

Appendix E

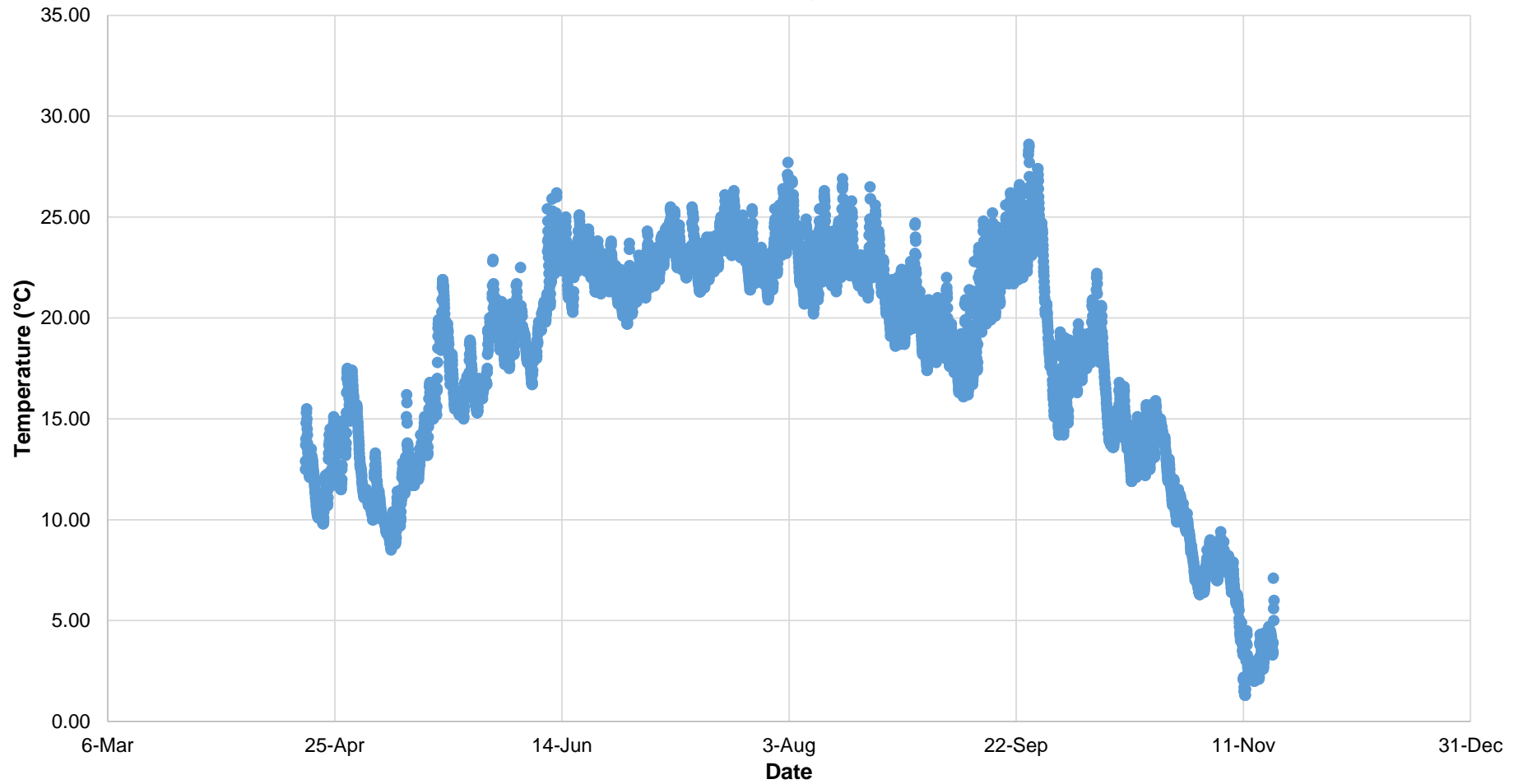
Surface Water Quality (Temperature and Chemistry)



