Table 1. Routine surface water quality parameters monitored by Manitoba Environment and Climate Change as part of the Long-term Water Quality Monitoring Program.

Parameter	MDL [1]	Units
Physical		
Colour, True	5	CU
Turbidity	0.1	NTU
Temperature		°C
Total Suspended Solids	1	mg/L
Total Dissolved Solids	4	mg/L
Specific Conductivity	1	umhos/cm
Biological		
Escherichia coli (*E. coli*)	1	MPN/100 mL
Chemical		
General Chemistry		
pH	0.1	pH units
Hardness (as CaCO3)	0.2	mg/L
Dissolved Oxygen	0.1	mg/L
Biochemical Oxygen Demand	1	mg/L
Total Alkalinity (as CaCO3)	1	mg/L
Carbonate (CO3)	0.6	mg/L
Bicarbonate (HCO3)	1.2	mg/L
Hydroxide (OH)	0.34	mg/L
Chloride (Cl)	0.1	mg/L
Sulfate (SO4)	0.3	mg/L
Total Carbon	1	mg/L
Total Inorganic Carbon	0.5	mg/L
Total Organic Carbon	0.5	mg/L
Chlorophyll a	0.1	ug/L
Phaeophytin a	0.1	ug/L
Anion Sum	0.1	
Cation Sum	0.1	
Cation - Anion Balance	-100	
Nutrients		
Total Ammonia (as N)	0.01	mg/L
Total Nitrogen	0.2	mg/L
Total Kjeldahl Nitrogen	0.2	mg/L
Nitrate and Nitrite (as N)	0.005	mg/L
Nitrite (as N)	0.001	mg/L
Nitrate (as N)	0.005	mg/L
Total Phosphorus	0.003	mg/L
Total Dissolved Phosphorus	0.003	mg/L
Total Particulate Phosphorus	0.0042	mg/L
Total Inorganic Phosphorus	0.003	mg/L
Total Acid-Hydrolyzable Phosphorus	0.0042	mg/L
Total Reactive Phosphorus	0.003	mg/L
Total Metals		
Aluminum	3	ug/L
Antimony	0.1	ug/L
Arsenic	0.1	ug/L
Barium	0.1	ug/L
Beryllium	0.1	ug/L
Bismuth	0.05	ug/L
Boron	10	ug/L
Cadmium	0.005	ug/L
Calcium	50	ug/L
Cesium	0.01	ug/L
Chromium	0.1	ug/L
Chromium Hexavalent	0.5	ug/L
Cobalt	0.1	ug/L
Copper	0.5	ug/L
Iron	10	ug/L

Parameter	MDL [1]	Units
Chemical - cont'd		
Lead	0.05	ug/L
Lithium	1	ug/L
Magnesium	5	ug/L
Manganese	0.1	ug/L
Molybdenum	0.05	ug/L
Nickel	0.5	ug/L
Potassium	50	ug/L
Rubidium	0.2	ug/L
Selenium	0.05	ug/L
Silicon	100	ug/L
Silver	0.01	ug/L
Sodium	50	ug/L
Strontium	0.2	ug/L
Tellurium	0.2	ug/L
Thallium	0.01	ug/L
Thorium	0.1	ug/L
Tin	0.1	ug/L
Titanium	0.3	ug/L
Tungsten	0.1	ug/L
Uranium	0.01	ug/L
Vanadium	0.5	ug/L
Zinc (Zn)	3	ug/L
Zirconium	0.2	ug/L
Mercury	0.005	ug/L
Dissolved Metals		
Aluminum	3	ug/L
Antimony	0.1	ug/L
Arsenic	0.1	ug/L
Barium	0.1	ug/L
Beryllium	0.1	ug/L
Bismuth	0.05	ug/L
Boron	10	ug/L
Cadmium	0.005	ug/L
Calcium	50	ug/L
Cesium	0.01	ug/L
Chromium	0.1	ug/L
Cobalt	0.1	ug/L
Copper	0.5	ug/L
Iron	10	ug/L
Lead	0.05	ug/L
Lithium	1	ug/L
Magnesium	5	ug/L
Manganese	0.1	ug/L
Molybdenum	0.05	ug/L
Nickel	0.5	ug/L
Potassium	50	ug/L
Rubidium	0.2	ug/L
Selenium	0.05	ug/L
Silicon	100	ug/L
Silver	0.01	ug/L
Sodium	50	ug/L
Strontium	0.2	ug/L
Tellurium	0.2	ug/L
Thallium	0.01	ug/L
Thorium	0.1	ug/L
Tin	0.1	ug/L
Titanium	0.3	ug/L
Tungsten	0.1	ug/L
Uranium	0.01	ug/L
Vanadium	0.5	ug/L
Zinc (Zn)	3	ug/L
Zirconium	0.2	ug/L

Parameter	MDL [1]	Units
Chemical - cont'd		
Pesticides [2]		
Chlorothalonil	0.05	ug/L
Triclopyr	0.05	ug/L
AMPA	0.5	ug/L
Glyphosate	0.2	ug/L
Pentachlorophenol	0.02	ug/L
2,4-D	0.05	ug/L
2,4-DB	0.05	ug/L
2,4-DP	0.05	ug/L
Bromoxynil	0.02	ug/L
Dinoseb	0.05	ug/L
MCPA	0.025	ug/L
Mecoprop	0.05	ug/L
Picloram	0.2	ug/L
Dicamba	0.006	ug/L
Alachlor	0.1	ug/L
Atrazine	0.1	ug/L
Atrazine-desethyl	0.05	ug/L
Azinphos-methyl	0.1	ug/L
Carbofuran	0.2	ug/L
Chlorpyrifos	0.02	ug/L
Cyanazine	0.1	ug/L
Diazinon	0.03	ug/L
Diclofop-methyl	0.1	ug/L
Dimethoate	0.1	ug/L
Malathion	0.1	ug/L
Methyl Parathion	0.1	ug/L
Metribuzin	0.2	ug/L
Parathion	0.1	ug/L
Simazine	0.1	ug/L
Terbufos	0.1	ug/L
Triallate	0.1	ug/L
Trifluralin	0.03	ug/L
a-chlordane	0.008	ug/L
gamma-hexachlorocyclohexane	0.008	ug/L
g-chlordane	0.008	ug/L
Methoxychlor	0.008	ug/L
Carboxin	0.1	ug/L
Diuron	0.018	ug/L
Eptam	0.2	ug/L
Fenoxaprop	0.1	ug/L
Imazamethabenz-methyl	0.01	ug/L
Metsulfuron-methyl	0.01	ug/L
Propanil	0.2	ug/L
Propoxur	0.2	ug/L
Quizalofop	0.1	ug/L
Sethoxydim	0.1	ug/L
Thifensulfuron-methyl	0.01	ug/L
Tralkoxydim	0.1	ug/L
Benomyl	0.1	ug/L
Deltamethrin	0.04	ug/L
Tribenuron-methyl	0.01	ug/L
Ethalfluralin	0.02	ug/L
Bromacil	0.1	ug/L

[1]: Minimum detection limit of analytical method

2: Pesticide analyses only conduted routinely at select sites along the Red River and Assiniboine River. Additional pesticide monitoring for a sub-set of monitoring sites included in the Provincial Long-term Water Quality Monitoring program only occur during the June-August period.