not likely to be present at levels that could adversely affect aquatic biota.