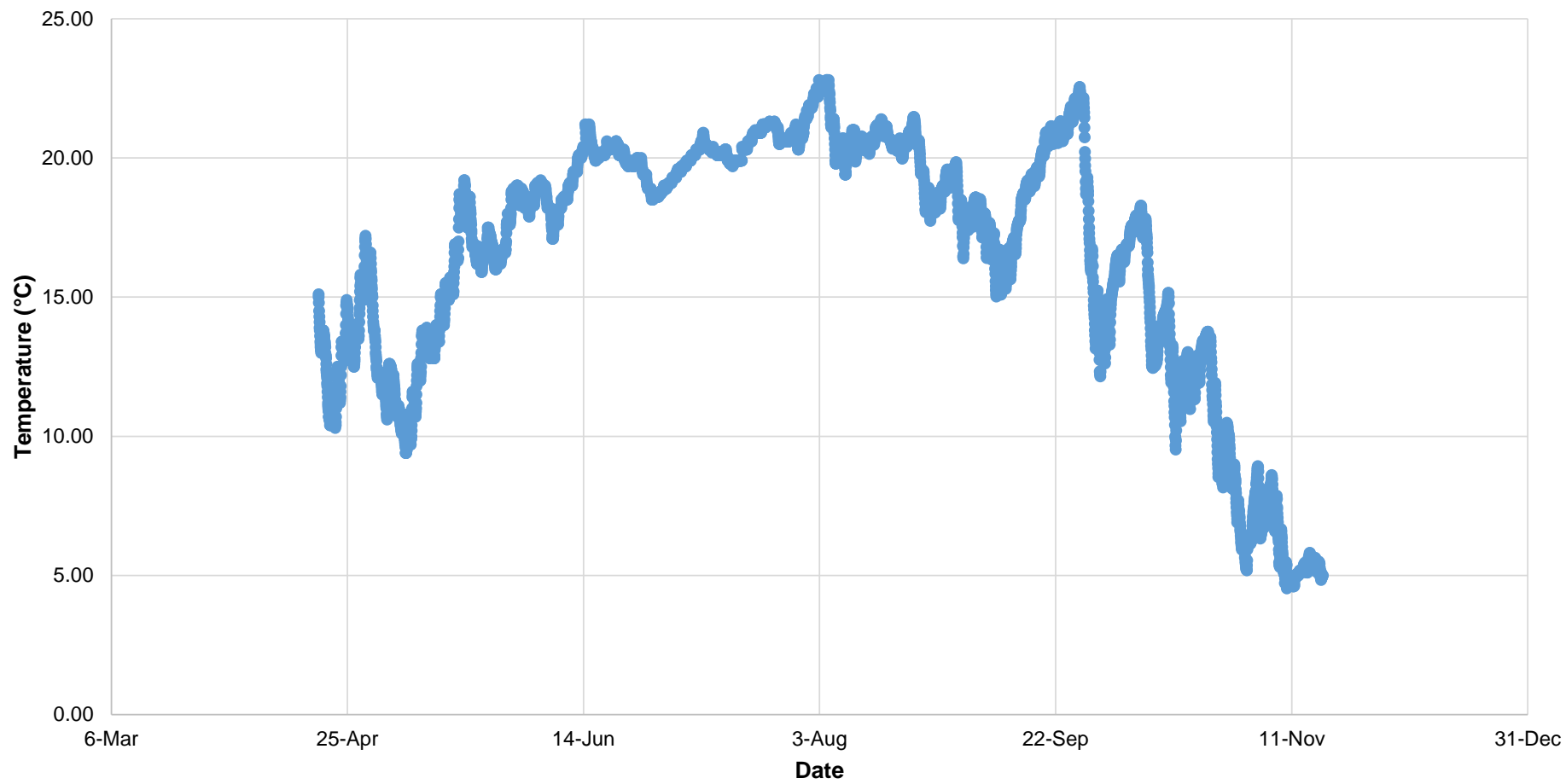
Appendix E1

Surface Wetland Water Temperature Results by Station 2017

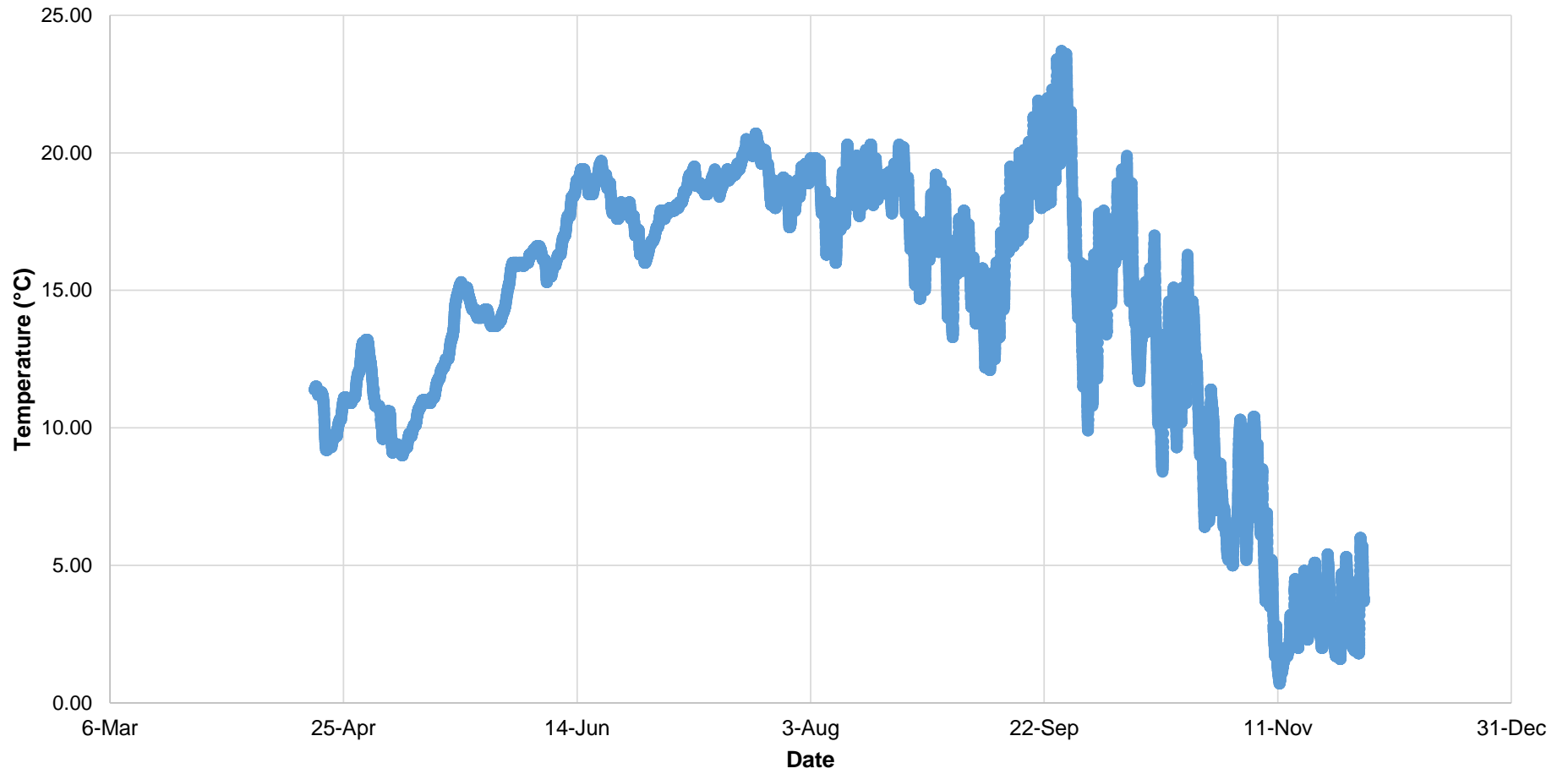
Station 1 Recorded Temperature for 2017



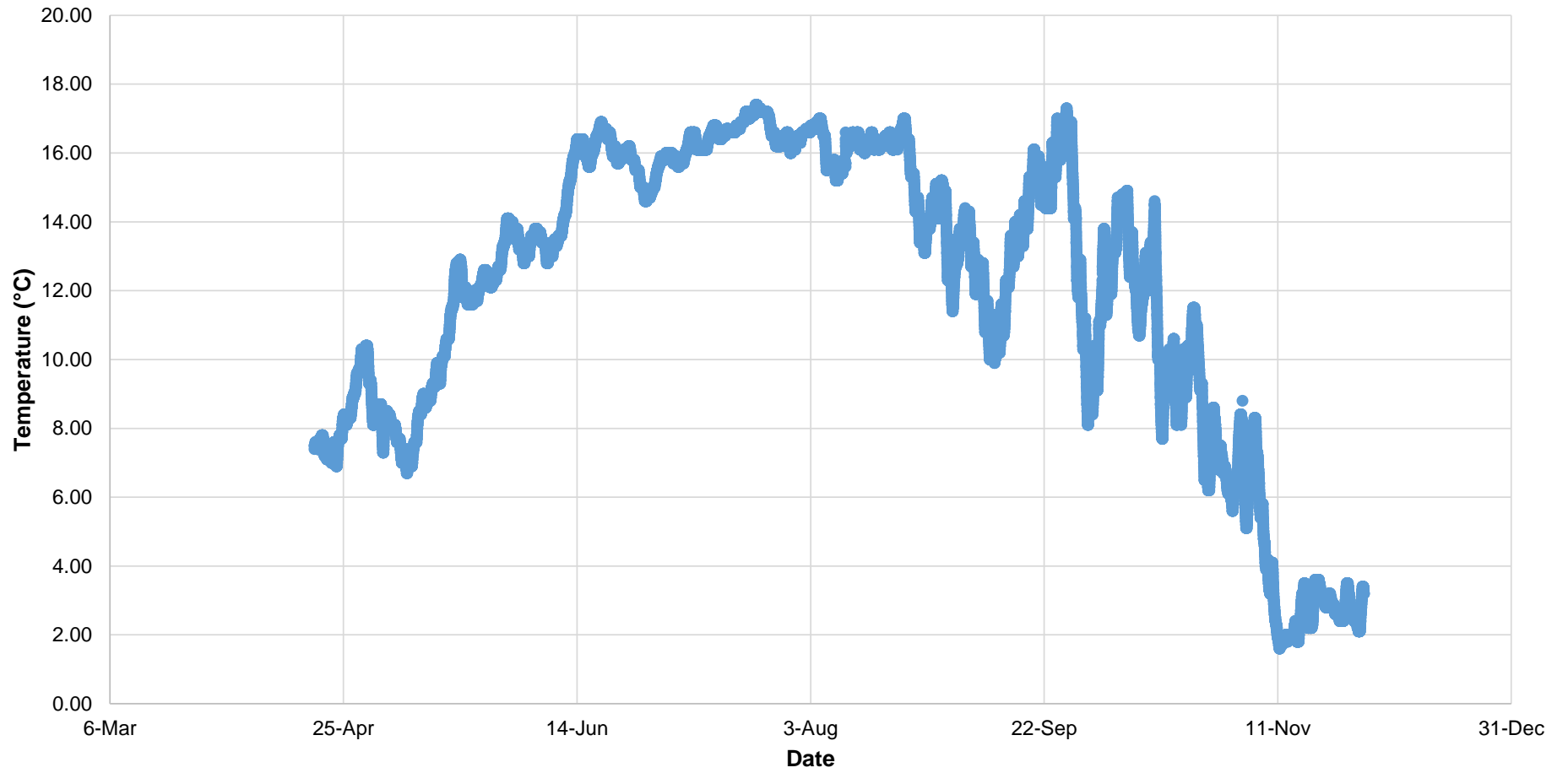
Station 2 Recorded Temperature for 2017



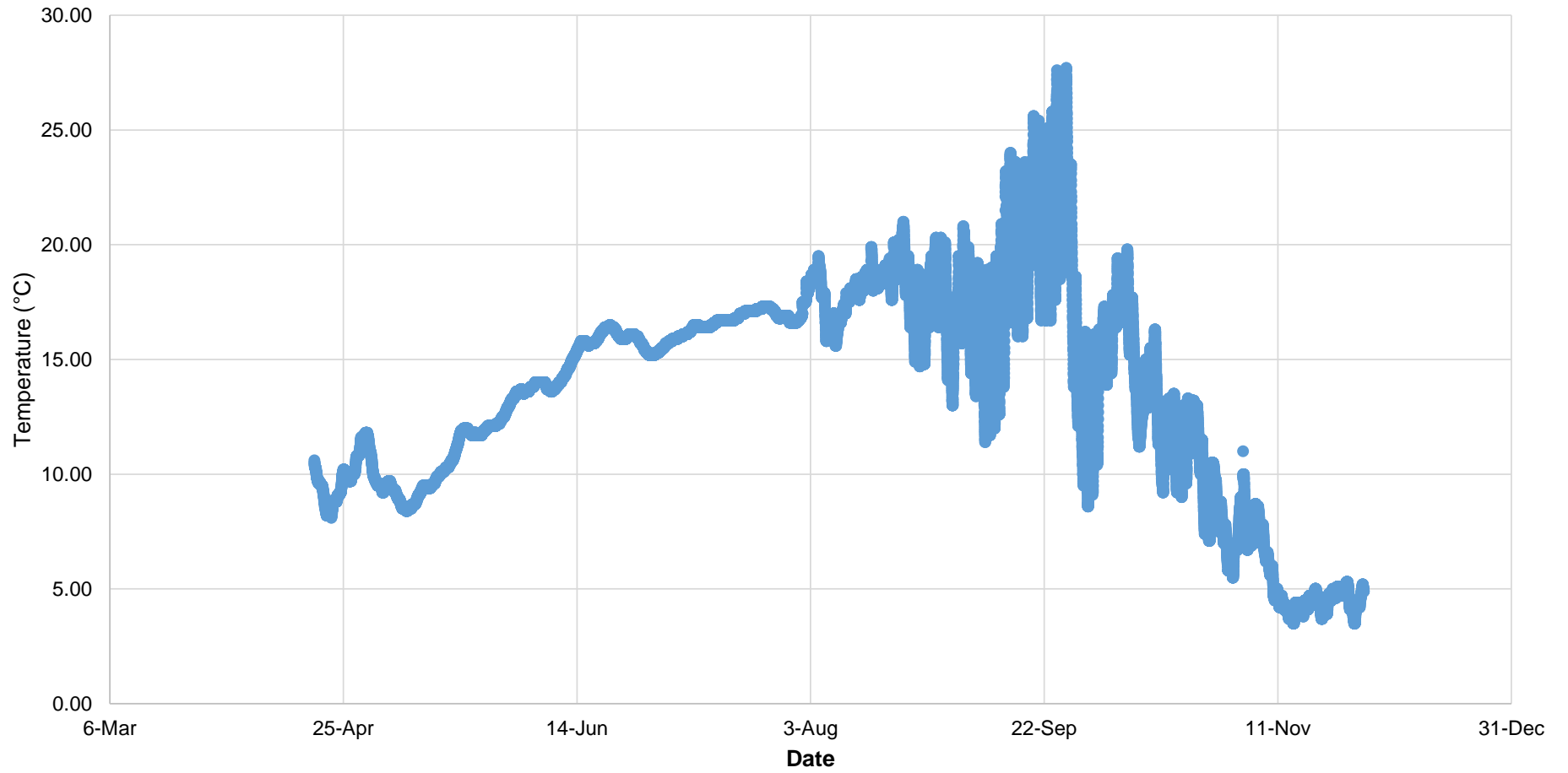
Station 3 Recorded Temperature for 2017



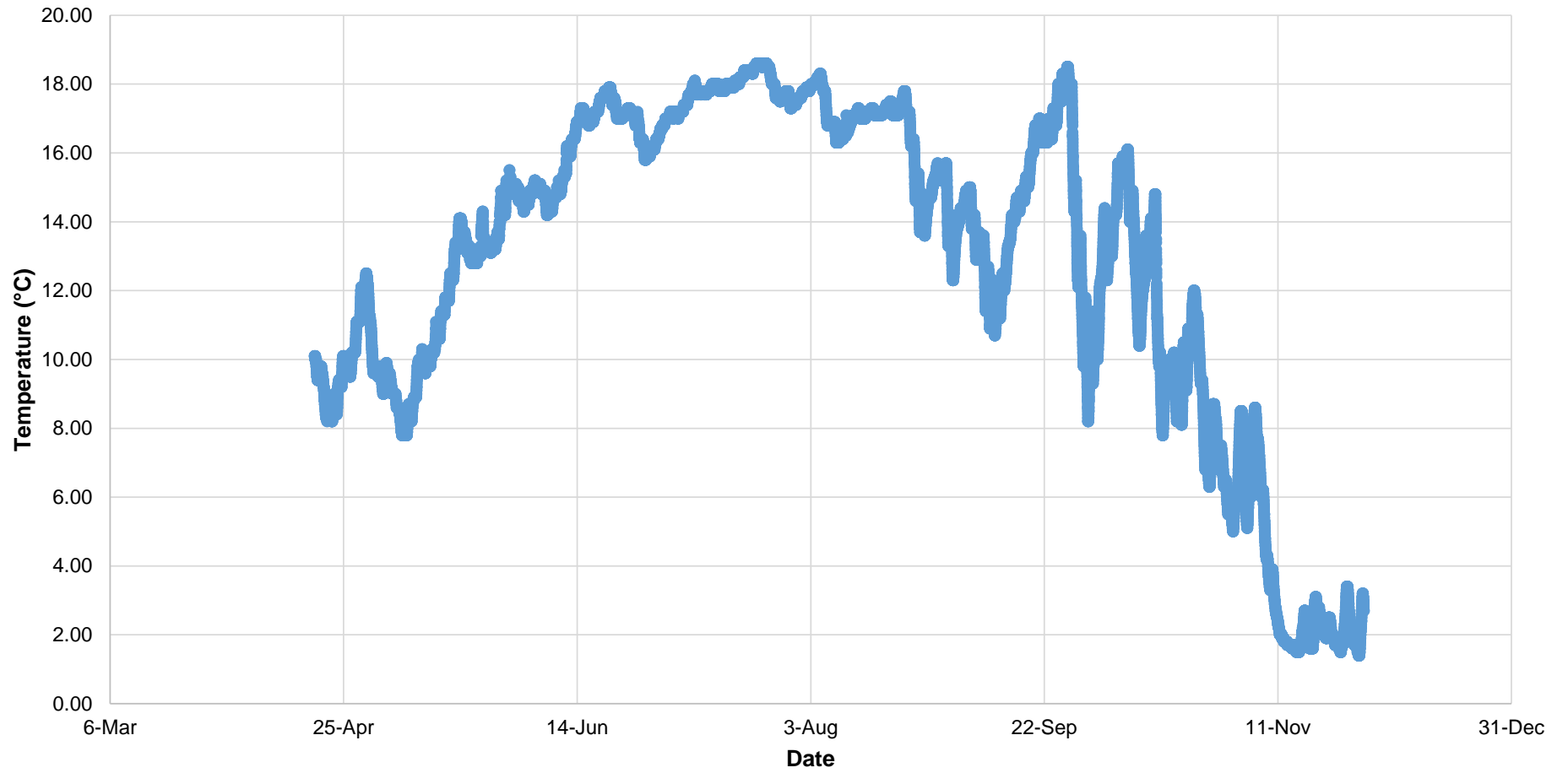
Station 4 Recorded Temperature for 2017



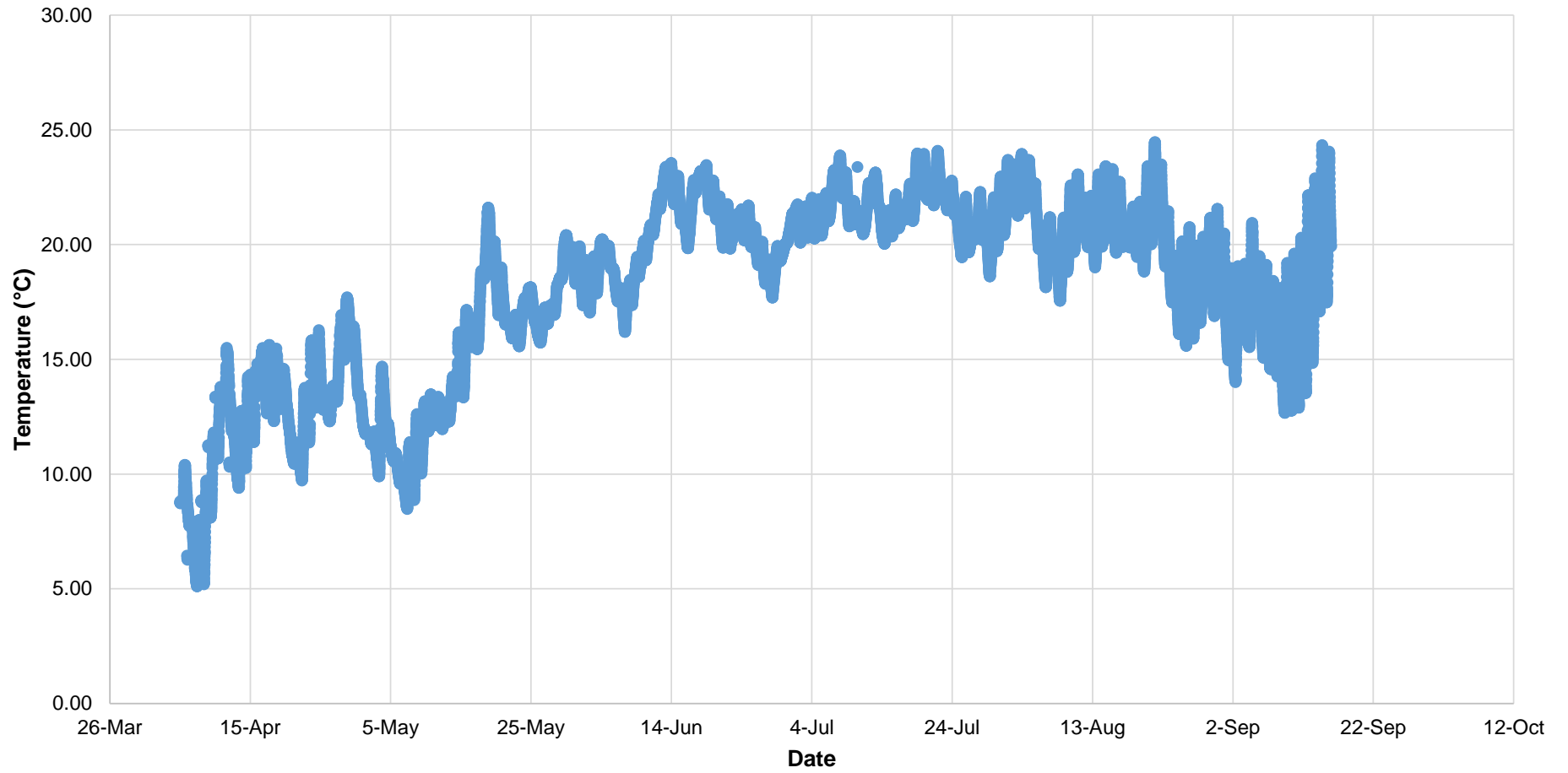
