

Table 3 - Nova Scotia Tier I Environmental Quality Standards (EQS) for Surface Water and Groundwater Discharging to Surface Water (µg/L)

Media		Surface Water (Including Groundwater < 10m from Surface Water Body)				Groundwater (> 10 metres from Surface Water Body)	
Pathway		Fresh Water		Marine Water		Fresh Water	Marine Water
Parameter	Units	Value	Reference	Value	Reference	Value	Value
<b>Inorganic Parameters</b>							
Aluminum	µg/L	5	CCME; at pH <6.5	-		50	-
Antimony	µg/L	9	BC CSR Schedule 3.2	250	BC CSR Schedule 3.2	90	2500
Arsenic	µg/L	5.0	CCME	12.5	CCME	50	125
Barium	µg/L	1000	BC CSR Schedule 3.2	500	BC CSR Schedule 3.2	10,000	5000
Beryllium	µg/L	0.15	BC CSR Schedule 3.2	100	BC CSR Schedule 3.2	1.5	1000
Boron	µg/L	1500	CCME	1200	BCMOECCS, 2019 - Approved	15,000	12,000
Cadmium	µg/L	0.09	CCME	0.12	CCME	0.9	1.2
Chromium (hexavalent)	µg/L	1.0	CCME	1.5	CCME	10	15
Chromium (total)	µg/L	8.9	CCME	56	CCME	89	560
Cobalt	µg/L	1	FEQG	4	BCMOECCS, 2019 - Approved	10	40
Copper	µg/L	2.0	CCME	2	BCMOECCS, 2019 - Approved	20	20
Cyanide	µg/L	5	CCME	1	BCMOECCS, 2019 - Approved	50	10
Iron	µg/L	300	CCME	-		3000	-
Lead	µg/L	1	CCME	2	BCMOECCS, 2019 - Approved	10	20
Manganese	µg/L	430	CCME	-		4300	-
Mercury (total)	µg/L	0.026	CCME	0.016	CCME	0.26	0.16
Methylmercury	µg/L	0.004	CCME	0.004	CCME	0.04	0.04
Molybdenum	µg/L	73	CCME	1000	BC CSR Schedule 3.2	730	10,000
Nickel	µg/L	25	CCME	8.3	BC CSR Schedule 3.2	250	83
Selenium	µg/L	1.0	CCME	2	BCMOECCS, 2019 - Approved	10	20
Silver	µg/L	0.25	CCME	1.5	BCMOECCS, 2019 - Approved	2.5	15
Strontium	µg/L	21,000	MDEQ, 2008	-		210,000	-
Thallium	µg/L	0.8	CCME	0.3	BC CSR Schedule 3.2	8	3
Tin	µg/L	-		-		-	-
Uranium	µg/L	15	CCME	8.5	BC CSR Schedule 3.2	150	85
Vanadium	µg/L	120	FEQG	5	FEQG	1200	50
Zinc	µg/L	7	CCME	10	BCMOECCS, 2019 - Approved	70	100
<b>General Chemistry Parameters</b>							
Ammonia	µg/L	pH and temperature dependent; consult CCME fact sheet.	CCME	pH, salinity and temperature dependent; consult BCMOE schedule.	BC CSR Schedule 3.2	pH and temperature dependent; consult CCME fact sheet.	pH, salinity and temperature dependent; consult BCMOE schedule.
Chloride	µg/L	120,000	CCME	No more than a 10% change in ambient sea water salinity (as NaCl).	BCMOECCS, 2019 - Approved	1,200,000	No more than a 10% change in ambient sea water salinity (as NaCl).

