characteristic name	method speciation	sample fraction	unit	Environmental quality guidelines for Alberta surface waters (2018) - Agricultural Uses	Environmental quality guidelines for Alberta surface waters (2018) - Protection of Aquatic Life	Canadian Water Quality Guidelines for the Protection of Agricultural Water Uses	Canadian Water Quality Guidelines for the Protection of Aquatic Life	Wildlife Health Benchmarks for Piscivores (Sample. B. et., al. 1996)	Federal Environmental Quality Guidelines	Guidelines for Canadian Drinking Water Quality - Chemical and Physical Parameters (2021)	Drinking Water Regulations (US EPA)	Water Quality Criteria - Organoleptic Effects (US EPA)	Water Quality Criteria - Human Health Drinking Water and Organism (US EPA)	Water Quality Criteria - Human Health Drinking Water (US EPA)	Water Quality Criteria - Aquatic Life Criteria (US EPA)	Guidelines for drinking-water quality (WHO)
.alpha.-Endosulfan			ug/L												0.056	
.beta.-Endosulfan			ug/L												0.056	
1,1,1-Trichloroethane			ug/L								200		10000	200000		
1,1,2,2-Tetrachloroethane			ug/L										2	30		
1,1,2-Trichloroethane			ug/L				21				3		5.5	89		
1,1-Dichloroethylene			ug/L					929		14	7		300	20000		
1,2,3,4-Tetrachlorobenzene			ug/L		1.8		1.8						0.03	0.03		
1,2,3-Trichlorobenzene			ug/L		8		8									
1,2,4-Trichlorobenzene			ug/L		24		24				70		0.071	0.76		
1,2-Dibromo-3-chloropropane			ug/L								0.2					1
1,2-Dibromoethane			ug/L													0.4
1,2-Dichlorobenzene			ug/L		0.7								1000	3000		1000
1,2-Dichloroethane			ug/L	5	100	5	100	4284		5	5		99	6500		30
1,2-Dichloroethene			ug/L													50
1,2-Dichloropropane			ug/L								5		9	310		40
1,2-Diphenylhydrazine			ug/L										0.3	2		
1,3-Dichlorobenzene			ug/L		150								7	10		
1,3-Dichloropropene			ug/L										2.7	120		20
1,4-Dichlorobenzene			ug/L		26								300	900		300
1,4-Dioxane			ug/L													50
2,3,4,6-Tetrachlorophenol			ug/L							100		1				
2,3-Dichlorophenol			ug/L									0.04				
2,4,5-Trichlorophenol			ug/L									1	300	600		9
2,4,6-Trichlorophenol			ug/L							5		2	15	28		200
2,4-D			ug/L		4		4			100	70		1300	12000		30
2,4-DB			ug/L		25											90
2,4-Dichlorophenol			ug/L							900		0.3	10	60		
2,4-Dimethylphenol			ug/L									400	100	3000		
2,4-Dinitrophenol			ug/L										10	300		
2,4-Dinitrotoluene			ug/L										0.49	17		
2,5-Dichlorophenol			ug/L									0.5				
2,6-Dichlorophenol			ug/L									0.2				
2-Chloronaphthalene			ug/L										800	1000		
2-Chlorophenol			ug/L									0.1	30	800		
2-Methyl-4,6-Dinitrophenol			ug/L										2	30		
2-Methyl-4-Chlorophenol			ug/L									1800				
3,3'-Dichlorobenzidine			ug/L										0.49	1.5		
3,4-Dichlorophenol			ug/L									0.3				
3-Chlorophenol			ug/L									0.1				
carbamate			ug/L		1.9		1.9									
3-Methyl-4-Chlorophenol			ug/L									3000	500	2000		
3-Methyl-6-Chlorophenol			ug/L									20				
4-Chlorophenol			ug/L									0.1				
Acenaphthene			ug/L		5.8		5.8					20	70	90		
Acridine			ug/L		4.4		4.4									
Acrolein			ug/L		3								3	400	3	
Acrylamide			ug/L								0.5					0.5