Station 5 Recorded Temperature for 2017



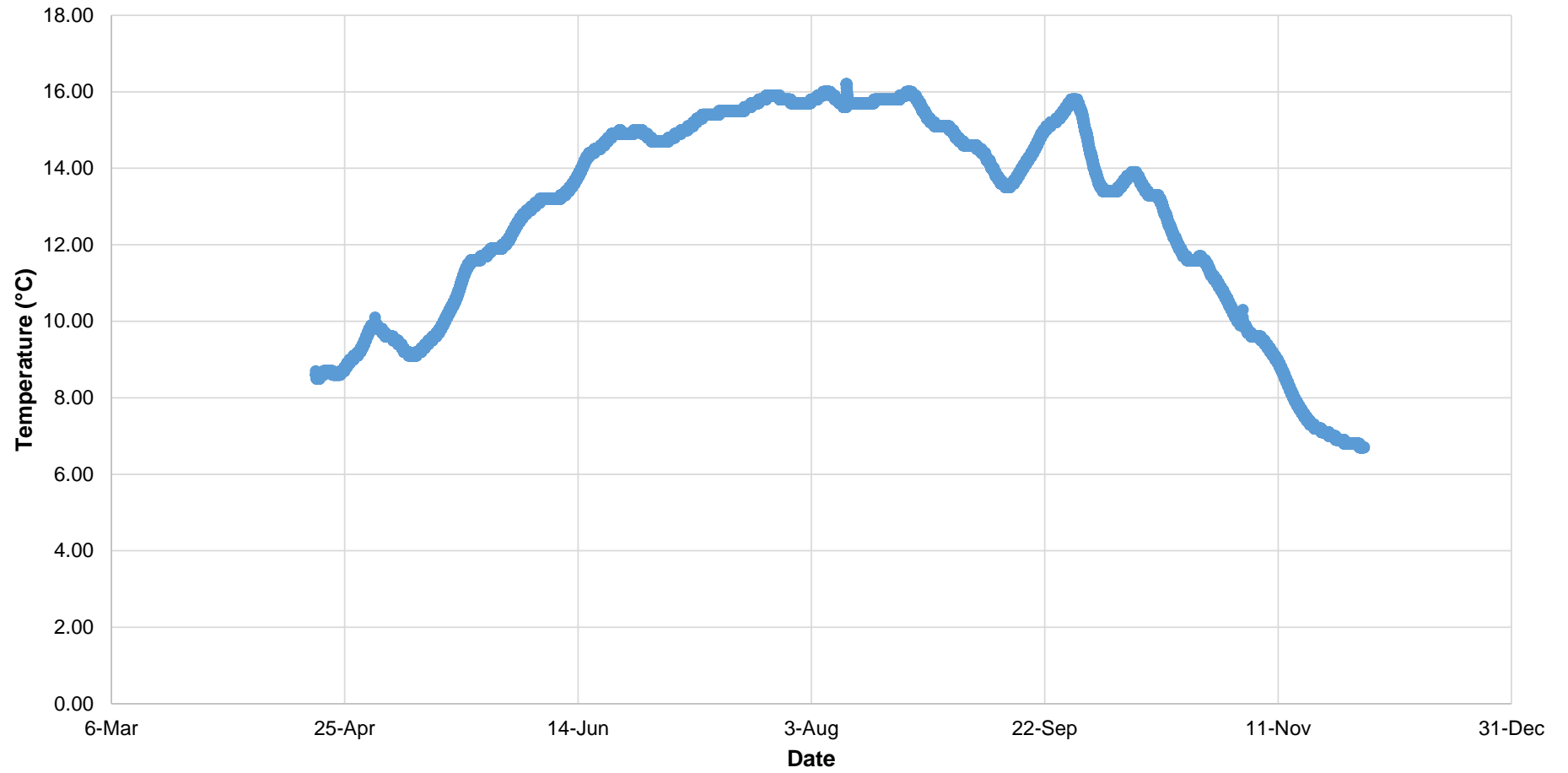
Station 6 Recorded Temperature for 2017



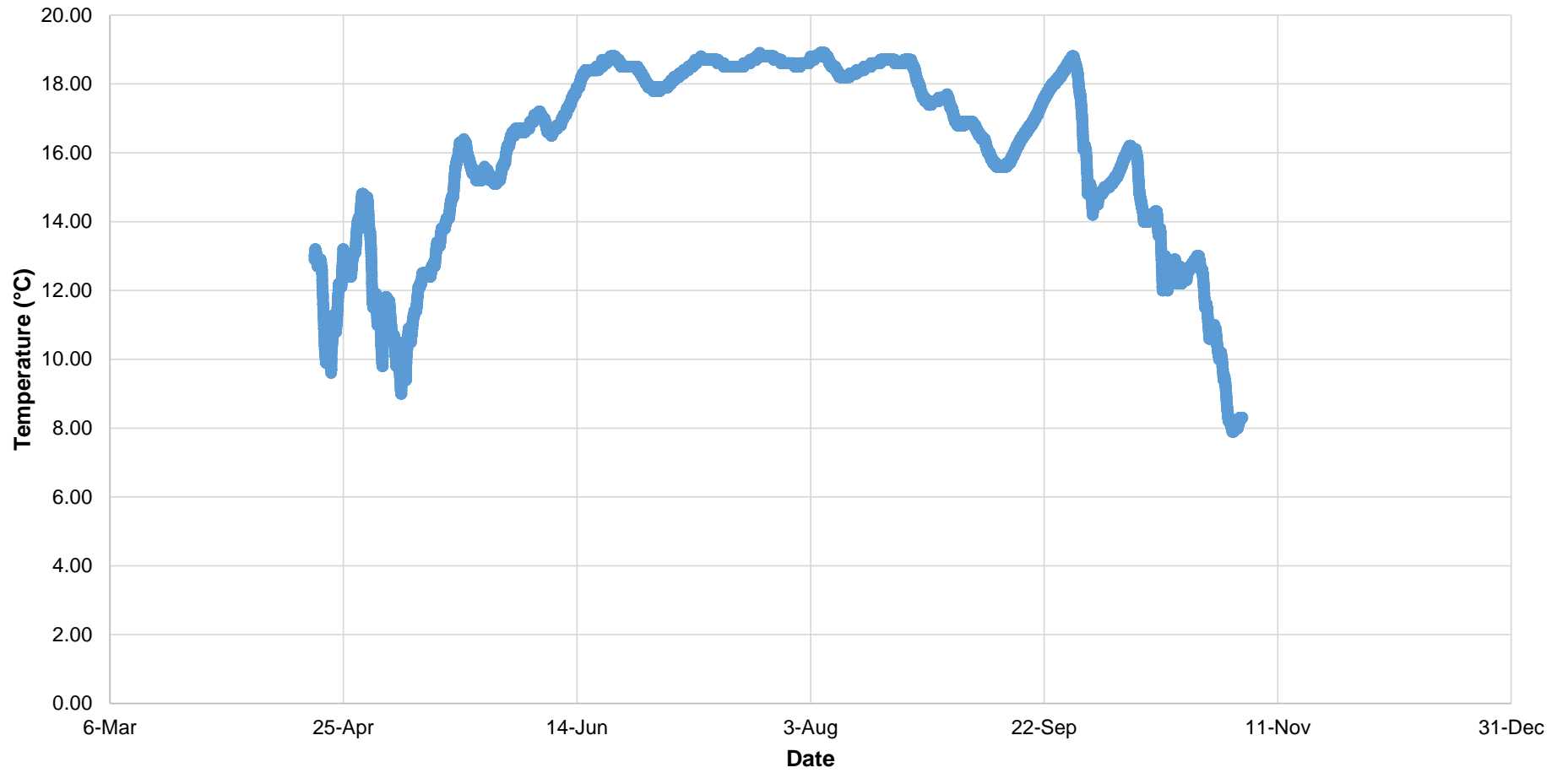
Station 7 Recorded Temperature for 2017



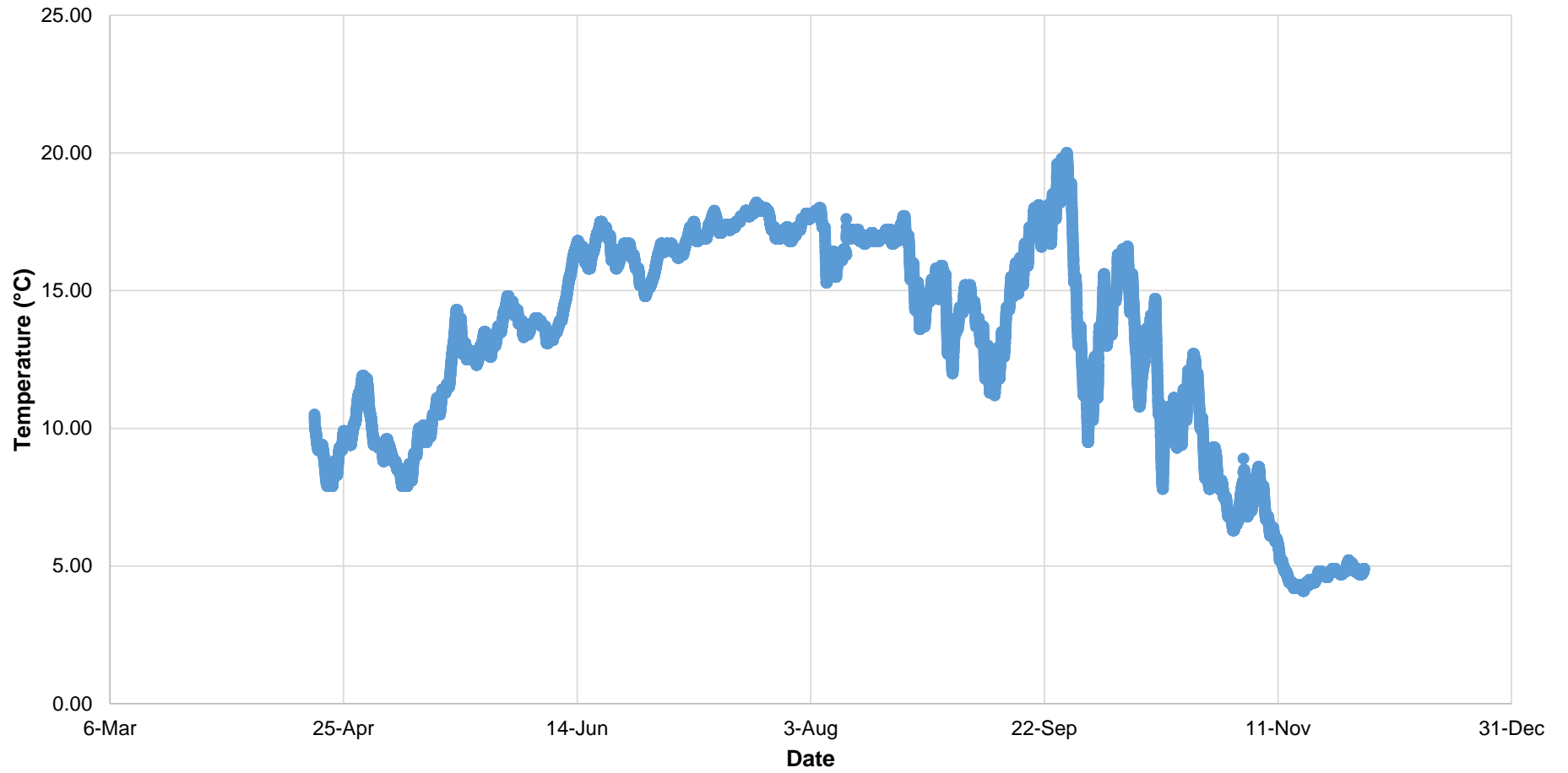
Station 8 Recorded Temperature for 2017



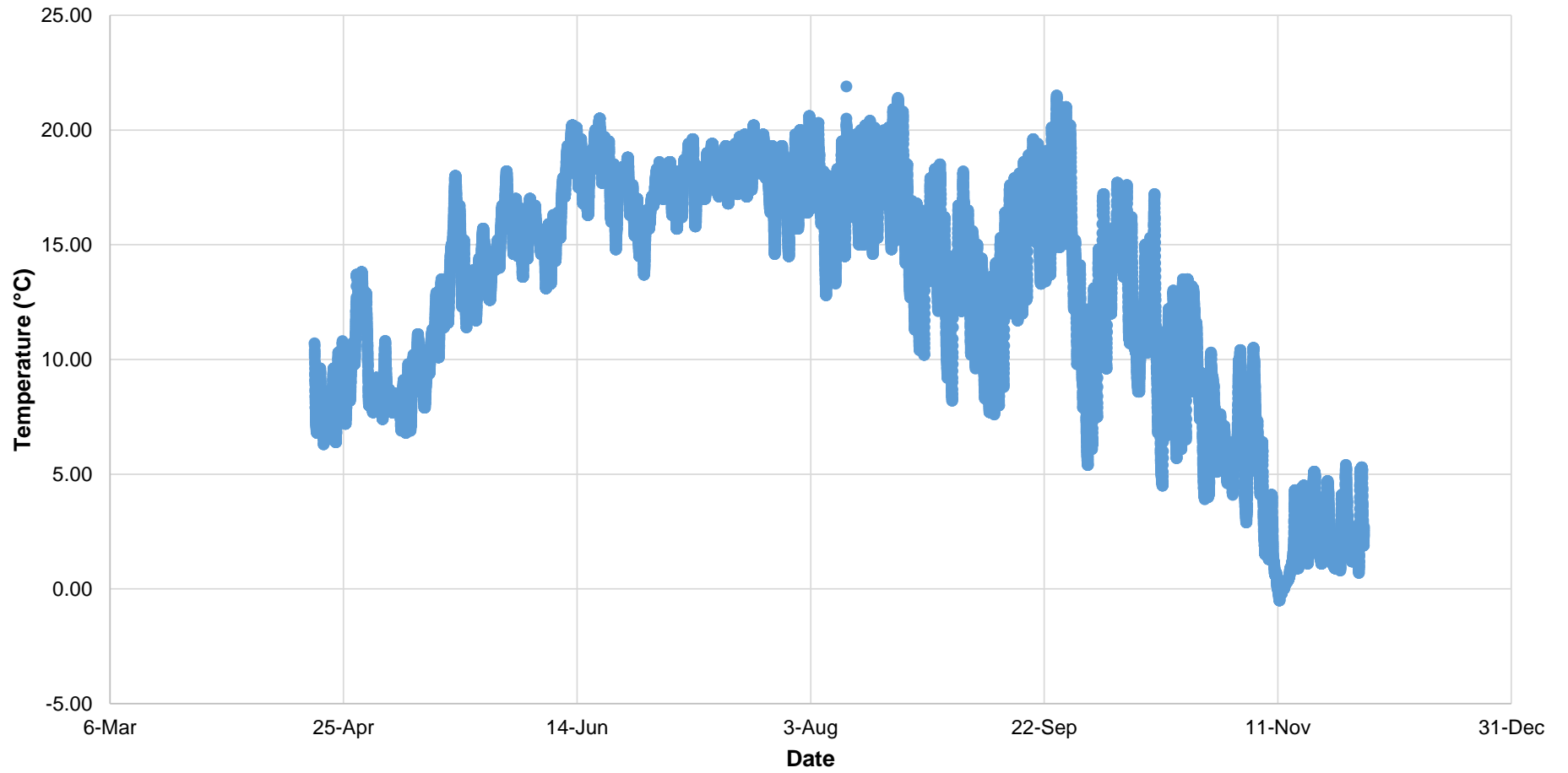
Station 10 Recorded Temperature for 2017



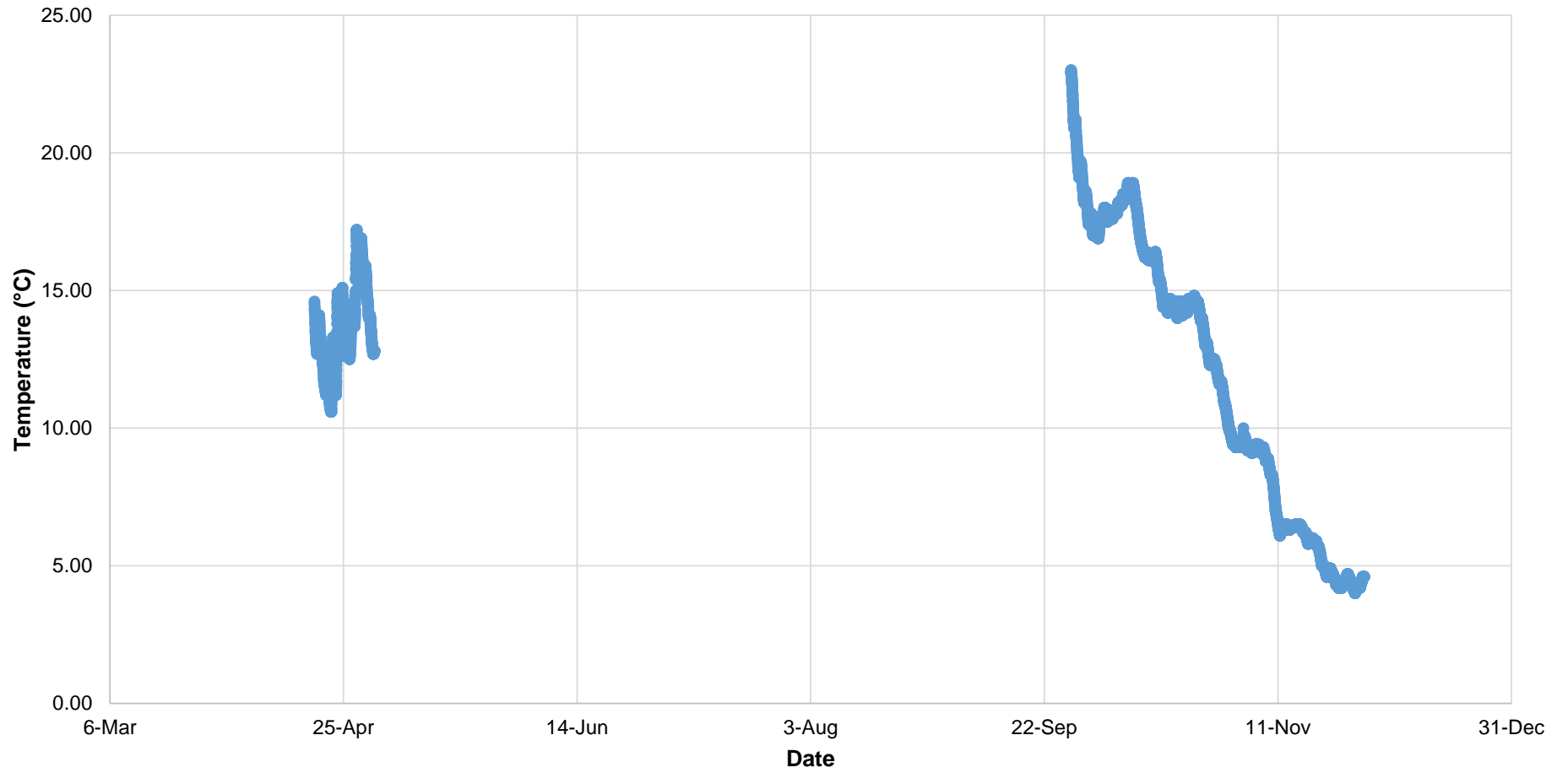
Station 11 Recorded Temperature for 2017



