

Air Quality Monitoring Results Supplementary Data 2016

New Brunswick
Department of Environment
and Local Government



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This report provides detailed, site-specific air quality information, and is provided as a companion document to the Department of Environment and Local Government's "Air Quality Monitoring Results 2016" report, which is available electronically via the DELG website:

www.gnb.ca/environment

Feedback

We are interested in your feedback on this report. All suggestions will be considered, and if possible, incorporated in future reports. You may contact the Air and Water Sciences Branch, Department of Environment and Local Government (DELG) at elg/egl-info@gnb.ca with any comments.

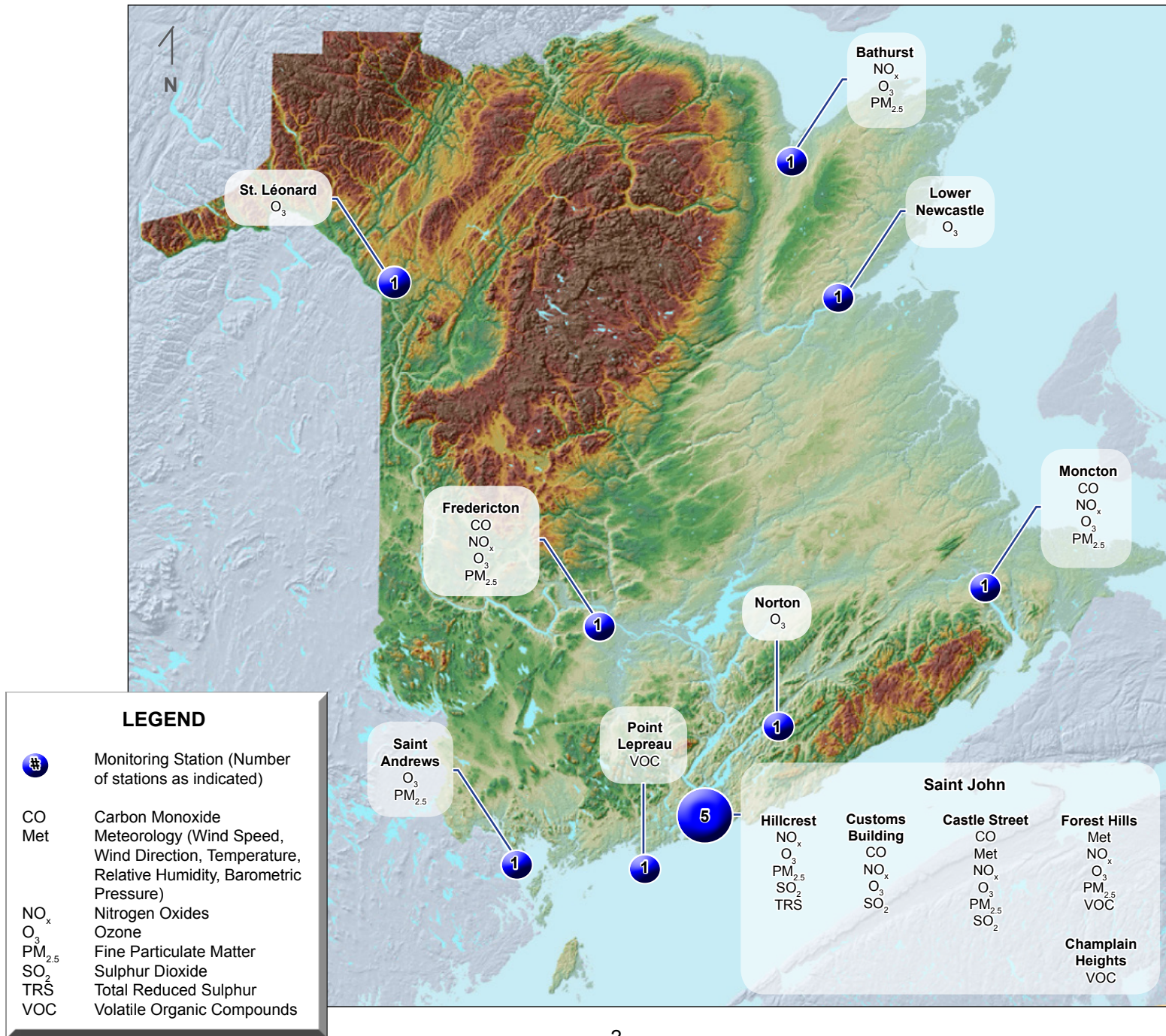
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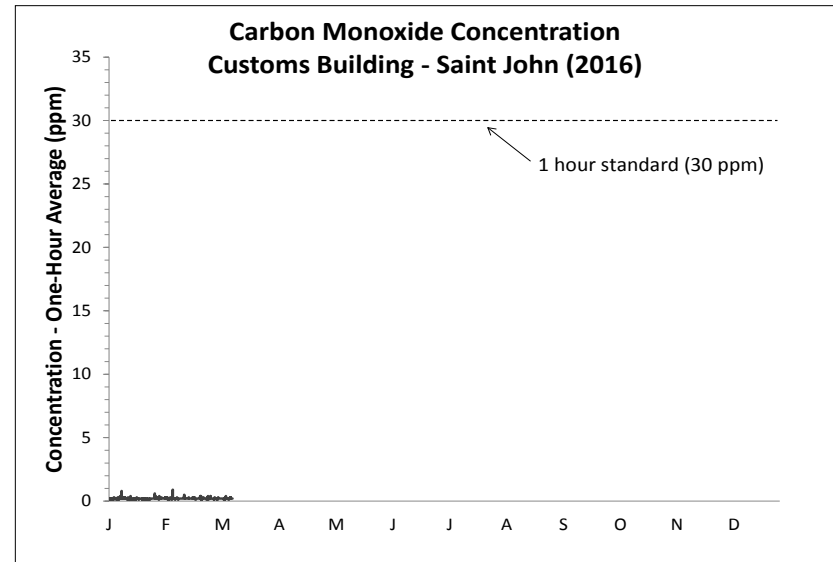
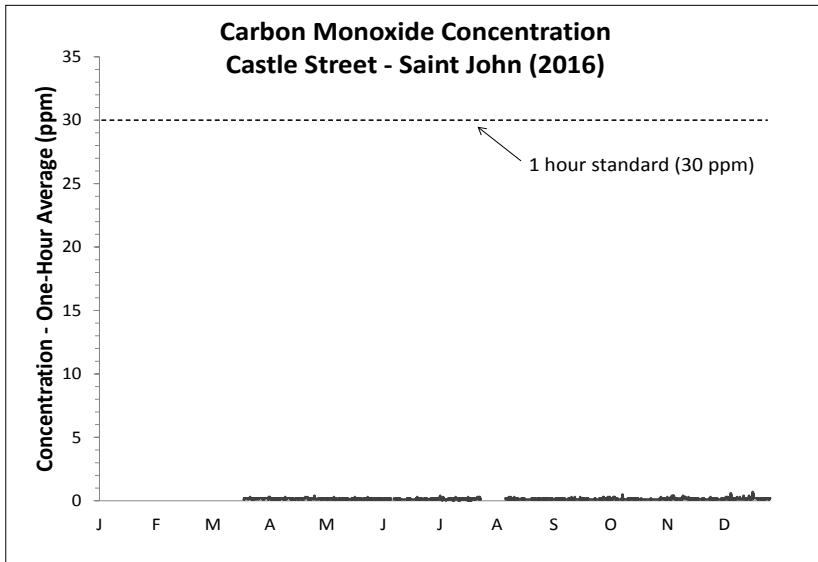
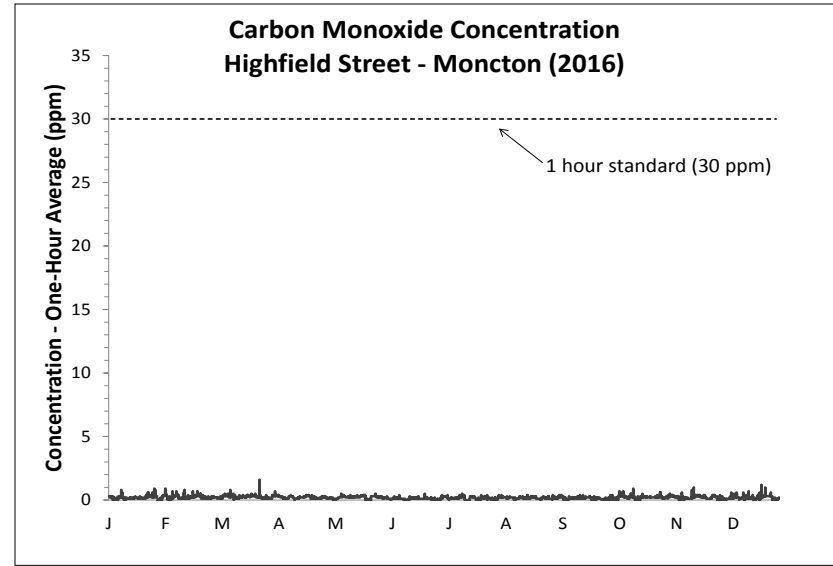
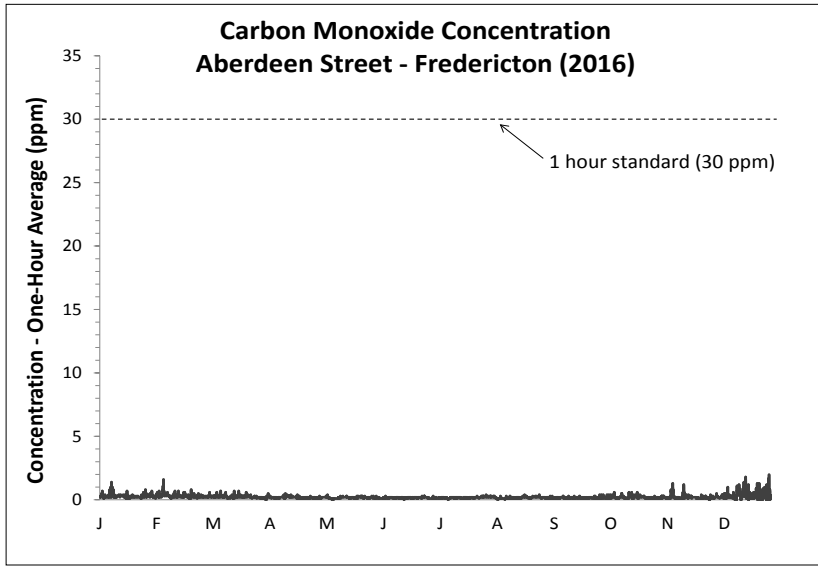
List of Acronyms and Abbreviations