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Pathway		Fresh Water		Marine Water		Fresh Water	Marine Water
Parameter	Units	Value	Reference	Value	Reference	Value	Value
Colour	TCU	<b>True Colour:</b> Mean absorbance of filtered samples at 456 nm shall not be significantly higher than seasonally adjusted expected value for system under consideration. <b>Apparent Colour:</b> 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	120	CCME	1500	BCMOECCS, 2019 - Approved	1200	15,000
Hydrogen Sulphide	µg/L	2	OMOE, 1999	-		20	-
Nitrate (as N)	µg/L	13,000	CCME	200,000	CCME	130,000	2,000,000
Nitrate + Nitrite (as N)	µg/L	-		-		-	-
Nitrite (as N)	µg/L	60	CCME	-		600	-
pH	Units	6.5 to 9	CCME	7.0 to 8.7	CCME	#VALUE!	-
Sodium	µg/L	-		-		-	-
Sulphate	µg/L	128,000	BCMOECCS, 2019 - Approved	-		1,280,000	-
Total Dissolved Solids (TDS)	µg/L	-		-		-	-
<b>Petroleum Hydrocarbons (PHC) Parameters</b>							
Benzene	µg/L	2100	ARBCA, 2021	2100	ARBCA, 2021	4600	4600
Toluene	µg/L	770	ARBCA, 2021	770	ARBCA, 2021	4200	4200
Ethylbenzene	µg/L	320	ARBCA, 2021	320	ARBCA, 2021	3200	3200
Xylene	µg/L	330	ARBCA, 2021	330	ARBCA, 2021	2800	2800
Modified TPH (Gas)	µg/L	1500	ARBCA, 2021	1500	ARBCA, 2021	13,000	13,000
Modified TPH (Fuel)	µg/L	100	ARBCA, 2021	100	ARBCA, 2021	840	840
Modified TPH (Lube)	µg/L	100	ARBCA, 2021	100	ARBCA, 2021	480	480
MTBE	µg/L	10,000	CCME	5000	CCME	100,000	50,000
<b>Polycyclic Aromatic Hydrocarbons (PAH) Parameters</b>							
<b>Non-Carcinogenic PAH Compounds</b>							
Naphthalene	µg/L	1.1	CCME	1.4	CCME	11	14
1 - Methyl-naphthalene	µg/L	2	OMOE, 1999	1	BCMOECCS, 2019 - Approved	20	10
2 - Methyl-naphthalene	µg/L	2	OMOE, 1999	1	BCMOECCS, 2019 - Approved	20	10
Acenaphthene	µg/L	5.8	CCME	6	BCMOECCS, 2019 - Approved	58	60
Acenaphthylene	µg/L	-		-		-	-
Anthracene	µg/L	0.012	CCME	0.1	BC CSR Schedule 3.2	0.12	1
Fluoranthene	µg/L	0.04	CCME	0.2	BC CSR Schedule 3.2	0.4	2
Fluorene	µg/L	3	CCME	12	BCMOECCS, 2019 - Approved	30	120
Phenanthrene	µg/L	0.4	CCME	0.3	BC CSR Schedule 3.2	4	3
Pyrene	µg/L	0.025	CCME	0.02	BC CSR Schedule 3.2	0.25	0.2
<b>Carcinogenic PAH Compounds</b>							
BaP Total Potency Equivalents	µg/L	-		-		-	-
Benz[a]anthracene	µg/L	0.018	CCME	-		0.18	-
Benzo[a]pyrene	µg/L	0.015	CCME	0.01	BCMOECCS, 2019 - Approved	0.15	0.1
Benzo[b,j,k]fluoranthene isomers	µg/L	-		-		-	-
Benzo[g,h,i]perylene	µg/L	-		-		-	-