Station 12 Recorded Temperature for 2017



Station 13 Recorded Temperature for 2017



Appendix E2

Wetland Surface Water Quality Results by Station 2017

Appendix E2

Wetland Surface Water Quality Results by Station 2017

Station 1 WQ 2017 Summary				STN 1	STN 1	STN 1
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				8:55	8:57	8:45
Parameter	Lowest Detection Limit	Units	Guideline Limit			
Physical Tests (Water)						
Total Suspended Solids	2.0	mg/L		15.4	56.7	14
Total Dissolved Solids	20	mg/L		189	148	163
Anions and Nutrients (Water)						
Ammonia, Total (as N)	0.020	mg/L		0.113	<0.020	0.036
Bromide (Br)	0.10	mg/L		<0.10	<0.10	<0.10
Chloride (Cl)	0.50	mg/L		6.2	5.78	5.73
Fluoride (F)	0.020	mg/L		0.031	0.047	0.026
Nitrate (as N)	0.020	mg/L		<0.020	<0.020	<0.020
Nitrite (as N)	0.010	mg/L		<0.010	<0.010	<0.010
Total Kjeldahl Nitrogen	0.15	mg/L		1.59	1.85	1.79
Orthophosphate-Dissolved (as P)	0.0030	mg/L		0.0055	<0.0030	<0.0030
Phosphorus, Total	0.0030	mg/L	0.01 (U)	0.0902	0.131	0.0842
Sulfate (SO4)	0.30	mg/L		3.81	1.95	2.51
Total Metals (Water)						
Aluminum (Al)-Total	0.010	mg/L	0.015 (U)	0.019	0.0647	0.0631
Antimony (Sb)-Total	0.00010	mg/L	0.02 (U)	0.00011	<0.00010	<0.00010

Station 1 WQ 2017 Summary				STN 1	STN 1	STN 1
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				8:55	8:57	8:45
Arsenic (As)-Total	0.00010	mg/L	0.005 (U)	0.00048	0.00069	0.00066
Barium (Ba)-Total	0.00020	mg/L		0.0144	0.0161	0.0142
Beryllium (Be)-Total	0.00010	mg/L	0.011 (U)	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	0.000050	mg/L		<0.000050	<0.000050	<0.000050
Boron (B)-Total	0.010	mg/L	0.2 (U)	0.011	0.011	0.017
Cadmium (Cd)-Total	0.000010	mg/L	0.0001 (U)	<0.000010	0.000014	<0.000010
Calcium (Ca)-Total	0.50	mg/L		40.5	32.9	35.3
Cesium (Cs)-Total	0.000010	mg/L		<0.000010	<0.000010	<0.000010
Chromium (Cr)-Total	0.00050	mg/L		<0.00050	<0.00050	0.00055
Cobalt (Co)-Total	0.00010	mg/L	0.0009 (U)	<0.00010	<0.00010	<0.00010
Copper (Cu)-Total	0.0010	mg/L	0.001 (U)	<0.0010	<0.0010	<0.0010
Iron (Fe)-Total	0.050	mg/L	0.3 (U)	0.174	0.416	0.179
Lead (Pb)-Total	0.000050	mg/L	0.001 (U)	0.000114	0.000432	0.000417
Lithium (Li)-Total	0.0010	mg/L		<0.0010	<0.0010	<0.0010
Magnesium (Mg)-Total	0.050	mg/L		16.7	17.4	19.1
Manganese (Mn)-Total	0.00050	mg/L		0.104	0.23	0.0982
Molybdenum (Mo)-Total	0.000050	mg/L	0.04 (U)	0.000313	0.000199	0.000389
Nickel (Ni)-Total	0.00050	mg/L	0.025 (U)	<0.00050	<0.00050	<0.00050
Phosphorus (P)-Total	0.050	mg/L	0.01 (U)	0.093	0.149	0.112
Potassium (K)-Total	0.050	mg/L		3.86	4.29	5.23
Rubidium (Rb)-Total	0.00020	mg/L		0.00163	0.00213	0.00197
Selenium (Se)-Total	0.000050	mg/L	0.1 (U)	0.000066	0.000056	0.000059
Silicon (Si)-Total	0.10	mg/L		0.36	0.38	0.27
Silver (Ag)-Total	0.000050	mg/L	0.0001 (U)	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	0.50	mg/L		2.2	2.23	2.1
Strontium (Sr)-Total	0.0010	mg/L		0.0593	0.056	0.0567
Sulfur (S)-Total	0.50	mg/L		1.61	0.72	1.18

Station 1 WQ 2017 Summary				STN 1	STN 1	STN 1
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				8:55	8:57	8:45
Tellurium (Te)-Total	0.00020	mg/L		<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	0.000010	mg/L	0.0003 (U)	<0.000010	<0.000010	<0.000010
Thorium (Th)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	0.00030	mg/L		0.0005	0.00189	<0.0030
Tungsten (W)-Total	0.00010	mg/L	0.03 (U)	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	0.000010	mg/L	0.005 (U)	0.00029	0.000128	0.000229
Vanadium (V)-Total	0.00050	mg/L	0.006 (U)	<0.00050	0.00054	<0.00050
Zinc (Zn)-Total	0.0030	mg/L	0.02 (U)	<0.0030	0.0058	<0.0030
Zirconium (Zr)-Total	0.00030	mg/L	0.004 (U)	<0.00030	<0.00030	<0.00030

Station 2 WQ 2017 Summary				STN 2	STN 2	STN 2
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				9:10	9:16	
Parameter	Lowest Detection Limit	Units	Guideline Limit			
Physical Tests (Water)						
Total Suspended Solids	2.0	mg/L		<2.0	<2.0	7.7
Total Dissolved Solids	20	mg/L		156	135	108
Anions and Nutrients (Water)						
Ammonia, Total (as N)	0.020	mg/L		0.097	0.18	0.307
Bromide (Br)	0.10	mg/L		<0.10	<0.10	<0.10
Chloride (Cl)	0.50	mg/L		2.31	1.41	1.42
Fluoride (F)	0.020	mg/L		0.033	0.026	<0.020
Nitrate (as N)	0.020	mg/L		<0.020	<0.020	0.037

Station 2 WQ 2017 Summary				STN 2	STN 2	STN 2
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				9:10	9:16	
Nitrite (as N)	0.010	mg/L		<0.010	<0.010	<0.010
Total Kjeldahl Nitrogen	0.15	mg/L		0.52	0.69	0.72
Orthophosphate-Dissolved (as P)	0.0030	mg/L		<0.0030	<0.0030	<0.0030
Phosphorus, Total	0.0030	mg/L	0.01 (U)	0.0139	0.015	0.0131
Sulfate (SO4)	0.30	mg/L		1.72	0.91	1.7
Total Metals (Water)						
Aluminum (Al)-Total	0.010	mg/L	0.015 (U)	<0.010	0.0074	0.0413
Antimony (Sb)-Total	0.00010	mg/L	0.02 (U)	0.00011	<0.00010	0.00013
Arsenic (As)-Total	0.00010	mg/L	0.005 (U)	0.00047	0.00074	0.00054
Barium (Ba)-Total	0.00020	mg/L		0.0114	0.00734	0.00823
Beryllium (Be)-Total	0.00010	mg/L	0.011 (U)	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	0.000050	mg/L		<0.000050	<0.000050	<0.000050
Boron (B)-Total	0.010	mg/L	0.2 (U)	<0.010	<0.010	<0.010
Cadmium (Cd)-Total	0.000010	mg/L	0.0001 (U)	0.000011	<0.000010	<0.000010
Calcium (Ca)-Total	0.50	mg/L		35.9	29.6	28.6
Cesium (Cs)-Total	0.000010	mg/L		<0.000010	<0.000010	<0.000010
Chromium (Cr)-Total	0.00050	mg/L		<0.00050	<0.00050	0.00056
Cobalt (Co)-Total	0.00010	mg/L	0.0009 (U)	<0.00010	<0.00010	<0.00010
Copper (Cu)-Total	0.0010	mg/L	0.001 (U)	<0.0010	<0.0010	0.0019
Iron (Fe)-Total	0.050	mg/L	0.3 (U)	0.161	0.305	0.206
Lead (Pb)-Total	0.000050	mg/L	0.001 (U)	0.000117	0.000109	0.000477
Lithium (Li)-Total	0.0010	mg/L		<0.0010	<0.0010	<0.0010
Magnesium (Mg)-Total	0.050	mg/L		15.9	17.9	16.3
Manganese (Mn)-Total	0.00050	mg/L		0.0221	0.0375	0.0153
Molybdenum (Mo)-Total	0.000050	mg/L	0.04 (U)	0.000185	0.000089	0.000315
Nickel (Ni)-Total	0.00050	mg/L	0.025 (U)	<0.00050	<0.00050	<0.00050

Station 2 WQ 2017 Summary				STN 2	STN 2	STN 2
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				9:10	9:16	
Phosphorus (P)-Total	0.050	mg/L	0.01 (U)	<0.050	<0.050	<0.050
Potassium (K)-Total	0.050	mg/L		1.06	1.32	1.47
Rubidium (Rb)-Total	0.00020	mg/L		0.00102	0.00151	0.00107
Selenium (Se)-Total	0.000050	mg/L	0.1 (U)	0.000054	0.000059	0.000067
Silicon (Si)-Total	0.10	mg/L		0.12	0.6	0.11
Silver (Ag)-Total	0.000050	mg/L	0.0001 (U)	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	0.50	mg/L		1.34	1.53	1.6
Strontium (Sr)-Total	0.0010	mg/L		0.0472	0.0375	0.0359
Sulfur (S)-Total	0.50	mg/L		0.67	<0.50	<0.50
Tellurium (Te)-Total	0.00020	mg/L		<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	0.000010	mg/L	0.0003 (U)	<0.000010	<0.000010	<0.000010
Thorium (Th)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	0.00030	mg/L		<0.00030	<0.00030	<0.00080
Tungsten (W)-Total	0.00010	mg/L	0.03 (U)	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	0.000010	mg/L	0.005 (U)	0.000125	0.000028	0.000117
Vanadium (V)-Total	0.00050	mg/L	0.006 (U)	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Total	0.0030	mg/L	0.02 (U)	<0.0030	<0.0030	0.0377
Zirconium (Zr)-Total	0.00030	mg/L	0.004 (U)	<0.00030	<0.00030	<0.00030

Station 3 WQ 2017 Summary				STN 3	STN 3	STN 3
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				12:00	12:07	11:42
Parameter	Lowest Detection Limit	Units	Guideline Limit			
Physical Tests (Water)						
Total Suspended Solids	2.0	mg/L		2.2	38.3	55
Total Dissolved Solids	20	mg/L		435	416	386
Anions and Nutrients (Water)						
Ammonia, Total (as N)	0.020	mg/L		0.045	0.066	2.52
Bromide (Br)	0.10	mg/L		<0.10	<0.10	<0.10
Chloride (Cl)	0.50	mg/L		152	120	115
Fluoride (F)	0.020	mg/L		0.03	0.039	0.021
Nitrate (as N)	0.020	mg/L		<0.020	<0.020	0.054
Nitrite (as N)	0.010	mg/L		<0.010	<0.010	0.013
Total Kjeldahl Nitrogen	0.15	mg/L		0.78	1.2	4.22
Orthophosphate-Dissolved (as P)	0.0030	mg/L		<0.0030	0.0032	0.0128
Phosphorus, Total	0.0030	mg/L	0.01 (U)	0.0247	0.0651	0.242
Sulfate (SO4)	0.30	mg/L		5.54	1.87	8.72
Total Metals (Water)						
Aluminum (Al)-Total	0.010	mg/L	0.015 (U)	0.012	0.0074	0.0698
Antimony (Sb)-Total	0.00010	mg/L	0.02 (U)	0.00013	<0.00010	0.00014
Arsenic (As)-Total	0.00010	mg/L	0.005 (U)	0.00035	0.0007	0.00076
Barium (Ba)-Total	0.00020	mg/L		0.0138	0.0189	0.0254
Beryllium (Be)-Total	0.00010	mg/L	0.011 (U)	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	0.000050	mg/L		<0.000050	<0.000050	<0.000050
Boron (B)-Total	0.010	mg/L	0.2 (U)	<0.010	0.014	0.028

Station 3 WQ 2017 Summary				STN 3	STN 3	STN 3
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				12:00	12:07	11:42
Cadmium (Cd)-Total	0.000010	mg/L	0.0001 (U)	<0.000010	<0.000010	0.000021
Calcium (Ca)-Total	0.50	mg/L		45.7	51.8	60.7
Cesium (Cs)-Total	0.000010	mg/L		<0.000010	<0.000010	<0.000010
Chromium (Cr)-Total	0.00050	mg/L		<0.00050	<0.00050	0.00066
Cobalt (Co)-Total	0.00010	mg/L	0.0009 (U)	<0.00010	<0.00010	0.00015
Copper (Cu)-Total	0.0010	mg/L	0.001 (U)	<0.0010	<0.0010	0.0014
Iron (Fe)-Total	0.050	mg/L	0.3 (U)	0.061	0.493	0.328
Lead (Pb)-Total	0.000050	mg/L	0.001 (U)	0.000103	0.000146	0.00097
Lithium (Li)-Total	0.0010	mg/L		<0.0010	<0.0010	<0.0010
Magnesium (Mg)-Total	0.050	mg/L		15.5	22.5	20.6
Manganese (Mn)-Total	0.00050	mg/L		0.0236	0.443	0.791
Molybdenum (Mo)-Total	0.000050	mg/L	0.04 (U)	0.000251	0.000122	0.000432
Nickel (Ni)-Total	0.00050	mg/L	0.025 (U)	<0.00050	<0.00050	<0.00050
Phosphorus (P)-Total	0.050	mg/L	0.01 (U)	<0.050	0.072	0.276
Potassium (K)-Total	0.050	mg/L		0.883	1.12	4.27
Rubidium (Rb)-Total	0.00020	mg/L		0.00116	0.00183	0.00304
Selenium (Se)-Total	0.000050	mg/L	0.1 (U)	0.00008	0.000092	0.000138
Silicon (Si)-Total	0.10	mg/L		0.19	2.84	3.14
Silver (Ag)-Total	0.000050	mg/L	0.0001 (U)	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	0.50	mg/L		93.2	76.8	75.8
Strontium (Sr)-Total	0.0010	mg/L		0.0809	0.0815	0.0898
Sulfur (S)-Total	0.50	mg/L		2.39	0.77	2.39
Tellurium (Te)-Total	0.00020	mg/L		<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	0.000010	mg/L	0.0003 (U)	<0.000010	<0.000010	<0.000010
Thorium (Th)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	0.00030	mg/L		0.00038	<0.00030	<0.0020

Station 3 WQ 2017 Summary				STN 3	STN 3	STN 3
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				12:00	12:07	11:42
Tungsten (W)-Total	0.00010	mg/L	0.03 (U)	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	0.000010	mg/L	0.005 (U)	0.000198	0.000091	0.000201
Vanadium (V)-Total	0.00050	mg/L	0.006 (U)	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Total	0.0030	mg/L	0.02 (U)	<0.0030	<0.0030	0.0101
Zirconium (Zr)-Total	0.00030	mg/L	0.004 (U)	<0.00030	<0.00030	<0.00030