Acrylonitrile			ug/L										0.61	70		
Alachlor			ug/L								2					20
Alcohol ethoxylates			ug/L						70							
Aldicarb			ug/L	11	1	11	1									10
Aldrin			ug/L		0.004		0.004	0.001					0.0000077	0.0000077		
Aldrin and dieldrin			ug/L													0.03
Alkalinity, total	as CaCO3		mg/L		20										20	
alpha-Endosulfan			ug/L										20	30		
alpha-Hexachlorocyclohexane			ug/L										0.0036	0.0039		
Aluminum		Total	ug/L	5000		5000	100	18								200
Aluminum		Dissolved	ug/L		50											
Ammonia			mg/L		0.794											35
Ammonia, unionized			mg/L		0.016		0.019									
Aniline			ug/L		2.2		2.2									

Anthracene		ug/L		0.012		0.012						300	400			
Antimony	Total	ug/L					161		6	6		5.6	640			20
Arsenic	Total	ug/L	25	5	25	5	16		10	10		0.18	1.4			10
Arsenic	Dissolved	ug/L												150		
Asbestos		ug/L								7		7				
Atrazine		ug/L	5	1.8	5	1.8			5	3						
metabolites		ug/L														100
Azinphos-methyl		ug/L		0.01					20					0.01		
Barium	Total	ug/L							1000	2000		1000				1300
Benzene		ug/L		40		370	2293		5	5		5.8	160			10
Benzidine		ug/L										0.0014	0.11			
Benzo(a)anthracene		ug/L		0.018		0.018						0.012	0.013			
Benzo(a)pyrene		ug/L		0.015		0.015	0.00672		0.04	0.2		0.001	0.0013			0.7
Benzo(b)fluoranthene		ug/L										0.012	0.013			
Benzo(k)fluoranthene		ug/L										0.12	0.13			
Beryllium	Total	ug/L	100		100		136			4						
beta-Endosulfan		ug/L										20	40			
beta-Hexachlorocyclohexane		ug/L										0.08	0.14			
Bis(2-Chloro-1-methylethyl) Ether		ug/L										200	4000			
Bis(2-Chloroethyl) Ether		ug/L										0.3	22			
Bis(2-Ethylhexyl) Phthalate		ug/L										0.32	0.37			
Bis(Chloromethyl) Ether		ug/L										0.002	0.17			
Bisphenol A-d6		ug/L						3.5								
Boron	Total	ug/L	5000	1500	5000	1500			5000							2400
Bromacil		ug/L	1100	5	1100	5										
Bromate		ug/L							10	10						10
Bromodichloromethane		ug/L	100													60
Bromoform		ug/L	100									7	120			100
Bromoxynil		ug/L	11	5	11	5			5							
Butylbenzyl Phthalate		ug/L										1	1			
Cadmium	Total	ug/L	80	0.184	80	0.184	0.231			5						3
Cadmium	Dissolved	ug/L												0.824		
Calcium		mg/L	1000		1000											
Captan		ug/L	13	1.3		1.3										
Carbamazepine		ug/L		10		10										
Carbaryl		ug/L	1100	0.2	110	0.2			90					2.1		
Carbofuran		ug/L	45	1.8	45	1.8			90	40						7
Carbon tetrachloride		ug/L	5	13.3	5	13.3	913		2	5		4	50			4
Chloramines		ug/L				0.5			3000	4000						
Chlorate		ug/L							1000							700
Chlordane		ug/L	7	0.006	7	0.006	0.00889			2		0.003	0.0032	0.0043		0.2
Chloride		mg/L		120		120			250					230		250
C18-C20		ug/L		2.4				2.4								
chain, C14-C17		ug/L		2.4				2.4								
C10-C13		ug/L		2.4				2.4								
Chlorine		ug/L		0.5						4000				11		5000
Chlorine dioxide		ug/L								800						
Chlorite		ug/L							1000	800						700
Chlorobenzene		ug/L		1.3					80	100		100	800			
Chlorodibromomethane		ug/L										8	210			
Chloroform		ug/L	100	1.8	100	1.8	3439					60	2000			300
Chlorophenol		ug/L		7		7										
TP) [Silvex]		ug/L	100		100					50		100	400			
Chlorothalonil		ug/L	170	0.18	170	0.18										