CO	Carbon Monoxide
eq/ha/yr	Equivalents (molar equivalent acidity) per hectare per year
PM _{2.5}	Fine Particulate Matter (less than 2.5 microns)
H ₂ S	Hydrogen Sulphide
kg/ha/yr	Kilograms per hectare per year
µg/m ³	Micrograms per cubic meter
meq/L	Milliequivalents (molar equivalent acidity) per litre
mg/L	Milligrams per litre
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
O ₃	Ozone
ppb	Parts per billion
ppm	Parts per million
SO ₂	Sulphur Dioxide
TRS	Total Reduced Sulphur
TSP	Total Suspended Particulate
VOC	Volatile Organic Compound

PART I:
THE PROVINCIAL AIR QUALITY MONITORING NETWORK:
STATIONS OPERATED BY THE PROVINCE

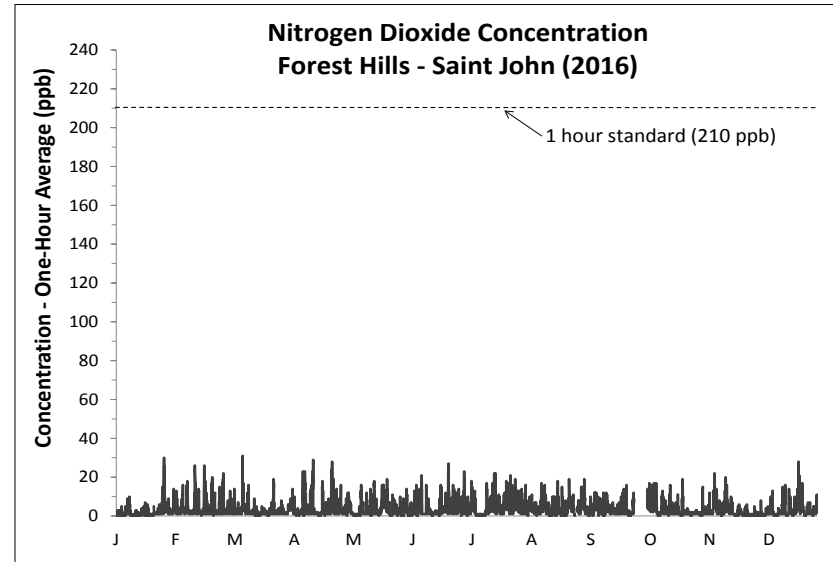
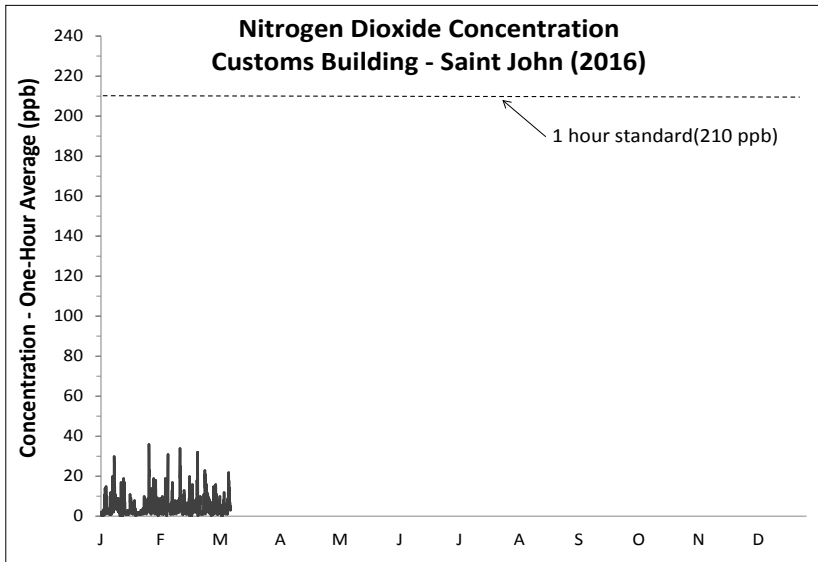
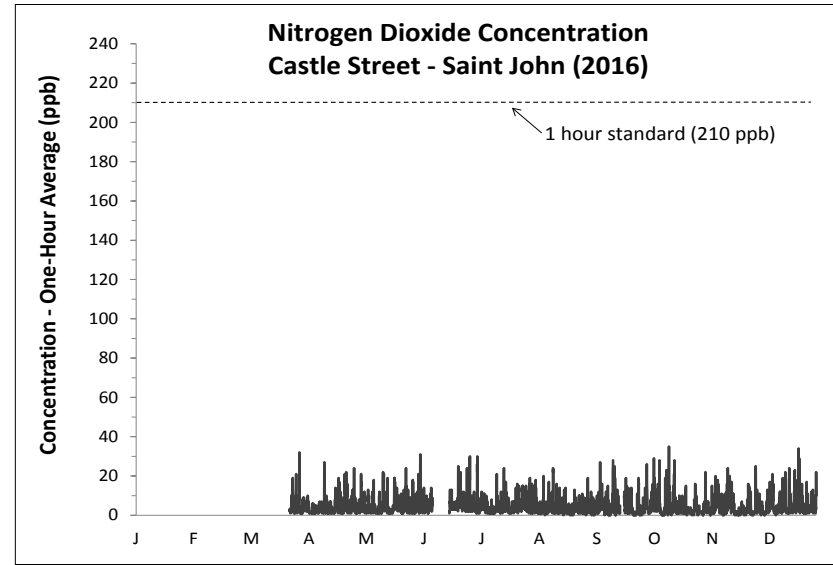
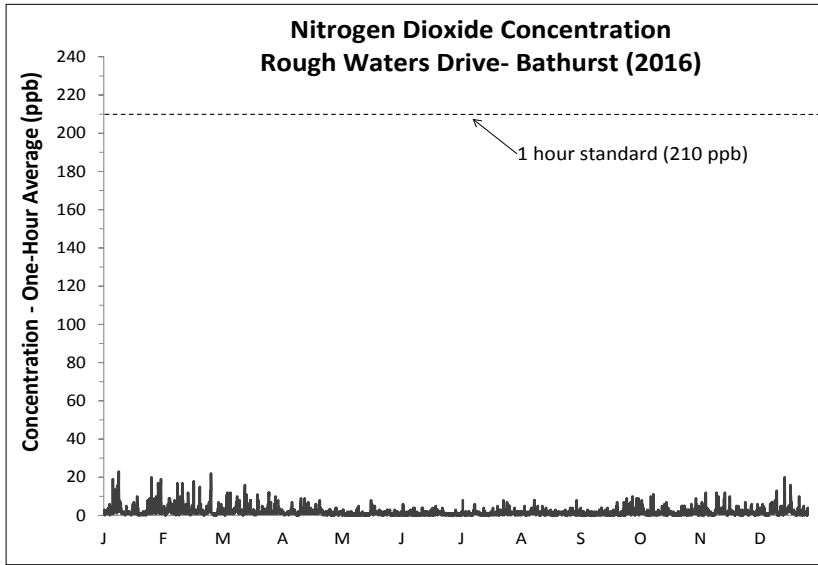


PART I: STATIONS OPERATED BY THE PROVINCE - Continuous Air Quality Monitoring Results
Carbon Monoxide