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Pathway		Fresh Water		Marine Water		Fresh Water	Marine Water
Parameter	Units	Value	Reference	Value	Reference	Value	Value
Chrysene	µg/L	0.1	BC CSR Schedule 3.2	0.1	BCMOECCS, 2019 - Approved	1	1
Dibenz[a,h]anthracene	µg/L	-		-		-	-
Indeno[1,2,3-c,d]pyrene	µg/L	-		-		-	-
<b>Volatile Organic Compound (VOC) Parameters</b>							
Bromodichloromethane	µg/L	200	OMOE, 1999	6400	New Hampshire DES, 2016	2000	64,000
Bromoform	µg/L	60	OMOE, 1999	6400	New Hampshire DES, 2016	600	64,000
Bromomethane	µg/L	0.9	OMOE, 1999	6400	New Hampshire DES, 2016	9	64,000
Carbon Tetrachloride (Tetrachloromethane)	µg/L	13.3	CCME	13	BC CSR Schedule 3.2	133	130
Chlorobenzene	µg/L	1.3	CCME	25	CCME	13	250
Chloroethane	µg/L	1100	MDEQ, 2008	-		11,000	-
Chloroform	µg/L	1.8	CCME	2	BC CSR Schedule 3.2	18	20
Chloromethane	µg/L	700	OMOE, 1999	6400	New Hampshire DES, 2016	7000	64,000
Dibromochloromethane	µg/L	40	OMOE, 1999	6400	New Hampshire DES, 2016	400	64,000
1,2-Dichlorobenzene	µg/L	0.7	CCME	42	CCME	7	420
1,3-Dichlorobenzene	µg/L	150	CCME	150	BC CSR Schedule 3.2	1500	1500
1,4-Dichlorobenzene	µg/L	26	CCME	26	BC CSR Schedule 3.2	260	260
1,1-Dichloroethane	µg/L	200	OMOE, 1999	-		2000	-
1,2-Dichloroethane	µg/L	100	CCME	100	BC CSR Schedule 3.2	1000	1000
1,1-Dichloroethylene	µg/L	40	OMOE, 1999	-		400	-
cis-1,2-Dichloroethylene	µg/L	200	OMOE, 1999	-		2000	-
trans-1,2-Dichloroethylene	µg/L	200	OMOE, 1999	-		2000	-
1,2-Dichloropropane	µg/L	0.7	OMOE, 1999	3040	New Hampshire DES, 2016	7	30,400
1,3-Dichloropropene	µg/L	7	OMOE, 1999	-		70	-
Ethylene Dibromide	µg/L	5	OMOE, 1999	-		50	-
Methylene Chloride (Dichloromethane)	µg/L	98.1	CCME	98	BC CSR Schedule 3.2	981	980
Styrene	µg/L	72	CCME	-		720	-
1,1,1,2-Tetrachloroethane	µg/L	20	OMOE, 1999	-		200	-
1,1,2,2-Tetrachloroethane	µg/L	70	OMOE, 1999	-		700	-
Tetrachloroethylene	µg/L	110	CCME	110	BC CSR Schedule 3.2	1100	1100
1,1,1-Trichloroethane	µg/L	10	OMOE, 1999	-		100	-
1,1,2-Trichloroethane	µg/L	800	OMOE, 1999	-		8000	-
Trichloroethylene	µg/L	21	CCME	20	BC CSR Schedule 3.2	210	200
Vinyl Chloride	µg/L	600	OMOE, 1999	-		6000	-
<b>Pesticides</b>							
Aldicarb	µg/L	1	CCME	0.15	CCME	10	1.5
Aldrin	µg/L	See Dieldrin, PWQO is for sum of aldrin + dieldrin	OMOE, 1999	-		See Dieldrin, PWQO is for sum of aldrin + dieldrin	-
Atrazine	µg/L	1.8	CCME	-	CCME	18	-