Station 4 WQ 2017 Summary				STN 4	STN 4
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017
				11:45	11:40
Parameter	Lowest Detection Limit	Units	Guideline Limit		
Physical Tests (Water)					
Total Suspended Solids	2.0	mg/L		<2.0	<2.0
Total Dissolved Solids	20	mg/L		189	184
Anions and Nutrients (Water)					
Ammonia, Total (as N)	0.020	mg/L		0.101	0.052
Bromide (Br)	0.10	mg/L		<0.10	<0.10
Chloride (Cl)	0.50	mg/L		4.03	1.97
Fluoride (F)	0.020	mg/L		0.04	0.044
Nitrate (as N)	0.020	mg/L		0.03	<0.020
Nitrite (as N)	0.010	mg/L		<0.010	<0.010
Total Kjeldahl Nitrogen	0.15	mg/L		1.08	1.53
Orthophosphate-Dissolved (as P)	0.0030	mg/L		0.0043	0.0105
Phosphorus, Total	0.0030	mg/L	0.01 (U)	0.0324	0.0295
Sulfate (SO4)	0.30	mg/L		5.94	1.29

Station 4 WQ 2017 Summary				STN 4	STN 4
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017
				11:45	11:40
Total Metals (Water)					
Aluminum (Al)-Total	0.010	mg/L	0.015 (U)	0.016	0.0085
Antimony (Sb)-Total	0.00010	mg/L	0.02 (U)	<0.00010	<0.00010
Arsenic (As)-Total	0.00010	mg/L	0.005 (U)	0.00043	0.00047
Barium (Ba)-Total	0.00020	mg/L		0.0108	0.00887
Beryllium (Be)-Total	0.00010	mg/L	0.011 (U)	<0.00010	<0.00010
Bismuth (Bi)-Total	0.000050	mg/L		<0.000050	<0.000050
Boron (B)-Total	0.010	mg/L	0.2 (U)	<0.010	0.019
Cadmium (Cd)-Total	0.000010	mg/L	0.0001 (U)	<0.000010	<0.000010
Calcium (Ca)-Total	0.50	mg/L		42.9	39.3
Cesium (Cs)-Total	0.000010	mg/L		<0.000010	<0.000010
Chromium (Cr)-Total	0.00050	mg/L		<0.00050	<0.00050
Cobalt (Co)-Total	0.00010	mg/L	0.0009 (U)	<0.00010	<0.00010
Copper (Cu)-Total	0.0010	mg/L	0.001 (U)	<0.0010	<0.0010
Iron (Fe)-Total	0.050	mg/L	0.3 (U)	0.121	0.155
Lead (Pb)-Total	0.000050	mg/L	0.001 (U)	0.000097	0.0001
Lithium (Li)-Total	0.0010	mg/L		<0.0010	<0.0010
Magnesium (Mg)-Total	0.050	mg/L		15.7	14.7
Manganese (Mn)-Total	0.00050	mg/L		0.0219	0.015
Molybdenum (Mo)-Total	0.000050	mg/L	0.04 (U)	0.000147	0.000081
Nickel (Ni)-Total	0.00050	mg/L	0.025 (U)	<0.00050	<0.00050
Phosphorus (P)-Total	0.050	mg/L	0.01 (U)	<0.050	<0.050
Potassium (K)-Total	0.050	mg/L		0.881	0.246
Rubidium (Rb)-Total	0.00020	mg/L		0.00199	0.00053
Selenium (Se)-Total	0.000050	mg/L	0.1 (U)	0.000092	0.000102
Silicon (Si)-Total	0.10	mg/L		1.4	1.77

Station 4 WQ 2017 Summary			STN 4	STN 4
216002 - Clair/ Maltby			1-May-2017	10-Aug-2017
			11:45	11:40
Silver (Ag)-Total	0.000050	mg/L	0.0001 (U)	<0.000050
Sodium (Na)-Total	0.50	mg/L		2.33
Strontium (Sr)-Total	0.0010	mg/L		0.0456
Sulfur (S)-Total	0.50	mg/L		2.56
Tellurium (Te)-Total	0.00020	mg/L		<0.00020
Thallium (Tl)-Total	0.000010	mg/L	0.0003 (U)	<0.000010
Thorium (Th)-Total	0.00010	mg/L		<0.00010
Tin (Sn)-Total	0.00010	mg/L		<0.00010
Titanium (Ti)-Total	0.00030	mg/L		<0.00060
Tungsten (W)-Total	0.00010	mg/L	0.03 (U)	<0.00010
Uranium (U)-Total	0.000010	mg/L	0.005 (U)	0.000102
Vanadium (V)-Total	0.00050	mg/L	0.006 (U)	<0.00050
Zinc (Zn)-Total	0.0030	mg/L	0.02 (U)	<0.0030
Zirconium (Zr)-Total	0.00030	mg/L	0.004 (U)	<0.00030

Station 5 WQ 2017 Summary				STN 5	STN 5	STN 5
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				14:30	13:55	13:34
Parameter	Lowest Detection Limit	Units	Guideline Limit			
Physical Tests (Water)						
Total Suspended Solids	2.0	mg/L		<2.0	13.1	26.4
Total Dissolved Solids	20	mg/L		257	218	271
Anions and Nutrients (Water)						
Ammonia, Total (as N)	0.020	mg/L		0.133	<0.020	1.65
Bromide (Br)	0.10	mg/L		<0.10	<0.10	<0.10
Chloride (Cl)	0.50	mg/L		33.7	11.2	33.6
Fluoride (F)	0.020	mg/L		0.04	0.055	0.041
Nitrate (as N)	0.020	mg/L		<0.020	<0.020	0.029
Nitrite (as N)	0.010	mg/L		<0.010	<0.010	<0.010
Total Kjeldahl Nitrogen	0.15	mg/L		0.96	1.51	3.48
Orthophosphate-Dissolved (as P)	0.0030	mg/L		0.0103	<0.0030	0.0031
Phosphorus, Total	0.0030	mg/L	0.01 (U)	0.0248	0.038	0.0874
Sulfate (SO4)	0.30	mg/L		3.2	0.95	4.49
Total Metals (Water)						
Aluminum (Al)-Total	0.010	mg/L	0.015 (U)	<0.010	0.0199	0.0736
Antimony (Sb)-Total	0.00010	mg/L	0.02 (U)	0.00011	<0.00010	0.0001
Arsenic (As)-Total	0.00010	mg/L	0.005 (U)	0.00046	0.0006	0.00129
Barium (Ba)-Total	0.00020	mg/L		0.00816	0.0144	0.0206
Beryllium (Be)-Total	0.00010	mg/L	0.011 (U)	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	0.000050	mg/L		<0.000050	<0.000050	<0.000050
Boron (B)-Total	0.010	mg/L	0.2 (U)	0.013	<0.010	<0.010

Station 5 WQ 2017 Summary				STN 5	STN 5	STN 5
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				14:30	13:55	13:34
Cadmium (Cd)-Total	0.000010	mg/L	0.0001 (U)	0.000015	<0.000010	<0.000010
Calcium (Ca)-Total	0.50	mg/L		53.9	56.2	70.5
Cesium (Cs)-Total	0.000010	mg/L		<0.000010	<0.000010	<0.000010
Chromium (Cr)-Total	0.00050	mg/L		<0.00050	<0.00050	0.00053
Cobalt (Co)-Total	0.00010	mg/L	0.0009 (U)	0.00011	<0.00010	0.00019
Copper (Cu)-Total	0.0010	mg/L	0.001 (U)	<0.0010	<0.0010	<0.0010
Iron (Fe)-Total	0.050	mg/L	0.3 (U)	0.168	0.289	0.648
Lead (Pb)-Total	0.000050	mg/L	0.001 (U)	0.000121	0.000102	0.00045
Lithium (Li)-Total	0.0010	mg/L		<0.0010	<0.0010	<0.0010
Magnesium (Mg)-Total	0.050	mg/L		11	12.6	12.9
Manganese (Mn)-Total	0.00050	mg/L		0.0806	0.113	0.461
Molybdenum (Mo)-Total	0.000050	mg/L	0.04 (U)	0.000208	0.000067	0.000472
Nickel (Ni)-Total	0.00050	mg/L	0.025 (U)	<0.00050	<0.00050	0.00051
Phosphorus (P)-Total	0.050	mg/L	0.01 (U)	0.061	<0.050	0.146
Potassium (K)-Total	0.050	mg/L		1.91	0.28	2.65
Rubidium (Rb)-Total	0.00020	mg/L		0.00146	0.00025	0.00163
Selenium (Se)-Total	0.000050	mg/L	0.1 (U)	0.000082	0.000093	0.000152
Silicon (Si)-Total	0.10	mg/L		0.51	0.6	3.58
Silver (Ag)-Total	0.000050	mg/L	0.0001 (U)	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	0.50	mg/L		19.3	10.5	17.6
Strontium (Sr)-Total	0.0010	mg/L		0.0817	0.0888	0.0904
Sulfur (S)-Total	0.50	mg/L		1.44	0.68	0.94
Tellurium (Te)-Total	0.00020	mg/L		<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	0.000010	mg/L	0.0003 (U)	<0.000010	<0.000010	<0.000010
Thorium (Th)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	0.00030	mg/L		<0.00030	0.0005	0.00195

Station 5 WQ 2017 Summary				STN 5	STN 5	STN 5
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				14:30	13:55	13:34
Tungsten (W)-Total	0.00010	mg/L	0.03 (U)	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	0.000010	mg/L	0.005 (U)	0.000197	0.000072	0.000404
Vanadium (V)-Total	0.00050	mg/L	0.006 (U)	<0.00050	<0.00050	0.00082
Zinc (Zn)-Total	0.0030	mg/L	0.02 (U)	0.007	<0.0030	<0.0030
Zirconium (Zr)-Total	0.00030	mg/L	0.004 (U)	<0.00030	<0.00030	<0.00030

Station 6 WQ 2017 Summary				STN 6	STN 6	STN 6
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				14:15	13:35	13:05
Parameter	Lowest Detection Limit	Units	Guideline Limit			
Physical Tests (Water)						
Total Suspended Solids	2.0	mg/L		<2.0	<2.0	277
Total Dissolved Solids	20	mg/L		205	235	175
Anions and Nutrients (Water)						
Ammonia, Total (as N)	0.020	mg/L		0.118	0.038	0.12
Bromide (Br)	0.10	mg/L		<0.10	<0.10	<0.10
Chloride (Cl)	0.50	mg/L		9.8	11.6	16.3
Fluoride (F)	0.020	mg/L		0.05	0.036	0.023
Nitrate (as N)	0.020	mg/L		<0.020	<0.020	0.089
Nitrite (as N)	0.010	mg/L		<0.010	<0.010	<0.010
Total Kjeldahl Nitrogen	0.15	mg/L		0.76	0.68	1.17
Orthophosphate-Dissolved (as P)	0.0030	mg/L		<0.0030	<0.0030	0.0073
Phosphorus, Total	0.0030	mg/L	0.01 (U)	0.0159	0.0163	0.0805
Sulfate (SO4)	0.30	mg/L		3.72	0.79	0.94
Total Metals (Water)						
Aluminum (Al)-Total	0.010	mg/L	0.015 (U)	<0.010	0.0065	0.0091
Antimony (Sb)-Total	0.00010	mg/L	0.02 (U)	0.00013	<0.00010	<0.00010
Arsenic (As)-Total	0.00010	mg/L	0.005 (U)	0.00036	0.00046	0.00043
Barium (Ba)-Total	0.00020	mg/L		0.0136	0.0141	0.00902
Beryllium (Be)-Total	0.00010	mg/L	0.011 (U)	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	0.000050	mg/L		<0.000050	<0.000050	<0.000050
Boron (B)-Total	0.010	mg/L	0.2 (U)	<0.010	<0.010	0.011

Station 6 WQ 2017 Summary				STN 6	STN 6	STN 6
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				14:15	13:35	13:05
Cadmium (Cd)-Total	0.000010	mg/L	0.0001 (U)	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	0.50	mg/L		53.9	67.4	54.7
Cesium (Cs)-Total	0.000010	mg/L		<0.000010	<0.000010	<0.000010
Chromium (Cr)-Total	0.00050	mg/L		<0.00050	<0.00050	0.00169
Cobalt (Co)-Total	0.00010	mg/L	0.0009 (U)	<0.00010	<0.00010	<0.00010
Copper (Cu)-Total	0.0010	mg/L	0.001 (U)	<0.0010	<0.0010	<0.0010
Iron (Fe)-Total	0.050	mg/L	0.3 (U)	0.06	0.066	0.386
Lead (Pb)-Total	0.000050	mg/L	0.001 (U)	0.000081	0.000061	0.000135
Lithium (Li)-Total	0.0010	mg/L		<0.0010	<0.0010	<0.0010
Magnesium (Mg)-Total	0.050	mg/L		13.8	17.3	13.6
Manganese (Mn)-Total	0.00050	mg/L		0.00361	0.00643	0.192
Molybdenum (Mo)-Total	0.000050	mg/L	0.04 (U)	0.000219	<0.000050	<0.000050
Nickel (Ni)-Total	0.00050	mg/L	0.025 (U)	<0.00050	<0.00050	<0.00050
Phosphorus (P)-Total	0.050	mg/L	0.01 (U)	<0.050	<0.050	0.098
Potassium (K)-Total	0.050	mg/L		0.807	0.131	7.31
Rubidium (Rb)-Total	0.00020	mg/L		0.00117	0.00026	0.00673
Selenium (Se)-Total	0.000050	mg/L	0.1 (U)	0.000084	0.000079	<0.000050
Silicon (Si)-Total	0.10	mg/L		0.13	0.56	4.38
Silver (Ag)-Total	0.000050	mg/L	0.0001 (U)	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	0.50	mg/L		4.09	3.6	4.96
Strontium (Sr)-Total	0.0010	mg/L		0.0695	0.0826	0.0607
Sulfur (S)-Total	0.50	mg/L		1.79	<0.50	<0.50
Tellurium (Te)-Total	0.00020	mg/L		<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	0.000010	mg/L	0.0003 (U)	<0.000010	<0.000010	<0.000010
Thorium (Th)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	0.00030	mg/L		<0.00030	<0.00030	<0.00030

Station 6 WQ 2017 Summary				STN 6	STN 6	STN 6
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				14:15	13:35	13:05
Tungsten (W)-Total	0.00010	mg/L	0.03 (U)	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	0.000010	mg/L	0.005 (U)	0.00015	0.000049	0.000081
Vanadium (V)-Total	0.00050	mg/L	0.006 (U)	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Total	0.0030	mg/L	0.02 (U)	<0.0030	<0.0030	<0.0030
Zirconium (Zr)-Total	0.00030	mg/L	0.004 (U)	<0.00030	<0.00030	<0.00030

Station 7 WQ 2017 Summary				STN 7	STN 7	STN 7
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				13:45	12:40	12:45
Parameter	Lowest Detection Limit	Units	Guideline Limit			
Physical Tests (Water)						
Total Suspended Solids	2.0	mg/L		4.3	4.1	10
Total Dissolved Solids	20	mg/L		135	155	156
Anions and Nutrients (Water)						
Ammonia, Total (as N)	0.020	mg/L		0.077	0.066	0.053
Bromide (Br)	0.10	mg/L		<0.10	<0.10	<0.10
Chloride (Cl)	0.50	mg/L		11.8	12.6	13.1
Fluoride (F)	0.020	mg/L		0.035	0.028	0.02
Nitrate (as N)	0.020	mg/L		<0.020	<0.020	<0.020
Nitrite (as N)	0.010	mg/L		<0.010	<0.010	<0.010
Total Kjeldahl Nitrogen	0.15	mg/L		0.96	0.93	1.22
Orthophosphate-Dissolved (as P)	0.0030	mg/L		<0.0030	<0.0030	<0.0030
Phosphorus, Total	0.0030	mg/L	0.01 (U)	0.0303	0.0321	0.062
Sulfate (SO4)	0.30	mg/L		1.41	<0.30	0.67