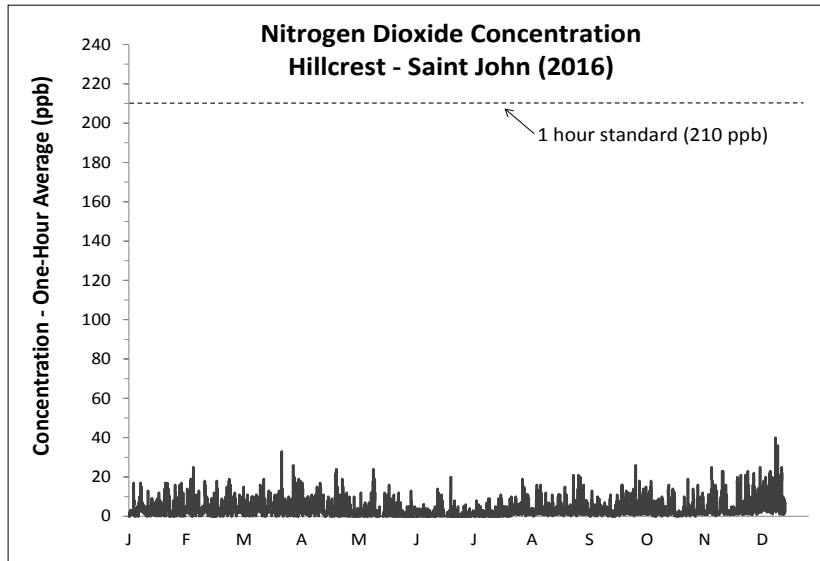
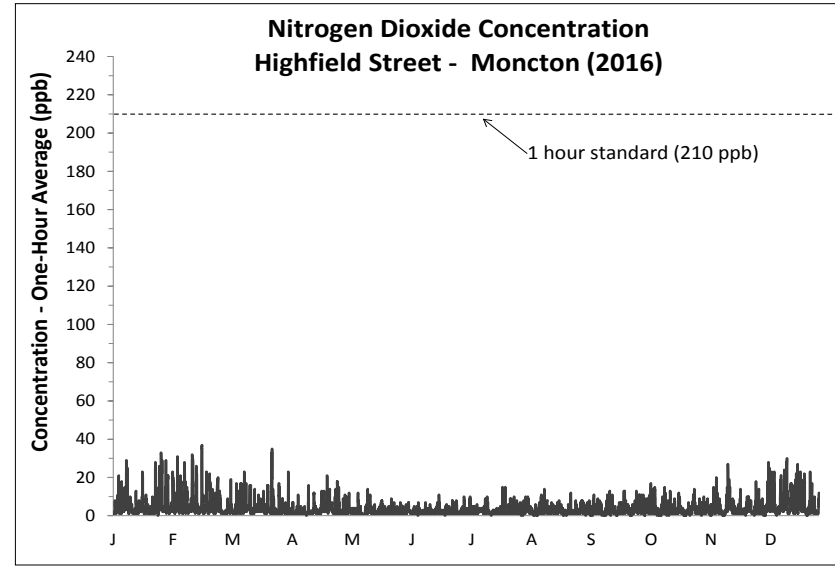
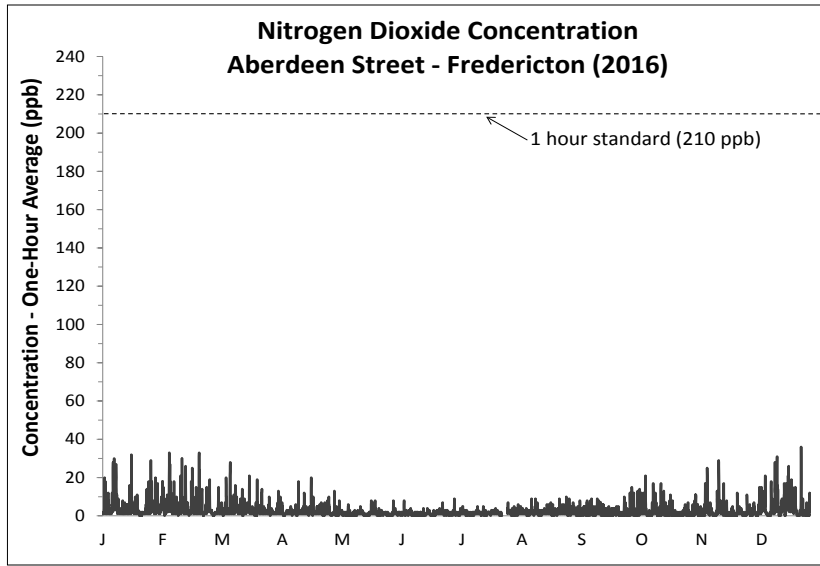
PART I: STATIONS OPERATED BY THE PROVINCE - Continuous Air Quality Monitoring Results

Nitrogen Dioxide



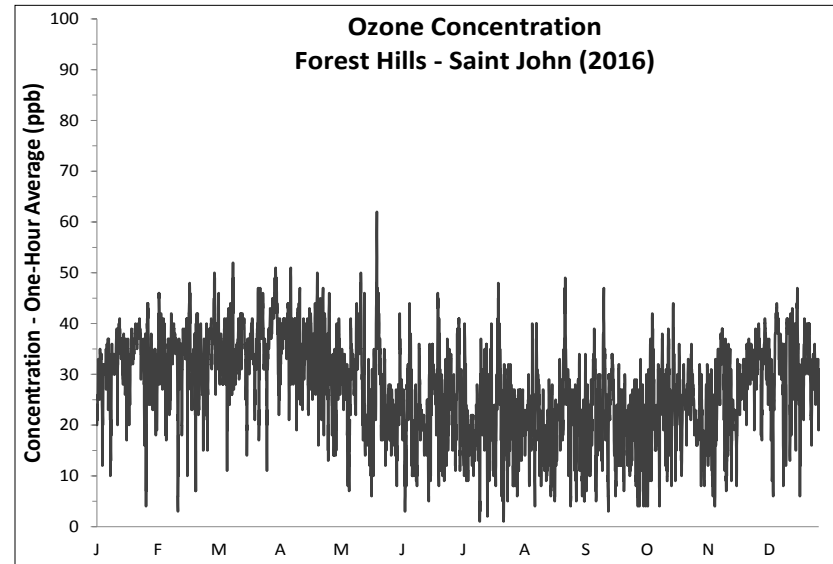
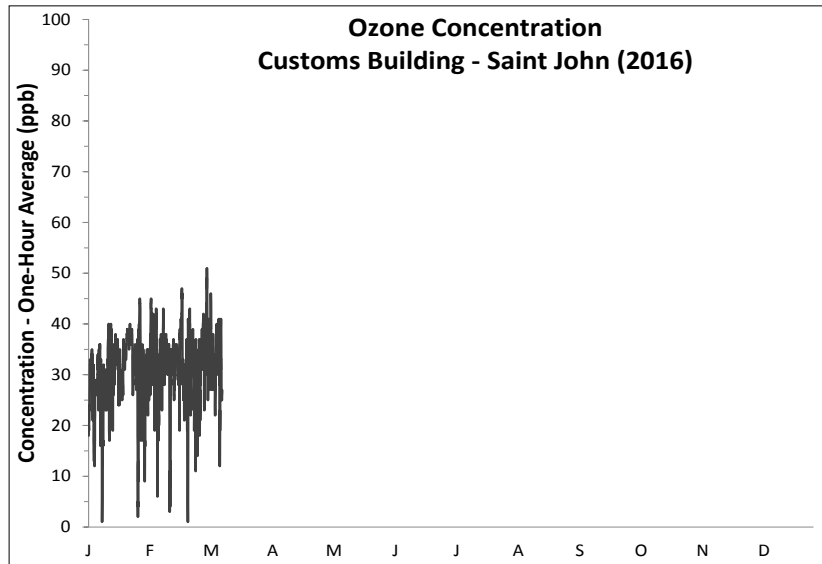
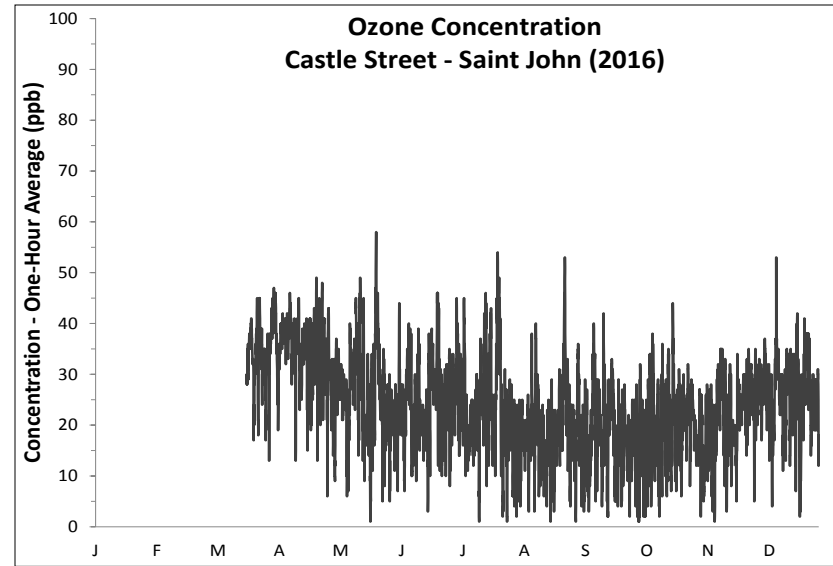
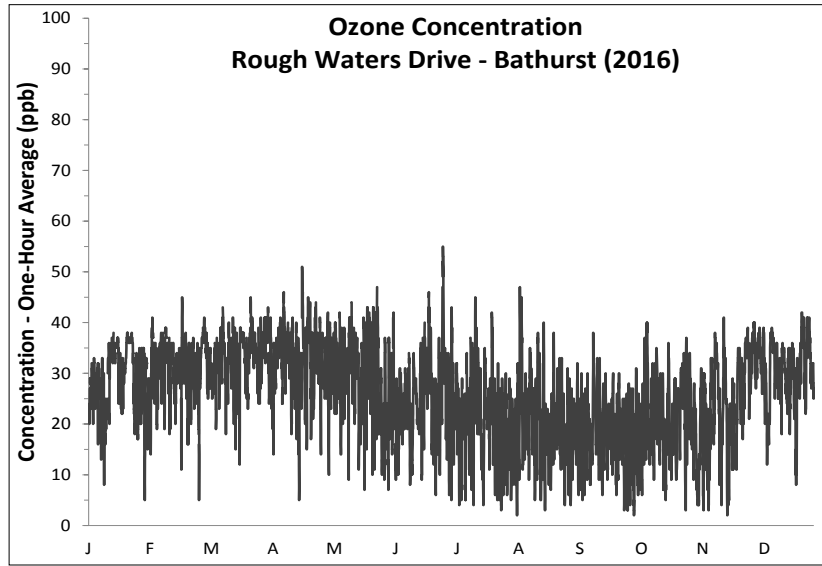
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Nitrogen Dioxide