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Parameter	Units	Value	Reference	Value	Reference	Value	Value
Azinphos-methyl	µg/L	0.01	AEP, 2018	0.01	Quebec MDEQ	0.1	0.1
Bendiocarb	µg/L	-		-		-	-
Bromoxynil	µg/L	5	CCME	-		50	-
Carbaryl	µg/L	0.2	CCME	0.29	CCME	2	2.9
Carbofuran	µg/L	1.8	CCME	-		18	-
Chlorothalonil	µg/L	0.18	CCME	0.36	CCME	1.8	3.6
Chlorpyrifos	µg/L	0.002	CCME	0.002	CCME	0.02	0.02
Cyanazine	µg/L	2	CCME	-		20	-
2,4-D	µg/L	4	BC CSR Schedule 3.2	4	BC CSR Schedule 3.2	40	40
<b>DDT*</b>	µg/L	0.001	BC CSR Schedule 3.2	0.001	BC CSR Schedule 3.2	0.01	0.01
Diazinon	µg/L	0.003	BC CSR Schedule 3.2	0.82	New Hampshire DES, 2016	0.03	8.2
Dicamba	µg/L	10	CCME	-		100	-
Dichlorop-methyl	µg/L	6.1	CCME	-		61	-
<b>Dieldrin*</b>	µg/L	0.001	OMOE, 1999	0.0019	New Hampshire DES, 2016	0.01	0.019
Dimethoate	µg/L	6.2	CCME	-		62	-
Dinoseb	µg/L	0.05	CCME	-		0.5	-
Diquat	µg/L	0.5	OMOE, 1999	-		5	-
Diuron	µg/L	1.6	OMOE, 1999	-		16	-
Endosulfan	µg/L	0.003	CCME	0.002	CCME	0.03	0.02
<b>Endrin*</b>	µg/L	0.002	MOE, 1999	0.0023	New Hampshire DES, 2016	0.02	0.023
Glyphosate	µg/L	800	CCME	-		8000	-
<b>Heptachlor*</b>	µg/L	0.001	OMOE, 1999	0.0036	New Hampshire DES, 2016	0.01	0.036
Lindane	µg/L	0.01	CCME	-		0.1	-
Linuron	µg/L	7	CCME	-		70	-
Malathion	µg/L	0.1	BC CSR Schedule 3.2	0.1	BC CSR Schedule 3.2	1	1
MCPA	µg/L	2.6	CCME	4.2	CCME	26	42
Methoxychlor	µg/L	0.03	AEP, 2018	-		0.3	-
Metolachlor	µg/L	7.8	CCME	-		78	-
Metribuzin	µg/L	1	CCME	-		10	-
Paraquat	µg/L	16	MDEQ, 1996	-		160	-
Parathion	µg/L	0.008	OMOE, 1999	-		0.08	-
Phorate	µg/L	-		-		-	-
Picloram	µg/L	29	CCME	-		290	-
Simazine	µg/L	10	CCME	-		100	-
Tebuthiuron	µg/L	1.6	CCME	-		16	-
Terbufos	µg/L	-		-		-	-
<b>Toxaphene*</b>	µg/L	0.008	OMOE, 1999	0.0002	New Hampshire DES, 2016	0.08	0.002
Triallate	µg/L	0.24	CCME	-		2.4	-
Trifluralin	µg/L	0.2	CCME	-		2	-

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Pathway		Fresh Water		Marine Water		Fresh Water	Marine Water
Parameter	Units	Value	Reference	Value	Reference	Value	Value
<b>PFAS Substances</b>							
Perfluorooctane sulfonate (PFOS)	µg/L	6.8	FEQG	-		68	-
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	-		-		-	-
Perfluoroheptanoate (PFHpA)	µg/L	-		-		-	-
Perfluorononanoate (PFNA)	µg/L	-		-		-	-
<b>Other Parameters</b>							
Polychlorinated Biphenyls (Total PCB)	µg/L	0.001	OMOE, 1999	-		0.01	-
Dioxins and Furans (TEQ)	µg/L	-		-		-	-
Pentachlorophenol (PCP)	µg/L	0.5	CCME	7.9	U.S. EPA, 2017	5	79
Organotins - Tributyltin	µg/L	0.008	CCME	0.001	CCME	0.08	0.01
Ethylene Glycol	µg/L	192,000	CCME	192,000	BC CSR Schedule 3.2	1,920,000	1,920,000
Propylene Glycol	µg/L	500,000	CCME	500,000	BC CSR Schedule 3.2	5,000,000	5,000,000
Phenol	µg/L	4	CCME	200	BC CSR Schedule 3.2	40	2000

Notes:

All values in µg/L unless otherwise noted.

"-" indicates no guideline available.

The Atlantic PIRI benchmarks for BTEX and TPH (gasoline, diesel, #6 oil) are based on the Target Lipid Narcosis Model (TLNM), as these substances have a general narcotic mode of action. Because of this, it can be assumed that benchmarks for freshwater organisms are protective of marine organisms. This assumption is based on the similar sensitivity of freshwater and marine organisms to narcotic chemicals. Thus, most benchmarks derived on the basis of the TLNM are protective of both freshwater and marine organisms. For chemicals with more specific modes of action, freshwater and marine organisms can not be assumed to be similar in sensitivity, and separate freshwater and marine benchmarks should be applied or derived (if sufficient data exists).

\* 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.