Station 7 WQ 2017 Summary				STN 7	STN 7	STN 7
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				13:45	12:40	12:45
Total Metals (Water)						
Aluminum (Al)-Total	0.010	mg/L	0.015 (U)	<0.010	<0.0050	0.0298
Antimony (Sb)-Total	0.00010	mg/L	0.02 (U)	0.00011	<0.00010	<0.00010
Arsenic (As)-Total	0.00010	mg/L	0.005 (U)	0.00046	0.00047	0.00047
Barium (Ba)-Total	0.00020	mg/L		0.00835	0.00673	0.00992
Beryllium (Be)-Total	0.00010	mg/L	0.011 (U)	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	0.000050	mg/L		<0.000050	<0.000050	<0.000050
Boron (B)-Total	0.010	mg/L	0.2 (U)	<0.010	0.01	<0.010
Cadmium (Cd)-Total	0.000010	mg/L	0.0001 (U)	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	0.50	mg/L		26.7	33.7	37.2
Cesium (Cs)-Total	0.000010	mg/L		<0.000010	<0.000010	<0.000010
Chromium (Cr)-Total	0.00050	mg/L		<0.00050	<0.00050	<0.00050
Cobalt (Co)-Total	0.00010	mg/L	0.0009 (U)	<0.00010	<0.00010	<0.00010
Copper (Cu)-Total	0.0010	mg/L	0.001 (U)	<0.0010	<0.0010	0.0013
Iron (Fe)-Total	0.050	mg/L	0.3 (U)	<0.050	0.081	0.084
Lead (Pb)-Total	0.000050	mg/L	0.001 (U)	0.000119	<0.000050	0.000307
Lithium (Li)-Total	0.0010	mg/L		<0.0010	<0.0010	<0.0010
Magnesium (Mg)-Total	0.050	mg/L		6.63	8.26	8.38
Manganese (Mn)-Total	0.00050	mg/L		0.0223	0.0192	0.0278
Molybdenum (Mo)-Total	0.000050	mg/L	0.04 (U)	0.000221	<0.000050	0.000107
Nickel (Ni)-Total	0.00050	mg/L	0.025 (U)	<0.00050	<0.00050	<0.00050
Phosphorus (P)-Total	0.050	mg/L	0.01 (U)	<0.050	<0.050	0.097
Potassium (K)-Total	0.050	mg/L		1.86	0.801	2.36
Rubidium (Rb)-Total	0.00020	mg/L		0.00099	0.00054	0.00124
Selenium (Se)-Total	0.000050	mg/L	0.1 (U)	0.000056	0.000052	0.000057
Silicon (Si)-Total	0.10	mg/L		<0.10	0.35	0.26

Station 7 WQ 2017 Summary				STN 7	STN 7	STN 7
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				13:45	12:40	12:45
Silver (Ag)-Total	0.000050	mg/L	0.0001 (U)	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	0.50	mg/L		7.06	7.21	8.16
Strontium (Sr)-Total	0.0010	mg/L		0.0381	0.0436	0.0448
Sulfur (S)-Total	0.50	mg/L		0.84	<0.50	<0.50
Tellurium (Te)-Total	0.00020	mg/L		<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	0.000010	mg/L	0.0003 (U)	<0.000010	<0.000010	<0.000010
Thorium (Th)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	0.00030	mg/L		<0.00030	<0.00030	0.00065
Tungsten (W)-Total	0.00010	mg/L	0.03 (U)	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	0.000010	mg/L	0.005 (U)	0.000029	<0.000010	0.000015
Vanadium (V)-Total	0.00050	mg/L	0.006 (U)	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Total	0.0030	mg/L	0.02 (U)	<0.0030	<0.0030	0.0038
Zirconium (Zr)-Total	0.00030	mg/L	0.004 (U)	<0.00030	<0.00030	<0.00030

Station 8 WQ 2017 Summary				STN 8	STN 8	STN 8
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				11:15	11:07	10:55
Parameter	Lowest Detection Limit	Units	Guideline Limit			
Physical Tests (Water)						
Total Suspended Solids	2.0	mg/L		2.2	19.2	4.6
Total Dissolved Solids	20	mg/L		117	170	148
Anions and Nutrients (Water)						
Ammonia, Total (as N)	0.020	mg/L		0.07	0.038	0.118
Bromide (Br)	0.10	mg/L		<0.10	<0.10	<0.10
Chloride (Cl)	0.50	mg/L		2.58	2.83	5.65
Fluoride (F)	0.020	mg/L		0.023	0.041	0.021
Nitrate (as N)	0.020	mg/L		<0.020	<0.020	<0.020
Nitrite (as N)	0.010	mg/L		<0.010	<0.010	<0.010
Total Kjeldahl Nitrogen	0.15	mg/L		1	1.93	1
Orthophosphate-Dissolved (as P)	0.0030	mg/L		<0.0030	<0.0030	0.0054
Phosphorus, Total	0.0030	mg/L	0.01 (U)	0.0321	0.0625	0.0252
Sulfate (SO4)	0.30	mg/L		1.7	0.9	0.85
Total Metals (Water)						
Aluminum (Al)-Total	0.010	mg/L	0.015 (U)	0.022	0.0052	0.018
Antimony (Sb)-Total	0.00010	mg/L	0.02 (U)	0.00011	<0.00010	<0.00010
Arsenic (As)-Total	0.00010	mg/L	0.005 (U)	0.00038	0.00042	0.00044
Barium (Ba)-Total	0.00020	mg/L		0.00786	0.00679	0.00877
Beryllium (Be)-Total	0.00010	mg/L	0.011 (U)	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	0.000050	mg/L		<0.000050	<0.000050	<0.000050
Boron (B)-Total	0.010	mg/L	0.2 (U)	<0.010	0.014	<0.010

Station 8 WQ 2017 Summary				STN 8	STN 8	STN 8
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				11:15	11:07	10:55
Cadmium (Cd)-Total	0.000010	mg/L	0.0001 (U)	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	0.50	mg/L		24	36.6	31.7
Cesium (Cs)-Total	0.000010	mg/L		<0.000010	<0.000010	<0.000010
Chromium (Cr)-Total	0.00050	mg/L		<0.00050	<0.00050	<0.00050
Cobalt (Co)-Total	0.00010	mg/L	0.0009 (U)	<0.00010	0.00011	0.00011
Copper (Cu)-Total	0.0010	mg/L	0.001 (U)	<0.0010	<0.0010	<0.0010
Iron (Fe)-Total	0.050	mg/L	0.3 (U)	0.248	0.415	0.178
Lead (Pb)-Total	0.000050	mg/L	0.001 (U)	0.000235	0.000082	0.000162
Lithium (Li)-Total	0.0010	mg/L		<0.0010	<0.0010	<0.0010
Magnesium (Mg)-Total	0.050	mg/L		9.4	13.7	11.9
Manganese (Mn)-Total	0.00050	mg/L		0.0254	0.138	0.027
Molybdenum (Mo)-Total	0.000050	mg/L	0.04 (U)	0.000078	<0.000050	0.000105
Nickel (Ni)-Total	0.00050	mg/L	0.025 (U)	<0.00050	<0.00050	<0.00050
Phosphorus (P)-Total	0.050	mg/L	0.01 (U)	<0.050	0.061	<0.050
Potassium (K)-Total	0.050	mg/L		0.979	0.503	3.2
Rubidium (Rb)-Total	0.00020	mg/L		0.00136	0.00053	0.00263
Selenium (Se)-Total	0.000050	mg/L	0.1 (U)	0.000075	0.000077	0.000074
Silicon (Si)-Total	0.10	mg/L		0.3	1.76	1.29
Silver (Ag)-Total	0.000050	mg/L	0.0001 (U)	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	0.50	mg/L		1.86	1.95	3.47
Strontium (Sr)-Total	0.0010	mg/L		0.0275	0.0372	0.0361
Sulfur (S)-Total	0.50	mg/L		1.08	0.53	0.55
Tellurium (Te)-Total	0.00020	mg/L		<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	0.000010	mg/L	0.0003 (U)	<0.000010	<0.000010	<0.000010
Thorium (Th)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	0.00030	mg/L		0.00062	<0.00030	0.00057

Station 8 WQ 2017 Summary				STN 8	STN 8	STN 8
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				11:15	11:07	10:55
Tungsten (W)-Total	0.00010	mg/L	0.03 (U)	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	0.000010	mg/L	0.005 (U)	0.000012	<0.000010	0.000018
Vanadium (V)-Total	0.00050	mg/L	0.006 (U)	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Total	0.0030	mg/L	0.02 (U)	<0.0030	<0.0030	<0.0030
Zirconium (Zr)-Total	0.00030	mg/L	0.004 (U)	<0.00030	<0.00030	<0.00030

Station 10 WQ 2017 Summary				STN 10	STN 10	STN 10
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				10:00	10:10	
Parameter	Lowest Detection Limit	Units	Guideline Limit			
Physical Tests (Water)						
Total Suspended Solids	2.0	mg/L		<2.0	<2.0	<2.0
Total Dissolved Solids	20	mg/L		153	175	164
Anions and Nutrients (Water)						
Ammonia, Total (as N)	0.020	mg/L		0.055	<0.020	0.08
Bromide (Br)	0.10	mg/L		<0.10	<0.10	<0.10
Chloride (Cl)	0.50	mg/L		1.5	1.65	2.35
Fluoride (F)	0.020	mg/L		0.038	0.032	0.024
Nitrate (as N)	0.020	mg/L		<0.020	<0.020	<0.020
Nitrite (as N)	0.010	mg/L		<0.010	<0.010	<0.010
Total Kjeldahl Nitrogen	0.15	mg/L		0.66	0.73	0.65
Orthophosphate-Dissolved (as P)	0.0030	mg/L		<0.0030	<0.0030	<0.0030
Phosphorus, Total	0.0030	mg/L	0.01 (U)	0.0117	0.0163	0.0065
Sulfate (SO4)	0.30	mg/L		0.95	0.94	0.42
Total Metals (Water)						
Aluminum (Al)-Total	0.010	mg/L	0.015 (U)	<0.010	<0.0050	0.0106
Antimony (Sb)-Total	0.00010	mg/L	0.02 (U)	0.00012	<0.00010	<0.00010
Arsenic (As)-Total	0.00010	mg/L	0.005 (U)	0.00056	0.00047	0.00038
Barium (Ba)-Total	0.00020	mg/L		0.0157	0.0118	0.00656
Beryllium (Be)-Total	0.00010	mg/L	0.011 (U)	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	0.000050	mg/L		<0.000050	<0.000050	<0.000050
Boron (B)-Total	0.010	mg/L	0.2 (U)	<0.010	<0.010	<0.010

Station 10 WQ 2017 Summary				STN 10	STN 10	STN 10
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				10:00	10:10	
Cadmium (Cd)-Total	0.000010	mg/L	0.0001 (U)	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	0.50	mg/L		37.6	38.8	35.9
Cesium (Cs)-Total	0.000010	mg/L		<0.000010	<0.000010	<0.000010
Chromium (Cr)-Total	0.00050	mg/L		<0.00050	<0.00050	0.00051
Cobalt (Co)-Total	0.00010	mg/L	0.0009 (U)	<0.00010	<0.00010	<0.00010
Copper (Cu)-Total	0.0010	mg/L	0.001 (U)	<0.0010	<0.0010	<0.0010
Iron (Fe)-Total	0.050	mg/L	0.3 (U)	0.128	0.162	<0.050
Lead (Pb)-Total	0.000050	mg/L	0.001 (U)	0.000152	<0.000050	<0.000050
Lithium (Li)-Total	0.0010	mg/L		<0.0010	<0.0010	<0.0010
Magnesium (Mg)-Total	0.050	mg/L		12.7	19.8	20.5
Manganese (Mn)-Total	0.00050	mg/L		0.00899	0.0192	0.00123
Molybdenum (Mo)-Total	0.000050	mg/L	0.04 (U)	0.000304	<0.000050	<0.000050
Nickel (Ni)-Total	0.00050	mg/L	0.025 (U)	<0.00050	<0.00050	<0.00050
Phosphorus (P)-Total	0.050	mg/L	0.01 (U)	<0.050	<0.050	<0.050
Potassium (K)-Total	0.050	mg/L		0.455	0.61	1.28
Rubidium (Rb)-Total	0.00020	mg/L		0.00088	0.0011	0.00219
Selenium (Se)-Total	0.000050	mg/L	0.1 (U)	<0.000050	0.000061	<0.000050
Silicon (Si)-Total	0.10	mg/L		0.15	0.56	0.16
Silver (Ag)-Total	0.000050	mg/L	0.0001 (U)	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	0.50	mg/L		1.12	1.17	1.74
Strontium (Sr)-Total	0.0010	mg/L		0.0352	0.039	0.0349
Sulfur (S)-Total	0.50	mg/L		0.55	<0.50	<0.50
Tellurium (Te)-Total	0.00020	mg/L		<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	0.000010	mg/L	0.0003 (U)	<0.000010	<0.000010	<0.000010
Thorium (Th)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	0.00030	mg/L		0.00031	<0.00030	0.00036

Station 10 WQ 2017 Summary				STN 10	STN 10	STN 10
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				10:00	10:10	
Tungsten (W)-Total	0.00010	mg/L	0.03 (U)	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	0.000010	mg/L	0.005 (U)	0.000204	0.000029	0.000095
Vanadium (V)-Total	0.00050	mg/L	0.006 (U)	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Total	0.0030	mg/L	0.02 (U)	<0.0030	<0.0030	<0.0030
Zirconium (Zr)-Total	0.00030	mg/L	0.004 (U)	<0.00030	<0.00030	<0.00030

Station 11 WQ 2017 Summary				STN 11	STN 11	STN 11
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				15:05	14:30	14:35
Parameter	Lowest Detection Limit	Units	Guideline Limit			
Physical Tests (Water)						
Total Suspended Solids	2.0	mg/L		<2.0	24.1	23.2
Total Dissolved Solids	20	mg/L		393	1070	631
Anions and Nutrients (Water)						
Ammonia, Total (as N)	0.020	mg/L		0.067	0.069	0.66
Bromide (Br)	0.10	mg/L		<0.10	<0.10	<0.10
Chloride (Cl)	0.50	mg/L		96.9	351	179
Fluoride (F)	0.020	mg/L		0.042	0.062	0.03
Nitrate (as N)	0.020	mg/L		0.02	<0.020	0.048
Nitrite (as N)	0.010	mg/L		<0.010	<0.010	<0.010
Total Kjeldahl Nitrogen	0.15	mg/L		1.06	3.75	2.6
Orthophosphate-Dissolved (as P)	0.0030	mg/L		0.0072	0.0382	0.173
Phosphorus, Total	0.0030	mg/L	0.01 (U)	0.0311	0.189	0.362
Sulfate (SO4)	0.30	mg/L		3.59	1.25	17.3