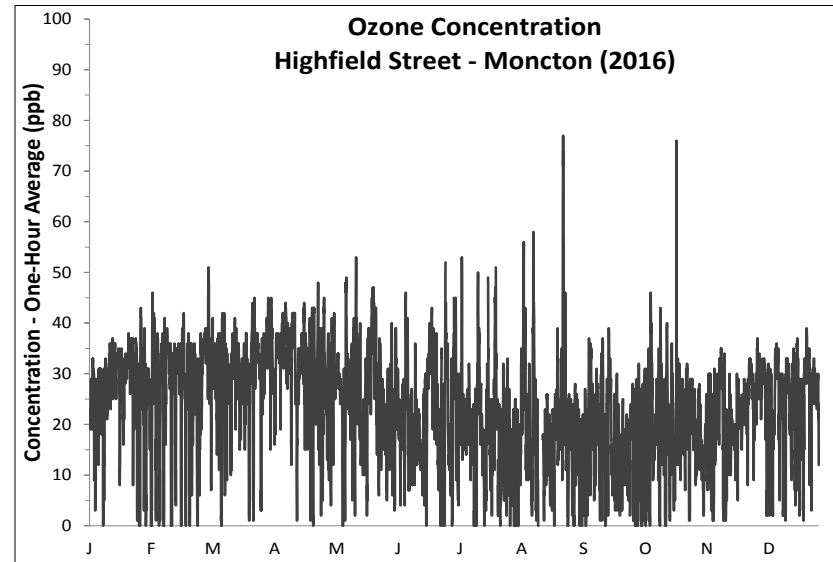
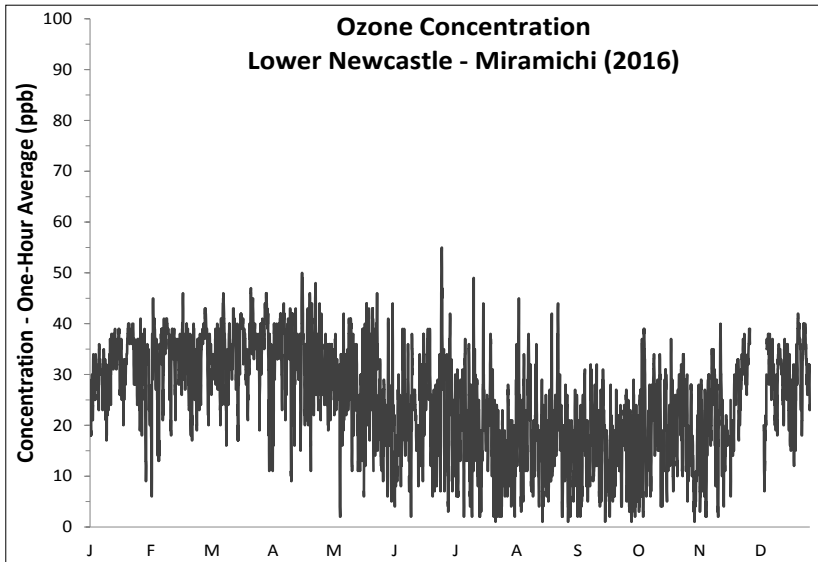
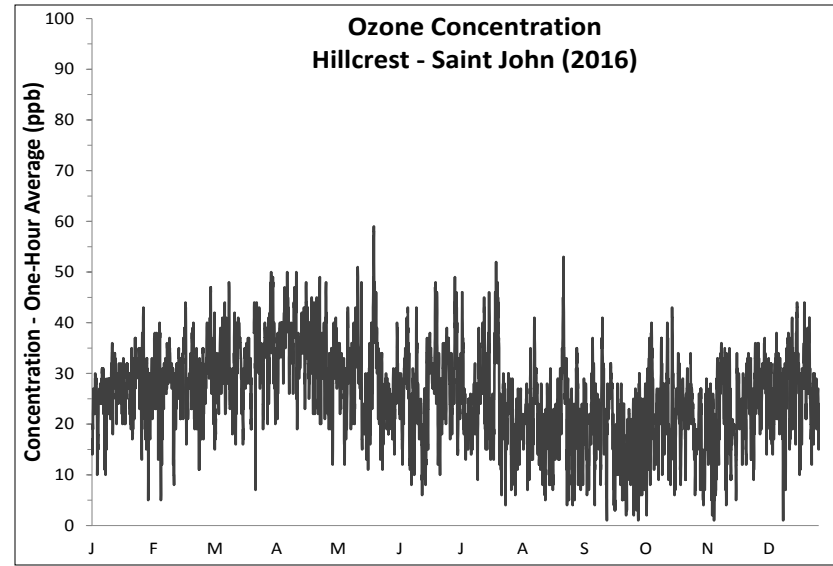
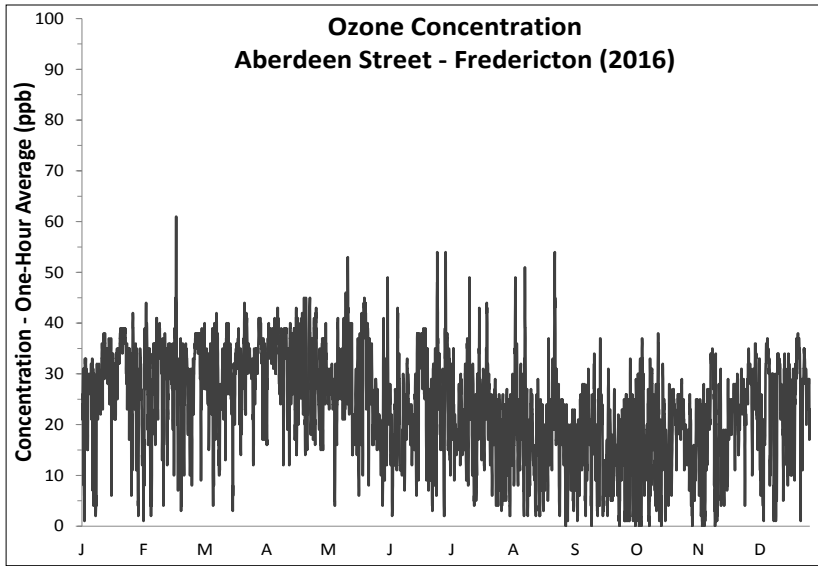
PART I: STATIONS OPERATED BY THE PROVINCE - Continuous Air Quality Monitoring Results

