

Table 1. GNWT July 2020 Routine Water Quality Data compared to Historical GNWT and ECCC Water Quality Data

Lab Section	Parameter	Units	GNWT July 2020 Value	GNWT July Maximum Value 1982-2019*	GNWT Annual Maximum Value 1982-2019*	ECCC July Maximum Value 1972-2019*	ECCC Annual Maximum Value 1972-2019*
			Slave River at Fort Smith	Slave River at Fort Smith	Slave River at Fort Smith	Slave River at Fitzgerald	Slave River at Fitzgerald
Inorganics - Nutrients	Ammonia as Nitrogen	mg/L	0.022	0.025	0.52	0.085	0.33
	Nitrogen, Dissolved	mg/L	0.64	0.42	0.42	0.504	1.04
	Nitrogen, Total	mg/L	2.07	1.36	1.36	7.33	7.33
	Nitrate+Nitrite as Nitrogen	mg/L	0.135	0.28	0.28	0.29	0.29
	Organic Carbon, Dissolved	mg/L	16	12.4	14.6	22.1	40.4
	Organic Carbon, Total	mg/L	16.9	13.8	13.8	55.7	84
	Phosphorous, Dissolved	mg/L	0.009	0.013	0.02	0.056	0.343
	Phosphorous, Total	mg/L	1.74	0.464	4.4	4.67	4.67
	Inorganics - Physicals	Alkalinity, Total (as CaCO3)	mg/L	95.5	130	130	110
Conductivity, Specific		us/cm	247	230	340	273	364
pH		pH units	7.92	8.19	8.2	8.3	8.68
Solids, Total Dissolved		mg/L	381	200	200	290	387
Solids, Total Suspended		mg/L	1830	2800	2800	5600	5600
Turbidity		NTU	3310	1500	1870	6450	6450
Major Ions	Calcium	mg/L	34	34	44.9	42	42
	Chloride	mg/L	1.83	5.4	18	6.55	11
	Fluoride	mg/L	0.1	0.1	0.1	0.2	0.2
	Hardness	mg/L	117	126	152	138	138
	Magnesium	mg/L	7.78	9.9	9.9	8.57	8.8
	Potassium	mg/L	1.99	1.55	3.2	2.01	3.63
	Sodium	mg/L	5.8	7.3	15.7	8.85	13.5
	Sulphate	mg/L	29.6	25	61	37.2	37.2
	Trace Metals, Dissolved	Aluminum	ug/L	10.2	99.1	129	548
Antimony		ug/L	0.3	0.3	1.1	0.3	0.7
Arsenic		ug/L	0.6	0.8	0.8	2.5	3.8
Barium		ug/L	65.4	65.3	65.3	59.4	76.6
Beryllium		ug/L	<0.1	0.1	0.1	0.04	0.04
Bismuth		ug/L	<0.2	0.2	0.2	0.02	0.02
Boron		ug/L	23.3	19.8	19.8	90	110
Cadmium		ug/L	<0.04	0.44	0.44	0.056	0.36
Cesium		ug/L	0.1	0.2	0.2	0.13	0.13
Chromium		ug/L	0.1	0.4	0.4	0.8	2.09
Cobalt		ug/L	0.1	0.2	0.4	0.53	0.53

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	Copper	ug/L	4.5	5.6	5.6	5.6	10.6
	Iron	ug/L	64	237	389	1210	1210
	Lead	ug/L	0.1	1.4	1.4	0.7	1
	Lithium	ug/L	5.5	5.9	5.9	6.1	6.6
	Manganese	ug/L	0.6	2.6	11.5	38.4	40
	Molybdenum	ug/L	1.8	1.4	1.4	2.6	2.6
	Nickel	ug/L	3.7	2.6	2.6	4.5	4.7
	Rubidium	ug/L	0.7	0.9	0.9	1.9	1.9
	Selenium	ug/L	0.4	0.7	0.7	0.5	0.7
	Silver	ug/L	0.1	0.1	0.1	0.01	0.073
	Strontium	ug/L	144	155	155	180	186
	Thallium	ug/L	<0.1	0.1	0.1	0.02	0.08
	Tin	ug/L	<0.1	3	3	0.01	0.282
	Uranium	ug/L	1	0.6	0.6	1.19	1.19
	Vanadium	ug/L	0.3	1.3	1.3	1.8	2.79
	Zinc	ug/L	0.4	5.9	5.9	4.7	27.5
Trace Metals, Total	Aluminum	ug/L	25800	13300	26700	48700	48700
	Antimony	ug/L	0.6	0.4	4.4	0.5	1.36
	Arsenic	ug/L	19.7	7.8	15.7	11.3	35.2
	Barium	ug/L	1010	467	467	2200	2200
	Beryllium	ug/L	1.9	1.3	2	2.19	2.69
	Bismuth	ug/L	0.4	2.7	2.7	0.112	0.791
	Boron	ug/L	57.8	37.6	37.6	39.3	70
	Cadmium	ug/L	1.6	0.9	0.9	11.3	15
	Cesium	ug/L	5.2	2.4	3.9	1.5	4.91
	Chromium	ug/L	44.2	20.3	86	50.4	86
	Cobalt	ug/L	23.9	12.9	16	47	47
	Copper	ug/L	69.2	35.3	43	97	200
	Iron	ug/L	61600	28100	28100	128000	128000
	Lead	ug/L	32.9	17.4	22	77	77
	Lithium	ug/L	41.6	27	28.7	56.9	65.7
	Manganese	ug/L	885	567	567	1980	1980
	Molybdenum	ug/L	2.9	1.3	6.5	3	3
	Nickel	ug/L	77.7	38.7	57	280	280
	Rubidium	ug/L	53.1	27	52	31.3	63.4
	Selenium	ug/L	1.6	0.9	1.1	0.9	3.67
	Silver	ug/L	0.5	1.3	1.3	1.3	1.3

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	Strontium	ug/L	290	228	228	353	353
	Thallium	ug/L	0.6	0.3	0.47	0.48	0.722
	Tin	ug/L	0.1	7.2	7.2	0.3	0.898
	Uranium	ug/L	3.6	2.1	2.1	0.82	5.24
	Vanadium	ug/L	86.7	37.1	88.7	84.8	141
	Zinc	ug/L	258	116	162	561	561
Trace Metals, Ultra Low	Mercury, Dissolved	ng/L	2.1	1.4	3.9	0.48	1.18
	Mercury, Total	ng/L	100	57.5	57.5	65.8	65.8

*Periods of record vary for each parameter; < : value was reported by the laboratory as less than the detection limit.