Station 11 WQ 2017 Summary				STN 11	STN 11	STN 11
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				15:05	14:30	14:35
Total Metals (Water)						
Aluminum (Al)-Total	0.010	mg/L	0.015 (U)	0.036	0.0283	0.0529
Antimony (Sb)-Total	0.00010	mg/L	0.02 (U)	0.00015	<0.00010	0.00021
Arsenic (As)-Total	0.00010	mg/L	0.005 (U)	0.00091	0.00135	0.00216
Barium (Ba)-Total	0.00020	mg/L		0.0165	0.0616	0.029
Beryllium (Be)-Total	0.00010	mg/L	0.011 (U)	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	0.000050	mg/L		<0.000050	<0.000050	<0.000050
Boron (B)-Total	0.010	mg/L	0.2 (U)	0.01	<0.010	0.032
Cadmium (Cd)-Total	0.000010	mg/L	0.0001 (U)	0.000011	<0.000010	0.000025
Calcium (Ca)-Total	0.50	mg/L		53.6	120	72.6
Cesium (Cs)-Total	0.000010	mg/L		<0.000010	<0.000010	<0.000010
Chromium (Cr)-Total	0.00050	mg/L		<0.00050	<0.00050	0.0006
Cobalt (Co)-Total	0.00010	mg/L	0.0009 (U)	0.0001	0.00102	0.00045
Copper (Cu)-Total	0.0010	mg/L	0.001 (U)	<0.0010	<0.0010	0.001
Iron (Fe)-Total	0.050	mg/L	0.3 (U)	0.313	1.32	1.02
Lead (Pb)-Total	0.000050	mg/L	0.001 (U)	0.000224	0.000183	0.000408
Lithium (Li)-Total	0.0010	mg/L		<0.0010	<0.0010	<0.0010
Magnesium (Mg)-Total	0.050	mg/L		14.3	28.6	20.8
Manganese (Mn)-Total	0.00050	mg/L		0.0247	1.69	0.688
Molybdenum (Mo)-Total	0.000050	mg/L	0.04 (U)	0.000259	0.000174	0.00053
Nickel (Ni)-Total	0.00050	mg/L	0.025 (U)	0.00053	0.00072	0.0007
Phosphorus (P)-Total	0.050	mg/L	0.01 (U)	<0.050	0.174	0.601
Potassium (K)-Total	0.050	mg/L		1.47	0.906	3.51
Rubidium (Rb)-Total	0.00020	mg/L		0.00158	0.00112	0.00327
Selenium (Se)-Total	0.000050	mg/L	0.1 (U)	0.000131	0.000176	0.000159
Silicon (Si)-Total	0.10	mg/L		1.45	8.18	3.93

Station 11 WQ 2017 Summary				STN 11	STN 11	STN 11
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				15:05	14:30	14:35
Silver (Ag)-Total	0.000050	mg/L	0.0001 (U)	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	0.50	mg/L		57.9	159	76
Strontium (Sr)-Total	0.0010	mg/L		0.0845	0.196	0.0885
Sulfur (S)-Total	0.50	mg/L		1.91	1.09	6.8
Tellurium (Te)-Total	0.00020	mg/L		<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	0.000010	mg/L	0.0003 (U)	<0.000010	<0.000010	0.000013
Thorium (Th)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	0.00030	mg/L		0.00134	0.0009	0.00123
Tungsten (W)-Total	0.00010	mg/L	0.03 (U)	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	0.000010	mg/L	0.005 (U)	0.000096	0.000047	0.000025
Vanadium (V)-Total	0.00050	mg/L	0.006 (U)	<0.00050	<0.00050	0.00055
Zinc (Zn)-Total	0.0030	mg/L	0.02 (U)	0.0038	0.004	0.0136
Zirconium (Zr)-Total	0.00030	mg/L	0.004 (U)	<0.00030	<0.00030	<0.00030

Station 12 WQ 2017 Summary				STN 12	STN 12
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017
				15:50	14:52
Parameter	Lowest Detection Limit	Units	Guideline Limit		
Physical Tests (Water)					
Total Suspended Solids	2.0	mg/L		16.9	14.3
Total Dissolved Solids	20	mg/L		347	803
Anions and Nutrients (Water)					
Ammonia, Total (as N)	0.020	mg/L		0.035	<0.020
Bromide (Br)	0.10	mg/L		0.13	1.34
Chloride (Cl)	0.50	mg/L		71.3	207
Fluoride (F)	0.020	mg/L		0.048	0.049
Nitrate (as N)	0.020	mg/L		0.059	<0.020
Nitrite (as N)	0.010	mg/L		<0.010	<0.010
Total Kjeldahl Nitrogen	0.15	mg/L		0.85	0.61
Orthophosphate-Dissolved (as P)	0.0030	mg/L		0.0108	<0.0030
Phosphorus, Total	0.0030	mg/L	0.01 (U)	0.129	0.0216
Sulfate (SO4)	0.30	mg/L		3.7	2.27
Total Metals (Water)					
Aluminum (Al)-Total	0.010	mg/L	0.015 (U)	2.61	0.0693
Antimony (Sb)-Total	0.00010	mg/L	0.02 (U)	0.00038	<0.00010
Arsenic (As)-Total	0.00010	mg/L	0.005 (U)	0.00235	0.00084
Barium (Ba)-Total	0.00020	mg/L		0.0398	0.0429
Beryllium (Be)-Total	0.00010	mg/L	0.011 (U)	0.00013	<0.00010
Bismuth (Bi)-Total	0.000050	mg/L		<0.000050	<0.000050
Boron (B)-Total	0.010	mg/L	0.2 (U)	0.024	0.049

Station 12 WQ 2017 Summary				STN 12	STN 12
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017
				15:50	14:52
Cadmium (Cd)-Total	0.000010	mg/L	0.0001 (U)	0.00019	0.000018
Calcium (Ca)-Total	0.50	mg/L		77.6	132
Cesium (Cs)-Total	0.000010	mg/L		0.000225	<0.000010
Chromium (Cr)-Total	0.00050	mg/L		0.00454	<0.00050
Cobalt (Co)-Total	0.00010	mg/L	0.0009 (U)	0.00178	0.00105
Copper (Cu)-Total	0.0010	mg/L	0.001 (U)	0.012	<0.0010
Iron (Fe)-Total	0.050	mg/L	0.3 (U)	3.82	1
Lead (Pb)-Total	0.000050	mg/L	0.001 (U)	0.0204	0.000622
Lithium (Li)-Total	0.0010	mg/L		0.0096	0.0389
Magnesium (Mg)-Total	0.050	mg/L		15.3	14.6
Manganese (Mn)-Total	0.00050	mg/L		0.246	0.561
Molybdenum (Mo)-Total	0.000050	mg/L	0.04 (U)	0.00122	0.000329
Nickel (Ni)-Total	0.00050	mg/L	0.025 (U)	0.00418	0.00067
Phosphorus (P)-Total	0.050	mg/L	0.01 (U)	0.201	0.084
Potassium (K)-Total	0.050	mg/L		2.9	2.89
Rubidium (Rb)-Total	0.00020	mg/L		0.00453	0.00276
Selenium (Se)-Total	0.000050	mg/L	0.1 (U)	0.000124	0.000053
Silicon (Si)-Total	0.10	mg/L		8.98	1.56
Silver (Ag)-Total	0.000050	mg/L	0.0001 (U)	<0.000050	<0.000050
Sodium (Na)-Total	0.50	mg/L		40.2	54.1
Strontium (Sr)-Total	0.0010	mg/L		0.326	0.991
Sulfur (S)-Total	0.50	mg/L		1.63	1.05
Tellurium (Te)-Total	0.00020	mg/L		<0.00020	<0.00020
Thallium (Tl)-Total	0.000010	mg/L	0.0003 (U)	0.000041	0.000017
Thorium (Th)-Total	0.00010	mg/L		0.00034	<0.00010
Tin (Sn)-Total	0.00010	mg/L		0.00028	<0.00010
Titanium (Ti)-Total	0.00030	mg/L		0.0833	0.00243

Station 12 WQ 2017 Summary				STN 12	STN 12
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017
				15:50	14:52
Tungsten (W)-Total	0.00010	mg/L	0.03 (U)	<0.00010	<0.00010
Uranium (U)-Total	0.000010	mg/L	0.005 (U)	0.000381	0.000079
Vanadium (V)-Total	0.00050	mg/L	0.006 (U)	0.00572	<0.00050
Zinc (Zn)-Total	0.0030	mg/L	0.02 (U)	0.0838	0.0088
Zirconium (Zr)-Total	0.00030	mg/L	0.004 (U)	0.00118	<0.00030

Station 13 WQ 2017 Summary				STN 13	STN 13	STN 13
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				16:10	15:08	14:00
Parameter	Lowest Detection Limit	Units	Guideline Limit			
Physical Tests (Water)						
Total Suspended Solids	2.0	mg/L		4.5	6.8	15.6
Total Dissolved Solids	20	mg/L		440	392	399
Anions and Nutrients (Water)						
Ammonia, Total (as N)	0.020	mg/L		0.059	0.063	<0.020
Bromide (Br)	0.10	mg/L		<0.10	<0.10	<0.10
Chloride (Cl)	0.50	mg/L		166	179	177
Fluoride (F)	0.020	mg/L		0.048	0.033	0.029
Nitrate (as N)	0.020	mg/L		<0.020	<0.020	<0.020
Nitrite (as N)	0.010	mg/L		<0.010	<0.010	<0.010
Total Kjeldahl Nitrogen	0.15	mg/L		1.01	1.37	1.16
Orthophosphate-Dissolved (as P)	0.0030	mg/L		<0.0030	<0.0030	<0.0030
Phosphorus, Total	0.0030	mg/L	0.01 (U)	0.0316	0.133	0.0363
Sulfate (SO4)	0.30	mg/L		2.08	1.95	1.28
Total Metals (Water)						
Aluminum (Al)-Total	0.010	mg/L	0.015 (U)	0.021	0.0149	0.0327
Antimony (Sb)-Total	0.00010	mg/L	0.02 (U)	0.00015	<0.00010	<0.00010
Arsenic (As)-Total	0.00010	mg/L	0.005 (U)	0.00033	0.00055	0.00051
Barium (Ba)-Total	0.00020	mg/L		0.017	0.0095	0.0199
Beryllium (Be)-Total	0.00010	mg/L	0.011 (U)	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	0.000050	mg/L		<0.000050	<0.000050	<0.000050
Boron (B)-Total	0.010	mg/L	0.2 (U)	0.013	0.018	0.018

Station 13 WQ 2017 Summary				STN 13	STN 13	STN 13
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				16:10	15:08	14:00
Cadmium (Cd)-Total	0.000010	mg/L	0.0001 (U)	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	0.50	mg/L		44.9	27.2	46.7
Cesium (Cs)-Total	0.000010	mg/L		<0.000010	<0.000010	<0.000010
Chromium (Cr)-Total	0.00050	mg/L		<0.00050	<0.00050	0.00069
Cobalt (Co)-Total	0.00010	mg/L	0.0009 (U)	<0.00010	<0.00010	<0.00010
Copper (Cu)-Total	0.0010	mg/L	0.001 (U)	<0.0010	<0.0010	<0.0010
Iron (Fe)-Total	0.050	mg/L	0.3 (U)	0.093	0.235	0.338
Lead (Pb)-Total	0.000050	mg/L	0.001 (U)	0.000365	0.00015	0.000557
Lithium (Li)-Total	0.0010	mg/L		<0.0010	<0.0010	<0.0010
Magnesium (Mg)-Total	0.050	mg/L		7.7	8.41	9.66
Manganese (Mn)-Total	0.00050	mg/L		0.0482	0.145	0.126
Molybdenum (Mo)-Total	0.000050	mg/L	0.04 (U)	0.000236	0.000245	0.000272
Nickel (Ni)-Total	0.00050	mg/L	0.025 (U)	<0.00050	0.00097	<0.00050
Phosphorus (P)-Total	0.050	mg/L	0.01 (U)	<0.050	<0.050	0.055
Potassium (K)-Total	0.050	mg/L		2.15	2.19	2.42
Rubidium (Rb)-Total	0.00020	mg/L		0.00154	0.00192	0.00205
Selenium (Se)-Total	0.000050	mg/L	0.1 (U)	<0.000050	0.000053	<0.000050
Silicon (Si)-Total	0.10	mg/L		0.11	0.31	0.36
Silver (Ag)-Total	0.000050	mg/L	0.0001 (U)	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	0.50	mg/L		104	115	110
Strontium (Sr)-Total	0.0010	mg/L		0.0923	0.0734	0.091
Sulfur (S)-Total	0.50	mg/L		1.08	0.58	0.7
Tellurium (Te)-Total	0.00020	mg/L		<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	0.000010	mg/L	0.0003 (U)	<0.000010	<0.000010	<0.000010
Thorium (Th)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	0.00030	mg/L		0.00048	<0.00030	0.00079

Station 13 WQ 2017 Summary				STN 13	STN 13	STN 13
216002 - Clair/ Maltby				1-May-2017	10-Aug-2017	3-Nov-2017
				16:10	15:08	14:00
Tungsten (W)-Total	0.00010	mg/L	0.03 (U)	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	0.000010	mg/L	0.005 (U)	0.000065	0.000026	0.000063
Vanadium (V)-Total	0.00050	mg/L	0.006 (U)	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Total	0.0030	mg/L	0.02 (U)	<0.0030	<0.0030	<0.0030
Zirconium (Zr)-Total	0.00030	mg/L	0.004 (U)	<0.00030	<0.00030	<0.00030

Station 14 WQ 2017 Summary				STN 14	STN 14	STN 14	STN 14	STN 14	STN 14
216002 - Clair/ Maltby				28-Apr-2017	1-May-2017	10-Aug-2017	5-Sep-2017	3-Oct-2017	3-Nov-2017
				9:50	15:30	15:35	13:55	15:00	15:00
Parameter	Lowest Detection Limit	Units	Guideline Limit						
Physical Tests (Water)									
Total Suspended Solids	2.0	mg/L		<2.0	4.5	2.7	3.9	<2.0	<2.0
Total Dissolved Solids	20	mg/L		284	242	364	360	391	292
Anions and Nutrients (Water)									
Ammonia, Total (as N)	0.020	mg/L		<0.020	0.159	<0.020	0.194	0.067	0.036
Bromide (Br)	0.10	mg/L		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chloride (Cl)	0.50	mg/L		20.4	12.3	37.9	33.8	38.7	29.5
Fluoride (F)	0.020	mg/L		0.049	0.06	0.054	0.054	0.055	0.047
Nitrate (as N)	0.020	mg/L		0.298	0.153	0.678	0.551	0.689	0.431
Nitrite (as N)	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Total Kjeldahl Nitrogen	0.15	mg/L		0.33	0.38	0.17	0.22	<0.15	0.36
Orthophosphate-Dissolved (as P)	0.0030	mg/L		0.0035	0.0033	0.006			0.0103
Phosphorus, Total	0.0030	mg/L	0.01 (U)	0.008	0.0103	0.0067	0.0105	0.0042	0.0389
Sulfate (SO4)	0.30	mg/L		10.7	7.6	18.7	15.5	18.2	13.4