Ozone



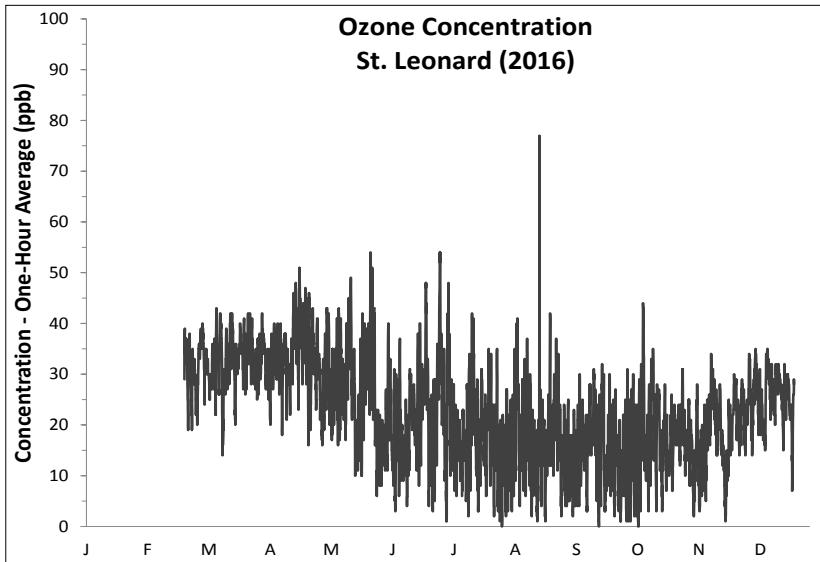
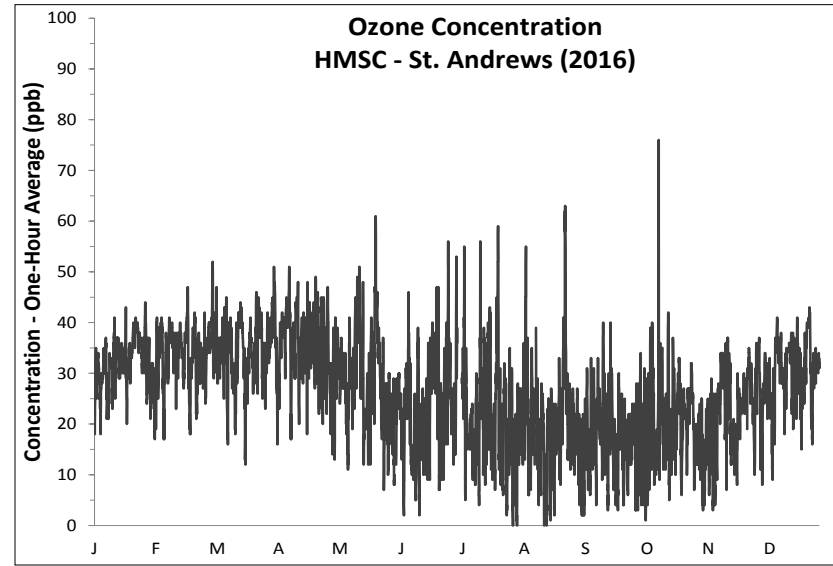
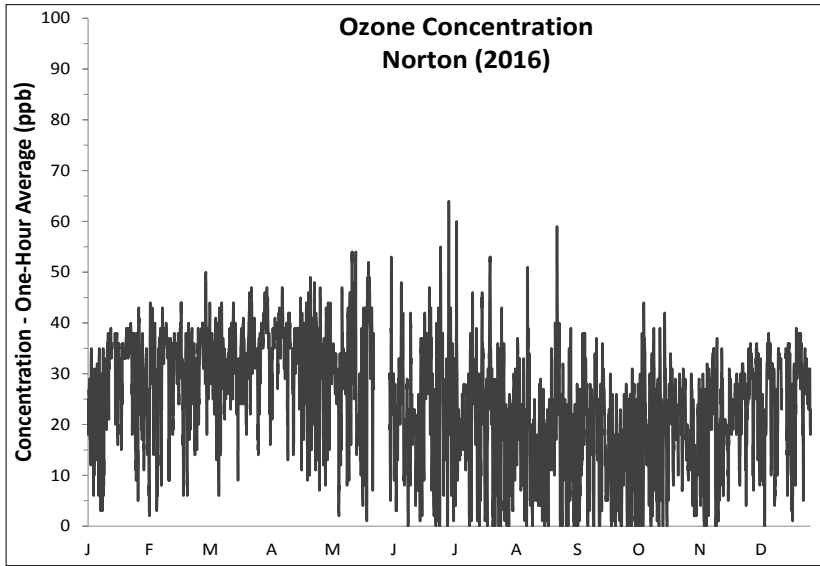
PART I: STATIONS OPERATED BY THE PROVINCE - Continuous Air Quality Monitoring Results

Ozone



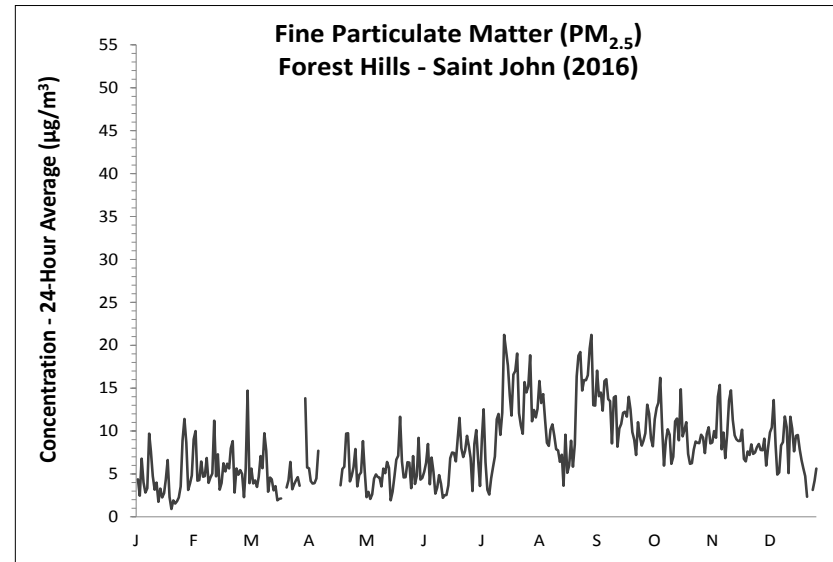
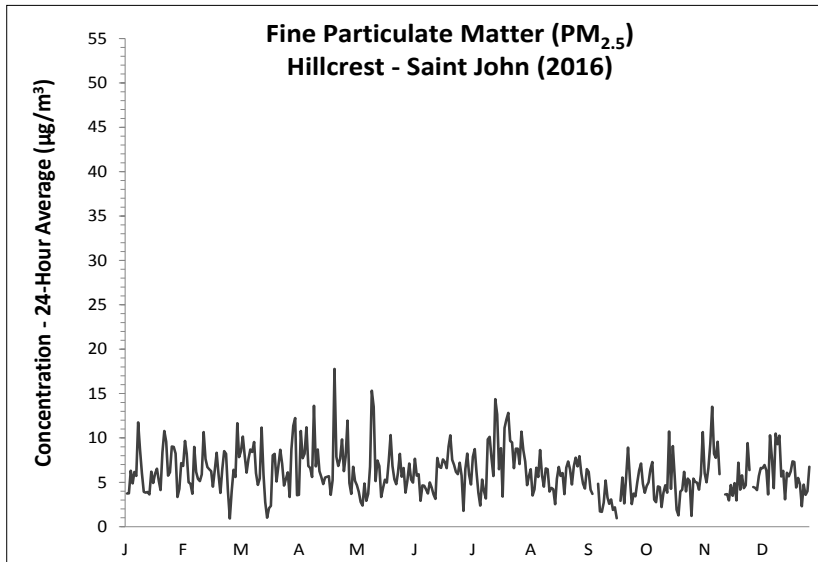
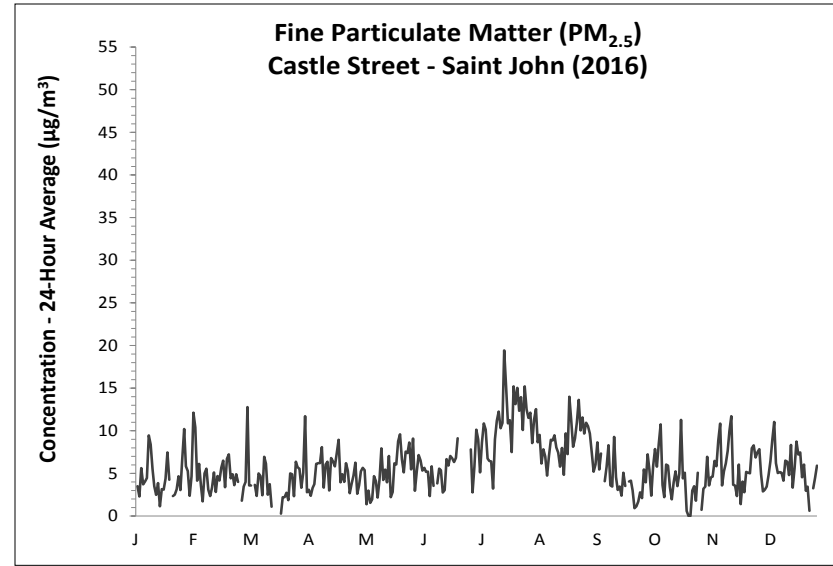
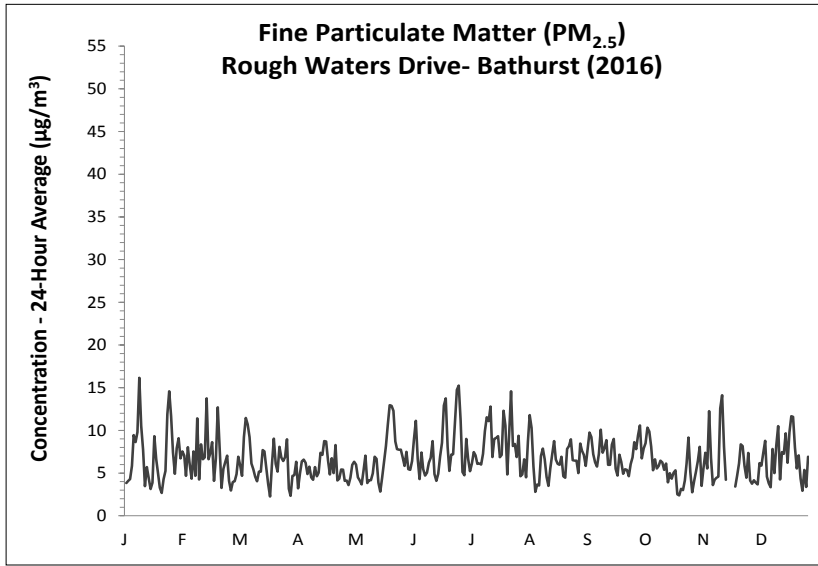
PART I: STATIONS OPERATED BY THE PROVINCE - Continuous Air Quality Monitoring Results