Chlorotoluron		ug/L														30
Chlorpyrifos		ug/L	24	0.002	24	0.002			90					0.041		30
Chromium	Total	ug/L							50	100						50
Chromium (III)	Total	ug/L	50	8.9	50	8.9						100	100			
Chromium (III)	Dissolved	ug/L												100.919		
Chromium (VI)	Total	ug/L	50	1	50	1	3593					100	100			
Chromium (VI)	Dissolved	ug/L						5						11		
Chrysene		ug/L										1.2	1.3			
cis-1,2-Dichloroethylene		ug/L								70						
Cobalt	Total	ug/L	1000	1.1	1000			1.1								
Copper	Total	ug/L	500	7	500	2.763			2000	1300	1000	13000				2000
Copper	Dissolved	ug/L						0.53								

Cyanazine		ug/L	10	2	10	2										0.6
Cyanide	as free CN	ug/L		5.2		5	369092		200	200		4	400	5.2		
Cyanobacterial toxins		ug/L							1.5							
Dalapon		ug/L								200						
DDT and metabolites		ug/L	30	0.001		0.001	0.00000414					0.0003	0.0003	0.001		1
Deltamethrin		ug/L	2.5	0.0004	2.5	0.0004										
Demeton		ug/L		0.1										0.1		
Di(2-ethylhexyl) adipate		ug/L								400						
Di(2-ethylhexyl) phthalate		ug/L		16		16				6						8
Diazinon		ug/L		0.17					20					0.17		
Dibenzo(a,h)anthracene		ug/L										0.001	0.0013			
Dibromoacetonitrile		ug/L														70
Dibromochloromethane		ug/L	100		100											100
Dicamba		ug/L	122	10	122	10			120							
Dichloroacetate		ug/L														50
Dichloroacetonitrile		ug/L														20
Dichlorobromomethane		ug/L			100							9.5	270			
Dichloromethane		ug/L	50		50				50	5						20
Dichlorophenol		ug/L		0.2		0.2										
Dichlorprop		ug/L														100
Diclofop-methyl		ug/L	9	6.1	9	6.1			9							
chloride		ug/L		1.5		1.5										
Dieldrin		ug/L		0.004		0.004	0.00136					0.00001	0.000012	0.056		
Diethanolamine		ug/L		450												
Diethyl Phthalate		ug/L					210561					600	600			
Diethylene glycol		ug/L		150000												
Diisopropanolamine		ug/L		1600		1600										
Dimethoate		ug/L	3	6.2	3	6.2			20							6
Dimethyl Phthalate		ug/L										2000	2000			
Di-n-Butyl Phthalate		ug/L		19		19	0.15					20	30			
Dinitrophenols		ug/L										10	1000			
Dinoseb		ug/L	150	0.05	150	0.05				7						
Dioxin (2,3,7,8-TCDD)		ug/L					2.13E-08			0.00003		0.00000005	0.000000051			
Diquat		ug/L							70	20						
Diuron		ug/L							150							
Edetic acid		ug/L														600
Endosulfan		ug/L		0.003		0.003	1									
Endosulfan Sulfate		ug/L										20	40			
Endothall		ug/L								100						
Endrin		ug/L	0.2	0.0023	0.2	0.0023	0.00131			2		0.03	0.03	0.036		0.6
Endrin Aldehyde		ug/L										1	1			
Epichlorohydrin		ug/L								200						0.4
Ethanol		ug/L					123377									
Ethinyl estradiol		ng/L		0.5												
Ethyl acetate		ug/L					136465									
Ethylbenzene		ug/L	2.4	90	2.4	90			140	700		68	130			300
Ethylene dibromide		ug/L								0.05						
Ethylene glycol		ug/L		192000		192000										
Fenoprop		ug/L														9
Fluoranthene		ug/L		0.04		0.04						20	20			
Fluorene		ug/L		3		3						50	70			
Fluoride		mg/L	1		1	0.12			1.5	4						1.5
Formaldehyde		ug/L					73910									
[Lindane]		ug/L	4	0.01			9			0.2		4.2	4.4			2
Glyphosate		ug/L	280	800	280	800			280	700						
Haloacetic acids		ug/L							80	60						