Station 14 WQ 2017 Summary				STN 14	STN 14	STN 14	STN 14	STN 14	STN 14
216002 - Clair/ Maltby				28-Apr-2017	1-May-2017	10-Aug-2017	5-Sep-2017	3-Oct-2017	3-Nov-2017
				9:50	15:30	15:35	13:55	15:00	15:00
Total Metals (Water)									
Aluminum (Al)-Total	0.010	mg/L	0.015 (U)	<0.010	0.016	0.0101	0.0115	<0.0050	0.0098
Antimony (Sb)-Total	0.00010	mg/L	0.02 (U)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic (As)-Total	0.00010	mg/L	0.005 (U)	0.00025	0.00029	0.00018	0.00028	0.00018	0.00027
Barium (Ba)-Total	0.00020	mg/L		0.0365	0.0267	0.0559	0.0532	0.0599	0.0444
Beryllium (Be)-Total	0.00010	mg/L	0.011 (U)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron (B)-Total	0.010	mg/L	0.2 (U)	0.013	<0.010	0.01	0.01	<0.010	0.01
Cadmium (Cd)-Total	0.000010	mg/L	0.0001 (U)	0.000028	0.000064	0.000075	0.000076	0.000057	0.000061
Calcium (Ca)-Total	0.50	mg/L		62.8	53.7	77.3	75.7	77.6	79.9
Cesium (Cs)-Total	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Chromium (Cr)-Total	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt (Co)-Total	0.00010	mg/L	0.0009 (U)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Copper (Cu)-Total	0.0010	mg/L	0.001 (U)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Iron (Fe)-Total	0.050	mg/L	0.3 (U)	<0.050	0.063	<0.050	0.056	<0.050	<0.050
Lead (Pb)-Total	0.000050	mg/L	0.001 (U)	<0.000050	0.000166	0.000112	0.00013	<0.000050	0.000099
Lithium (Li)-Total	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	0.0012	0.0011
Magnesium (Mg)-Total	0.050	mg/L		21.5	17.5	26.6	25.9	26.9	26.2
Manganese (Mn)-Total	0.00050	mg/L		0.00635	0.0173	0.0163	0.0501	0.0133	0.0219
Molybdenum (Mo)-Total	0.000050	mg/L	0.04 (U)	0.000342	0.00038	0.000414	0.000366	0.000396	0.000361
Nickel (Ni)-Total	0.00050	mg/L	0.025 (U)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00051
Phosphorus (P)-Total	0.050	mg/L	0.01 (U)	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Total	0.050	mg/L		0.894	0.638	1.18	1.1	1.19	1.16
Rubidium (Rb)-Total	0.00020	mg/L		0.00094	0.00071	0.00135	0.00126	0.00128	0.00126
Selenium (Se)-Total	0.000050	mg/L	0.1 (U)	0.000127	0.000118	0.000173	0.000157	0.000177	0.000149
Silicon (Si)-Total	0.10	mg/L		3.22	2.53	5.3	5.04	5.12	4.8

Station 14 WQ 2017 Summary				STN 14	STN 14	STN 14	STN 14	STN 14	STN 14
216002 - Clair/ Maltby				28-Apr-2017	1-May-2017	10-Aug-2017	5-Sep-2017	3-Oct-2017	3-Nov-2017
				9:50	15:30	15:35	13:55	15:00	15:00
Silver (Ag)-Total	0.000050	mg/L	0.0001 (U)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	0.50	mg/L		10.7	6.56	18.6	16.7	19.2	14.5
Strontium (Sr)-Total	0.0010	mg/L		0.0841	0.0712	0.106	0.103	0.111	0.0976
Sulfur (S)-Total	0.50	mg/L		4.37	3.03	7.03	5.67	6.77	5.32
Tellurium (Te)-Total	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	0.000010	mg/L	0.0003 (U)	<0.000010	<0.000010	0.000016	0.000015	0.000016	0.000013
Thorium (Th)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	0.00030	mg/L		<0.00030	0.00054	0.00035	<0.00030	<0.00030	0.00039
Tungsten (W)-Total	0.00010	mg/L	0.03 (U)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	0.000010	mg/L	0.005 (U)	0.00034	0.000233	0.000528	0.000445	0.000507	0.000352
Vanadium (V)-Total	0.00050	mg/L	0.006 (U)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Total	0.0030	mg/L	0.02 (U)	0.0506	0.0471	0.0871	0.0823	0.0864	0.071
Zirconium (Zr)-Total	0.00030	mg/L	0.004 (U)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030

Station 15 WQ 2017 Summary				STN 15	STN 15	STN 15	STN 15	STN 15	STN 15
216002 - Clair/ Maltby				28-Apr-2017	1-May-2017	10-Aug-2017	5-Sep-2017	3-Oct-2017	3-Nov-2017
				10:30	15:35	16:00	14:20	16:00	15:25
Parameter	Lowest Detection Limit	Units	Guideline Limit						
Physical Tests (Water)									
Total Suspended Solids	2.0	mg/L		3.5	3.3	2.9	<2.0	<2.0	2.7
Total Dissolved Solids	20	mg/L		272	613	626	654	664	661
Anions and Nutrients (Water)									
Ammonia, Total (as N)	0.020	mg/L		0.029	0.065	<0.020	0.212	0.116	0.194
Bromide (Br)	0.10	mg/L		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chloride (Cl)	0.50	mg/L		246	165	184	196	194	195
Fluoride (F)	0.020	mg/L		0.06	0.039	0.036	0.055	0.04	0.048
Nitrate (as N)	0.020	mg/L		2.73	2.03	2.35	2.53	2.65	2.77
Nitrite (as N)	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Total Kjeldahl Nitrogen	0.15	mg/L		0.49	0.6	0.61	0.41	0.21	0.51
Orthophosphate-Dissolved (as P)	0.0030	mg/L		<0.0030	<0.0030	0.0044			<0.0030
Phosphorus, Total	0.0030	mg/L	0.01 (U)	0.0106	0.0087	0.0065	0.0048	0.0044	0.0099
Sulfate (SO4)	0.30	mg/L		20.9	14.7	18.3	17.8	17.9	19.6
Total Metals (Water)									
Aluminum (Al)-Total	0.010	mg/L	0.015 (U)	0.019	0.02	0.0065	0.0058	<0.0050	0.0238
Antimony (Sb)-Total	0.00010	mg/L	0.02 (U)	0.00011	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic (As)-Total	0.00010	mg/L	0.005 (U)	0.00033	0.00029	0.00044	0.00041	0.0004	0.00042
Barium (Ba)-Total	0.00020	mg/L		0.0772	0.0752	0.0998	0.106	0.113	0.1
Beryllium (Be)-Total	0.00010	mg/L	0.011 (U)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron (B)-Total	0.010	mg/L	0.2 (U)	0.021	0.017	0.022	0.023	0.022	0.022

Station 15 WQ 2017 Summary				STN 15	STN 15	STN 15	STN 15	STN 15	STN 15
216002 - Clair/ Maltby				28-Apr-2017	1-May-2017	10-Aug-2017	5-Sep-2017	3-Oct-2017	3-Nov-2017
				10:30	15:35	16:00	14:20	16:00	15:25
Cadmium (Cd)-Total	0.000010	mg/L	0.0001 (U)	0.000034	0.000029	0.000018	0.000016	0.000022	0.000029
Calcium (Ca)-Total	0.50	mg/L		97.4	81.5	89.9	95.3	101	105
Cesium (Cs)-Total	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Chromium (Cr)-Total	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00055
Cobalt (Co)-Total	0.00010	mg/L	0.0009 (U)	0.00013	0.00013	<0.00010	<0.00010	<0.00010	0.00016
Copper (Cu)-Total	0.0010	mg/L	0.001 (U)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Iron (Fe)-Total	0.050	mg/L	0.3 (U)	0.143	0.149	0.139	0.128	0.113	0.184
Lead (Pb)-Total	0.000050	mg/L	0.001 (U)	0.000204	0.000175	0.000083	0.000116	0.000079	0.000217
Lithium (Li)-Total	0.0010	mg/L		0.0011	<0.0010	0.0015	0.0018	0.0018	0.0018
Magnesium (Mg)-Total	0.050	mg/L		27.3	24	28.7	29.7	28.9	31.7
Manganese (Mn)-Total	0.00050	mg/L		0.0417	0.0444	0.0179	0.0129	0.0279	0.0518
Molybdenum (Mo)-Total	0.000050	mg/L	0.04 (U)	0.000304	0.000294	0.000295	0.000295	0.000285	0.000295
Nickel (Ni)-Total	0.00050	mg/L	0.025 (U)	<0.00050	<0.00050	<0.00050	0.00051	<0.00050	<0.00050
Phosphorus (P)-Total	0.050	mg/L	0.01 (U)	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Total	0.050	mg/L		2.49	2.21	2.59	2.62	2.84	2.48
Rubidium (Rb)-Total	0.00020	mg/L		0.00066	0.00058	0.00077	0.00081	0.00079	0.00074
Selenium (Se)-Total	0.000050	mg/L	0.1 (U)	0.000214	0.000209	0.00016	0.00015	0.000136	0.000173
Silicon (Si)-Total	0.10	mg/L		2.91	3.08	4.29	4.13	4.78	4.9
Silver (Ag)-Total	0.000050	mg/L	0.0001 (U)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	0.50	mg/L		139	110	94.1	94	91.2	95.4
Strontium (Sr)-Total	0.0010	mg/L		0.155	0.129	0.134	0.142	0.146	0.139
Sulfur (S)-Total	0.50	mg/L		8.15	6.92	7.19	6.67	6.83	7.26
Tellurium (Te)-Total	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	0.000010	mg/L	0.0003 (U)	0.000012	<0.000010	0.000015	0.000014	0.000015	0.000014
Thorium (Th)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	0.00030	mg/L		0.00068	0.00068	<0.00030	<0.00030	<0.00030	0.00074

Station 15 WQ 2017 Summary				STN 15	STN 15	STN 15	STN 15	STN 15	STN 15
216002 - Clair/ Maltby				28-Apr-2017	1-May-2017	10-Aug-2017	5-Sep-2017	3-Oct-2017	3-Nov-2017
				10:30	15:35	16:00	14:20	16:00	15:25
Tungsten (W)-Total	0.00010	mg/L	0.03 (U)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	0.000010	mg/L	0.005 (U)	0.000456	0.000403	0.00038	0.00037	0.00036	0.000364
Vanadium (V)-Total	0.00050	mg/L	0.006 (U)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Total	0.0030	mg/L	0.02 (U)	0.0085	0.0087	0.0053	0.0055	0.0058	0.0074
Zirconium (Zr)-Total	0.00030	mg/L	0.004 (U)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030

Appendix E3

Scoped Wetland Pesticides Sampling Results 2017

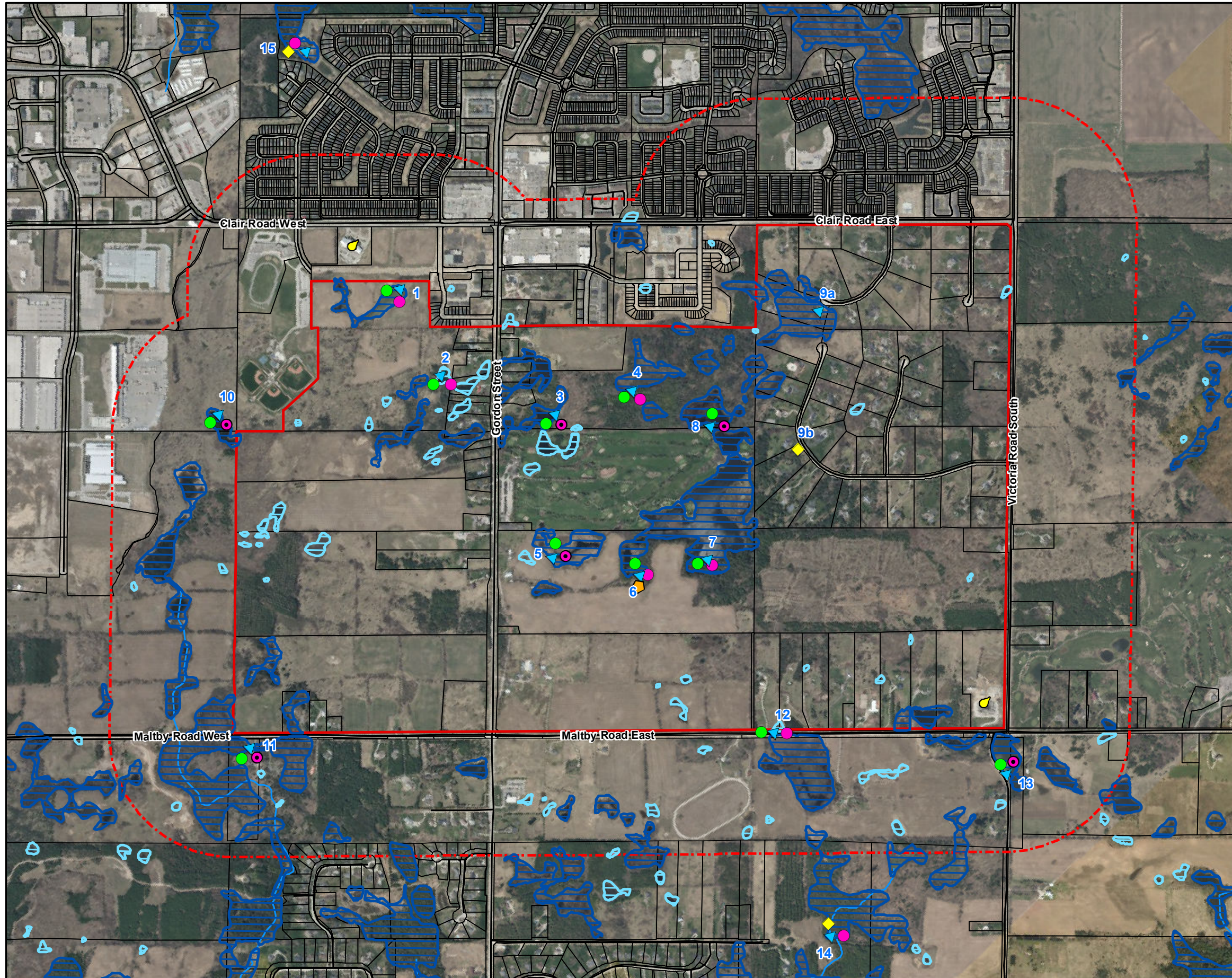
Appendix E3

Scoped Wetland Pesticides Sampling Results 2017

Parameter	Guideline Limit (PWQO)	Units	STN 3	STN 5	STN 7	STN 8	STN 11	STN 13
Organochlorine Pesticides (Water)								
Aldrin		ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
gamma-hexachlorocyclohexane	0.01 (U)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
a-chlordane		ug/L	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Chlordane (Total)	0.06 (U)	ug/L	<0.057	<0.057	<0.057	<0.057	<0.057	<0.057
g-chlordane		ug/L	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
o,p-DDD		ug/L	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
pp-DDD		ug/L	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Total DDD		ug/L	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042
o,p-DDE		ug/L	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080
pp-DDE		ug/L	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080
Total DDE		ug/L	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011
op-DDT		ug/L	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
pp-DDT		ug/L	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Total DDT		ug/L	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042
Dieldrin		ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Endosulfan I		ug/L	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Endosulfan II		ug/L	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Endosulfan (Total)	0.003 (U)	ug/L	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042
Endrin	0.002 (U)	ug/L	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Heptachlor		ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Heptachlor Epoxide		ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorobenzene	0.0065 (U)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorobutadiene	0.009 (U)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachloroethane		ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Methoxychlor	0.04 (U)	ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

2-Fluorobiphenyl		%	77.3	75	73.5	80.4	72.2	74.3
d14-Terphenyl		%	74	74	59.2	75.2	67.9	67.1
Detection Limit Exceeds Guideline								

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Surface Water Monitoring Locations

Map SW-1

Clair-Maltby Secondary Plan
Phase 1 and 2 Characterization Report

Legend

- Secondary Plan Area
- Primary Study Area
- Watercourse (MNRF 2017)
- Parcel Fabric
- Monitoring Stations**
- Surface Water Quality*
- Surface Water Quality* + Pesticides
- Surface Water Quantity
- ▲ Mini-piezometer
- Surface Water Flow
- ◆ Rain Gauge
- ⬠ Baro Logger
- Provincially Significant Wetlands (MNRF 2017)
- Unevaluated Wetlands (MNRF 2017)

* Water Quality Sampling Parameters include: TSS, TDS, PTP, SO⁴, Cl, TKN, NO², NO³, NH³, Temp, pH, Conductivity, DO and Metals.

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First Base Solutions
Web Mapping Service 2017

UTM Zone 17 N, NAD 83

0 175 350 700 Metres

1:16,000



Project 216002
August, 2018