Ozone



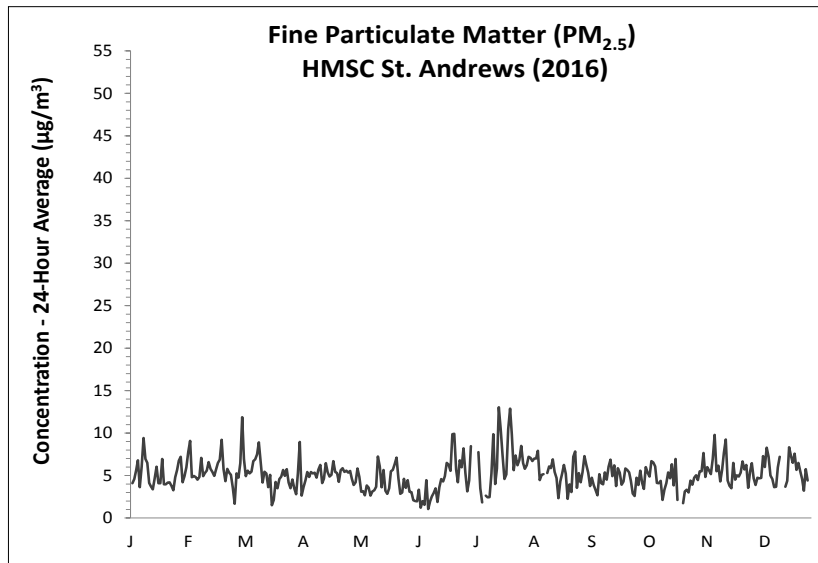
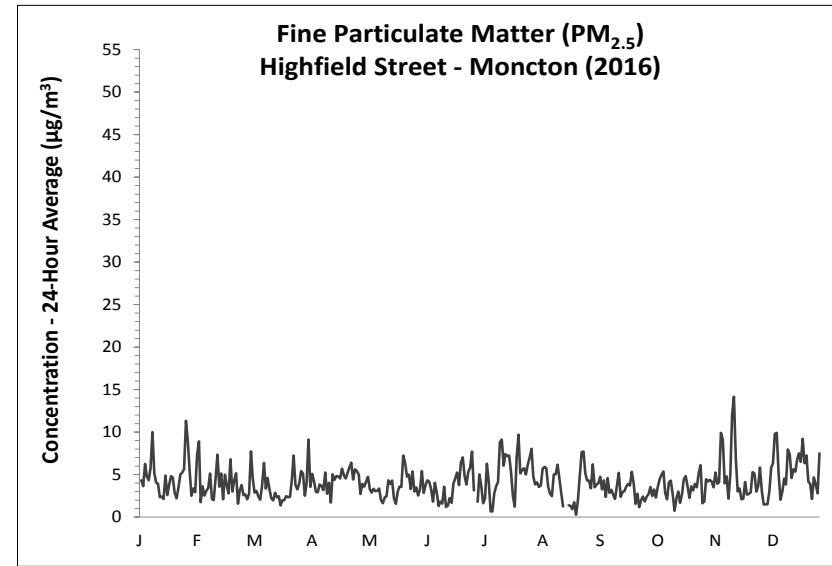
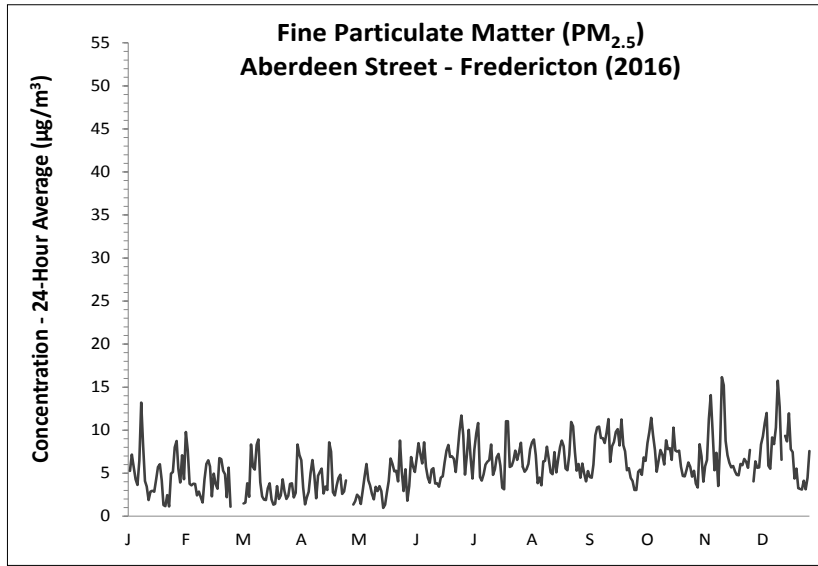
PART I: STATIONS OPERATED BY THE PROVINCE - Continuous Air Quality Monitoring Results

Fine Particulate Matter



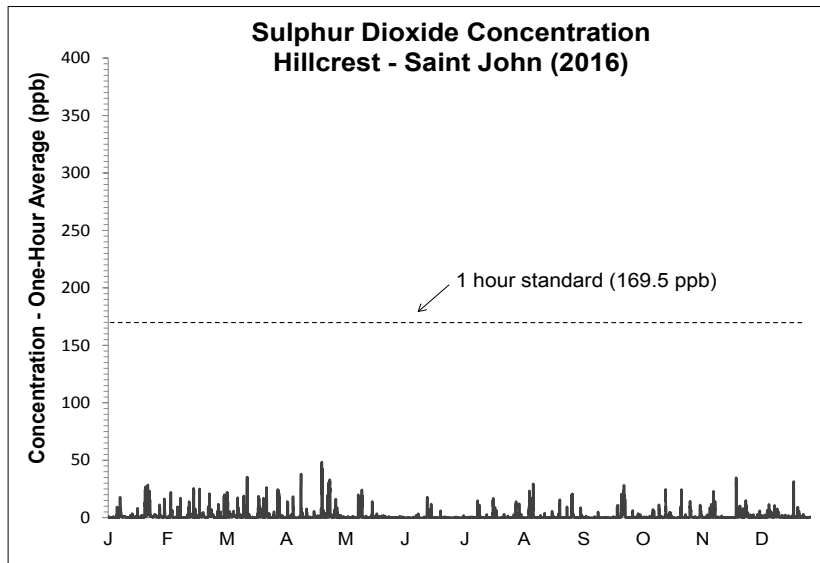
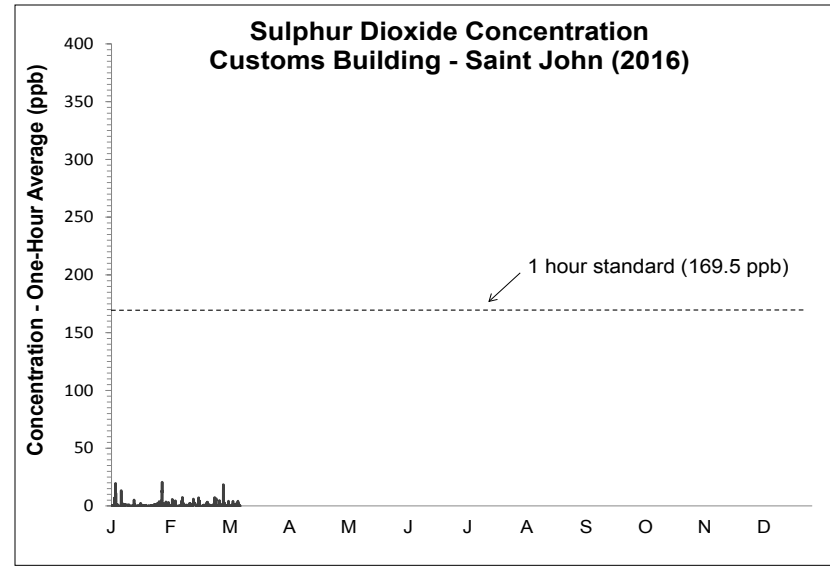
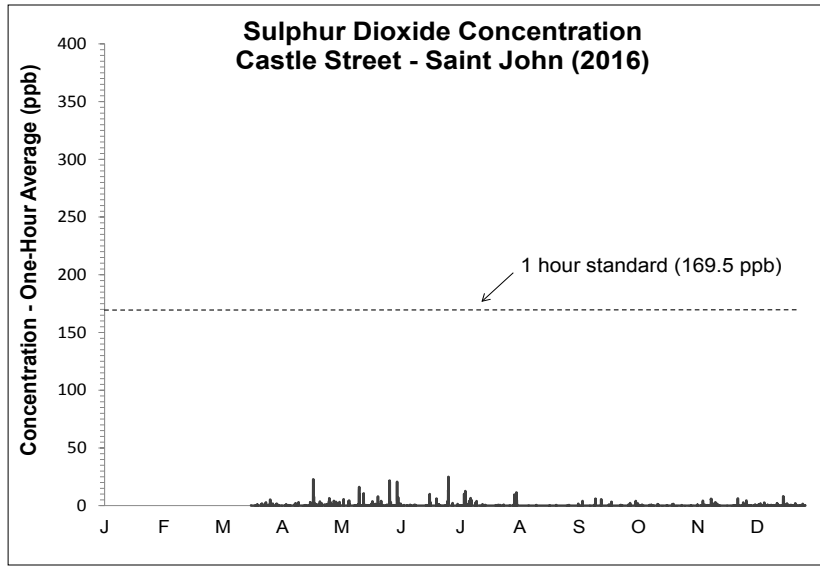
PART I: STATIONS OPERATED BY THE PROVINCE - Continuous Air Quality Monitoring Results

