

Table 21
Water Quality Canadian Guidelines and Provincial Criteria for Metals

Parameter	CCREM Guidelines ¹			Provincial Criteria ² (Maximum Concentration)		
	Irrigation (all soils)	Live Stock Watering	Freshwater Aquatic Life	Irrigation (all soils)	Live Stock Watering	Freshwater Aquatic Life
Aluminum µg/L	5000	5000	100 @ pH ≥ 6.5 5 @ pH < 6.5	5000	5000	100 (Diss.) @ pH ≥ 6.5 52 to 74 for pH 6.1 to 6.4 ³
Arsenic µg/L	100	500	50	100 to 2000	500	50
Cadmium µg/L	10	20	0.2 @ 0 to 60 mg/L CaCO ₃ 0.8 @ 60 to 120 mg/L CaCO ₃	10	20	0.2 @ 0 to 60 mg/L CaCO ₃ 0.8 @ 60 to 120 mg/L CaCO ₃
Calcium mg/L		1000				4 to 8, moderate sensitivity to acid inputs > 8, low sensitivity to acid inputs
Chromium µg/L	100	1000	2, phyto- & zooplankton 20, fish	100	1000	2, phyto- & zooplankton 20, fish
Cobalt µg/L	50	1000		50	1000	50
Copper µg/L	200 - 1000	1000	2.0 @ 0 to 120 mg/L CaCO ₃	200	300	2 to 14.2 for 0 to 130 mg/L CaCO ₃
Iron µg/L			300	5000		300
Lead µg/L	200	100	1.0 @ 0 to 60 mg/L CaCO ₃ 2.0 @ 60 to 120 mg/L CaCO ₃	200	100	3 to 114 for 0 to 130 mg/L CaCO ₃
Manganese µg/L	200			200		100 to 1000
Mercury µg/L		3.0	0.1	2.0	3.0	0.1
Molybdenum µg/L	10 to 50	500		50	50 to 80	2000
Nickel µg/L	200	1000	25 @ 0 to 60 mg/L CaCO ₃ 65 @ 60 to 120 mg/L CaCO ₃	200	1000	25 @ 0 to 60 mg/L CaCO ₃ 65 @ 60 to 120 mg/L CaCO ₃
Phosphorus µg/L						5 to 15 (lake)
Selenium µg/L	20 to 50	50	1.0	20 to 50	50	1.0
Zinc µg/L	1000 @ pH < 6.5 5000 @ pH > 6.5	50000	30	1000 @ pH < 6.5 5000 @ pH > 6.5	50000	30

Notes: All water quality guidelines concentrations are for total metals, unless indicated otherwise. Diss = Dissolved.

For winter survey the hardness ranged from 50 to 130 mg/L CaCO₃.

¹ CCREM, 1987, Canadian Water Quality Guidelines.

² MOELP, 1994. Approved and Working Criteria for Water Quality - 1994.

³ For the winter survey the pH ranged from 6.1 to 7.6.