heptaBDE		ng/L		17				14								
Heptachlor		ug/L	3		3	0.01	0.00108			0.4		0.00006	0.000059	0.0038		
Heptachlor epoxide		ug/L		0.01						0.2		0.00032	0.00032	0.0038		
hexaBDE		ng/L		120				120								
Hexabromocyclododecane		ug/L		0.56				0.56								
Hexachlorobenzene		ug/L	0.52		0.52					1		0.001	0.00079			
Hexachlorobutadiene		ug/L		1.3		1.3						0.1	0.1			0.6
Hexachlorocyclohexane		ug/L				0.01						0.066	0.1			
Hexachlorocyclopentadiene		ug/L								50	1	4	4			
Hexachloroethane		ug/L										1	1			

Hydrazine			ug/L		2.6				2.6							
Hydrogen Sulfide			ug/L												2	
Hydroxyatrazine			ug/L													200
Imidacloprid			ug/L		0.23		0.23									
Indeno(1,2,3-cd)pyrene			ug/L										0.012	0.013		
nitrite)	as N	Dissolved	mg/L	100		100										
Iron		Total	ug/L				300		4206.074			300				
Iron		Dissolved	ug/L		300										1000	
Isophorone			ug/L										340	18000		
Isoproturon			ug/L													9
Lead		Total	ug/L	100	4.013	100	4.013	168		5	15					10
Lead		Dissolved	ug/L												3.067	
Linuron			ug/L		7		7									
Malathion			ug/L		0.1					190					0.1	
Manganese		Total	ug/L				470			120			50	100		
MCPA			ug/L	25	2.6	25	2.6			100						
m-Dichlorobenzene			ug/L				150									
Mecoprop			ug/L		13											10
Mercury		Total	ug/L	3	0.005	3	0.026	0.00158		1	2					6
Mercury		Dissolved	ug/L												0.77	
Mercury (methyl)		Total	ug/L		0.001											
Mercury (methyl)		Dissolved	ug/L				0.004									
Methanol			ug/L		1500			230691								
Methoprene			ug/L		0.09		0.09									
Methoxychlor			ug/L		0.03			1			40		0.02	0.02	0.03	20
Methyl Bromide			ug/L										100	10000		
Methyl tert-butyl ether			ug/L		10		10000									
Methylene chloride			ug/L		98.1		98.1	3990					200	10000		
Metolachlor			ug/L	50	7.8	50	7.8			50						10
Metribuzin			ug/L	80	1	80	1			80						
Microcystin-LR			ug/L													1
Mirex			ug/L		0.001										0.001	
Molinate			ug/L													6
Molybdenum		Total	ug/L	500	73	500	73									
Monochloramine			ug/L													3000
Monochloroacetate			ug/L													20
Monochlorobenzene			ug/L		1.3		1.3					20				
Monoethanolamine			ug/L		75											
Naphthalene			ug/L		1		1.1									
Nickel		Total	ug/L	1000	60.863	1000	109.782	1438					610	4600		70
Nickel		Dissolved	ug/L												60.68	
Nitrate	as N	Dissolved	mg/L		3		3			10	10		10			11.3
Nitrilotriacetic acid			ug/L							400						200
Nitrite	as N	Dissolved	mg/L	10	0.2	10	0.06			1	1					0.912
Nitrobenzene			ug/L									30	10	600		
Nitrosamines			ug/L										0.008	12.4		
Nitrosodibutylamine			ug/L										0.063	2.2		
Nitrosodiethylamine			ug/L										0.008	12.4		
Nitrosopyrrolidine			ug/L										0.16	340		
N-Nitrosodimethylamine			ug/L							0.04			0.007	30		0.1
N-Nitrosodi-n-Propylamine			ug/L										0.05	5.1		
N-Nitrosodiphenylamine			ug/L										33	60		
Nonylphenol			ug/L												6.6	
Nonylphenol and its ethoxylates			ug/L		6.6		1									
octaBDE			ng/L		17				14							
o-Dichlorobenzene			ug/L		0.7		0.7			200	600					
Oxamyl (Vydate)			ug/L								200					
Dichlorodiphenyldichloroethane			ug/L										0.001	0.0012		