Fine Particulate Matter



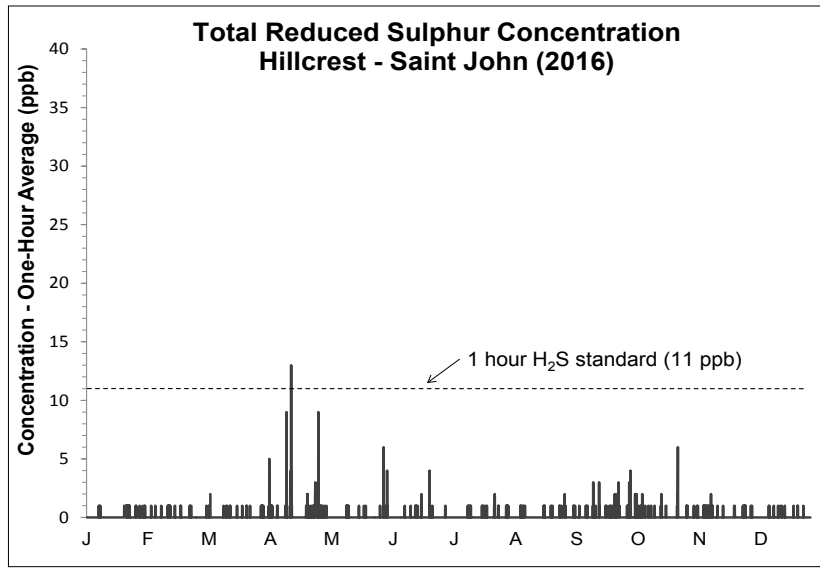
PART I: STATIONS OPERATED BY THE PROVINCE - Continuous Air Quality Monitoring Results

Sulphur Dioxide



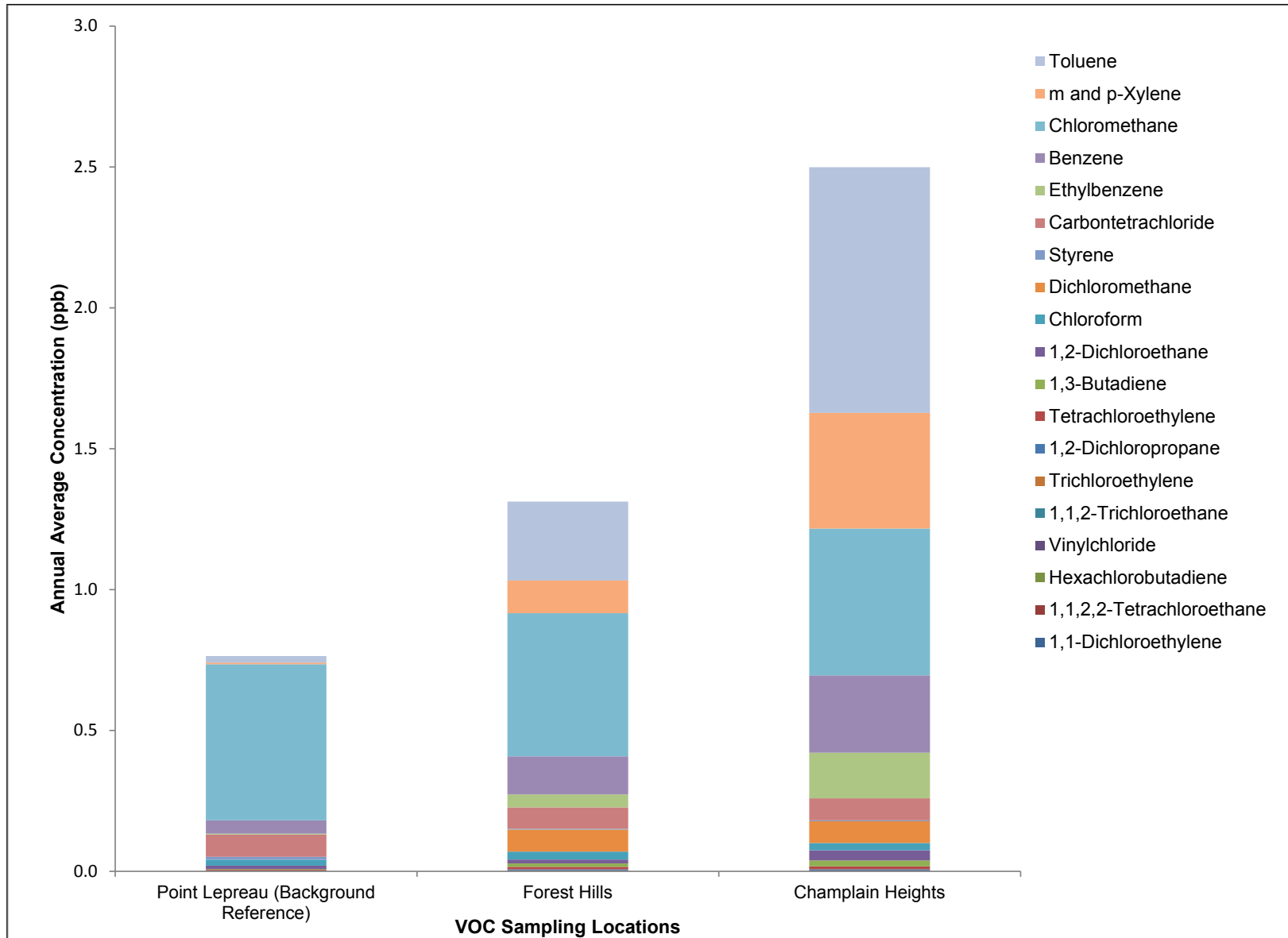
PART I: STATIONS OPERATED BY THE PROVINCE - Continuous Air Quality Monitoring Results

Total Reduced Sulphur

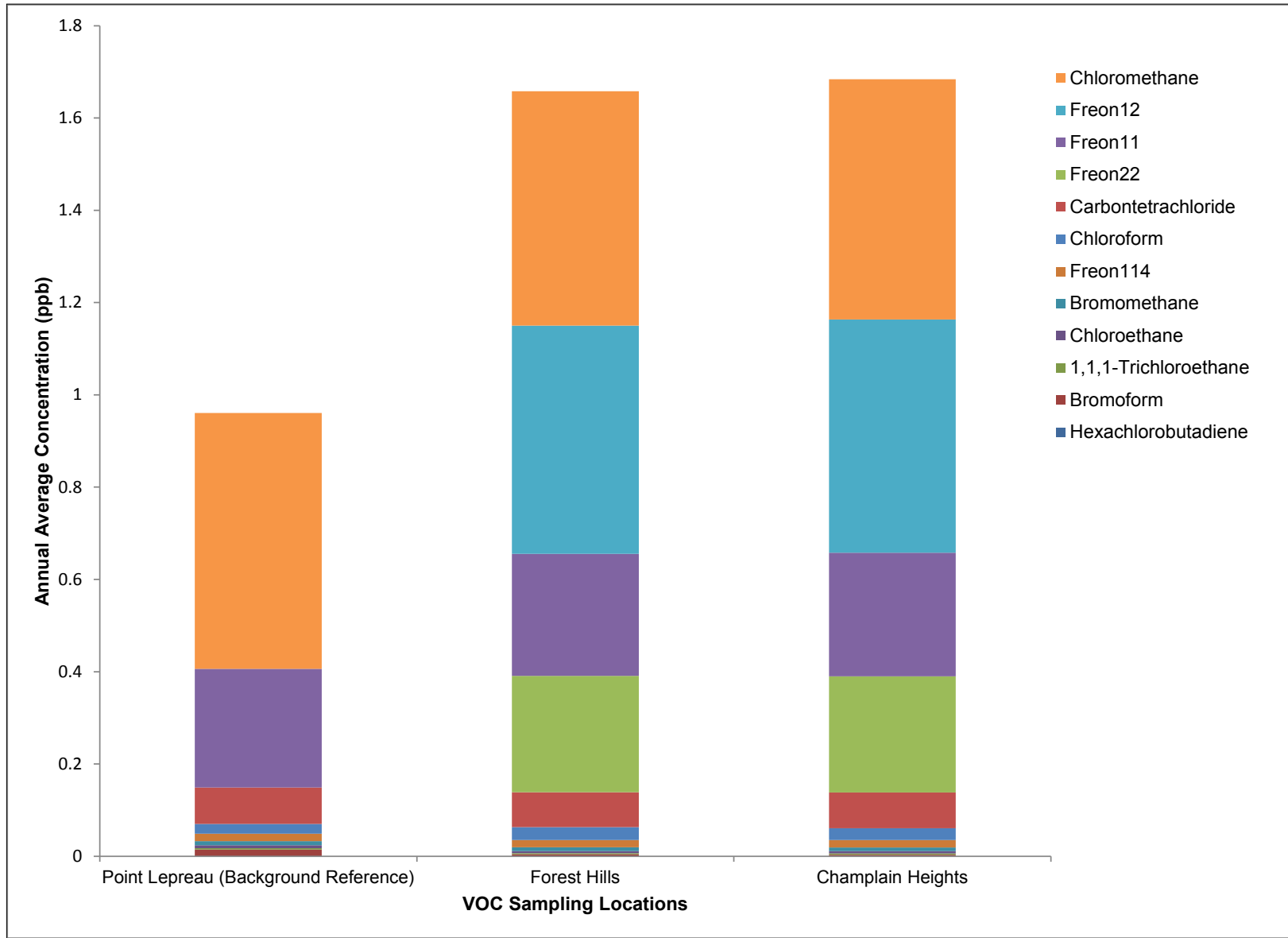


PART I: STATIONS OPERATED BY THE PROVINCE - Volatile Organic Compounds, Saint John Region