Dichlorodiphenyldichloroethylene			ug/L										0.0002	0.00018		
Paraquat	as paraquat dichloride		ug/L							10						
Parathion			ug/L		0.013										0.013	
p-Dichlorobenzene			ug/L		26		26			5	75					
Pendimethalin			ug/L													20
pentaBDE			ng/L		0.2				0.2							
pentaBDE (BDE-100)			ng/L		0.2				0.2							
pentaBDE (BDE-99)			ng/L		4				4							

Pentachlorobenzene			ug/L		6		6						0.1	0.1		
Pentachloronitrobenzene			ug/L					4								
Pentachlorophenol			ug/L		0.5		0.5	0.275		60	1	30	0.3	0.4	15	9
Perchlorate			ug/L													70
Perfluorooctanesulfonate			ug/L						6.8	0.6						
Perfluorooctanoic acid			ug/L							0.2						
Permethrin			ug/L		0.004		0.004									
pH			pH units		9		9			7			9		6.5	
Phenanthrene			ug/L		0.4		0.4									
Phenol			ug/L	2	4	2	4					300	4000	300000		
Phorate			ug/L							2						
Picloram			ug/L	190	29	190	29			190	500					
Polychlorinated Biphenyls (PCBs)			ug/L		0.001		0.001				0.5		0.001	0.00064	0.014	
Propylene glycol			ug/L		500000		500000									
Pyrene			ug/L		0.025		0.025						20	30		
Quinoline			ug/L		3.4		3.4									
Selenium		Total	ug/L	50	2	50	1	0.236		50	50		170	4200		40
Silver		Total	ug/L		0.25		0.25									
Simazine			ug/L	10	10	10	10			10	4					2
Sodium dichloroisocyanurate			ug/L													50000
Solids Dissolved and Salinity			ug/L										250000			
Strontium		Total	ug/L							7000						
Styrene			ug/L		72		72				100					20
Sulfate	as SO4		mg/L	1000	309	1000										250
Sulfide			mg/L		0.0019											
Sulfolane			ug/L		50		50000									
Tebuthiuron			ug/L	130	1600	130	1.6									
Terbufos			ug/L							1						
Terbuthylazine			ug/L													7
tetraBDE			ng/L		24				24							
Tetrabromobisphenol A			ug/L		3.1				3.1							
Tetrachloroethane			ug/L				13.3									
Tetrachloroethylene			ug/L		110		110	48		10	5		100	290		40
Tetrachlorophenol			ug/L		1		1									
Thallium		Total	ug/L		0.8		0.8	1			0.5		0.24	0.47		
Toluene			ug/L	24	0.5	24	2	764		60	1000		57	520		700
Total Dissolved solids			mg/L	3000		3000										
Toxaphene			ug/L	5	0.008	5	0.008	1			3		0.007	0.0071	0.0002	
Toxicity (chronic)			TU		0.3											
trans-1,2-Dichloroethylene			ug/L								100					
Triallate			ug/L	230	0.24	230	0.24									
triBDE			ng/L		46				46							
Tribromomethane			ug/L			100										
Tributyltin			ug/L	250	0.072	250	0.008								0.072	
Trichlorfon			ug/L		0.009		0.009									
Trichloroacetate			ug/L													200
Trichloroethylene			ug/L	50	21	50	21	49419		5	5		6	70		20
Trichlorophenol			ug/L		18		18									
Triclosan			ug/L						0.47							
Tricyclohexyltin			ug/L	250		250										
Triethylene glycol			ug/L		350000											
Trifluralin			ug/L	45	0.2	45	0.2			45						20
Trihalomethanes			ug/L							100	80					
Triphenyltin			ug/L	820	0.022	820	0.022									
Uranium		Total	ug/L	200	15	200	15			20	30					30
Vanadium		Total	ug/L	100		100			120							
Vinyl chloride			ug/L					78		2	2		0.22	16		0.3
Xylene			ug/L		30			28		90						500
Xylenes (total)			ug/L								10000					
Zinc		Total	ug/L	50	30	50000		30				5000	7400	26000		
Zinc		Dissolved	ug/L				31.345								137.874	