Air Toxics - 2016 Annual Average Concentration Range Chart

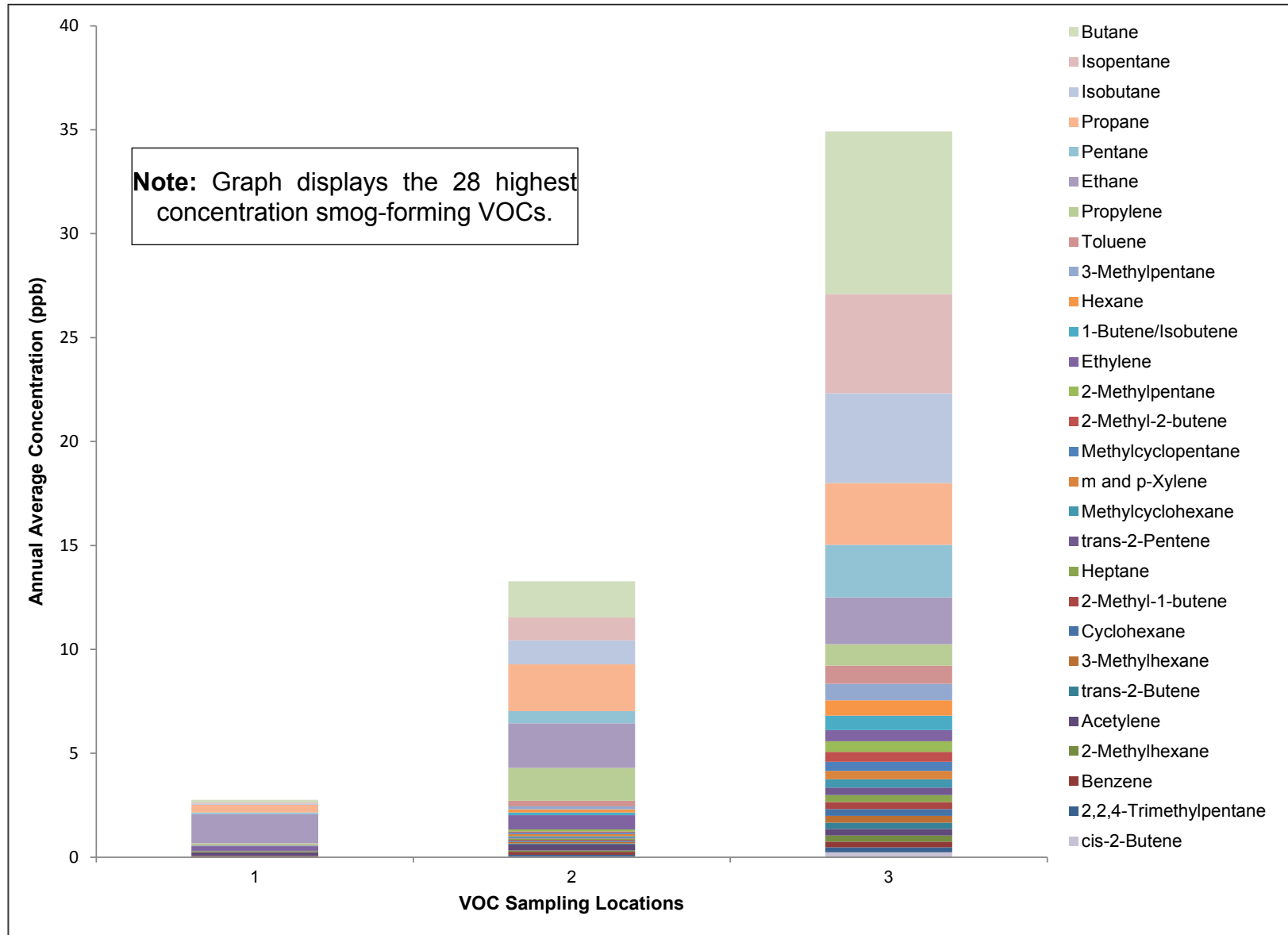


PART I: STATIONS OPERATED BY THE PROVINCE - Volatile Organic Compounds, Saint John Region
Ozone Depleting Substances - 2016 Annual Average Concentration Range Chart



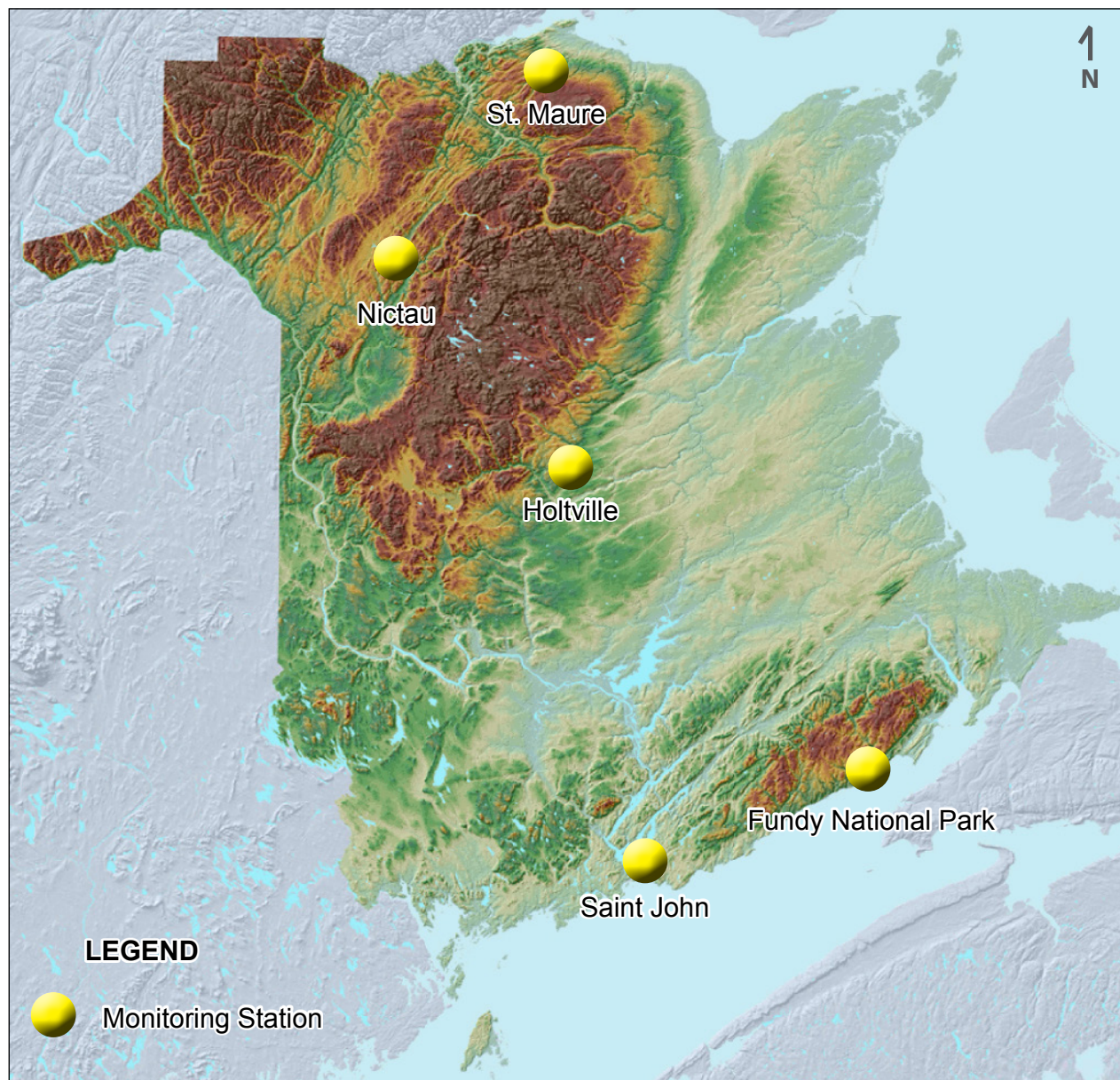
PART I: STATIONS OPERATED BY THE PROVINCE - Volatile Organic Compounds, Saint John Region

Smog-Forming VOCs - 2016 Annual Average Concentration Range Chart



PART II:
ACID PRECIPITATION MONITORING NETWORK

2016 Acid Precipitation Network Map



PART II: ACID PRECIPITATION MONITORING NETWORK - Sulphate and Nitrate Deposition Trends

Annual Sulphate and Nitrate Wet Deposition (eq/ha/yr) at New Brunswick Monitoring Sites, 2007-2016

Site	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
St. Maure	244.51	253.52	176.43	177.00	168.80	120.53	121.30	140.76	86.68	95.41
Robertville	239.47	239.60	200.84	184.26	173.56	118.33	124.20	168.35	85.95	--
Nictau	184.48	198.12	154.56	121.21	150.02	96.50	108.13	119.96	80.73	71.17
Trout Brook	210.02	195.52	163.08	135.17	134.02	101.20	100.78	116.05	65.07	--
Holtville	215.82	269.87	210.01	122.63	184.33	98.19	127.23	126.63	78.33	73.59
Harcourt	204.46	256.90	199.91	159.91	139.40	91.68	99.92	120.67	74.02	--
South Oromocto Lake	267.54	278.39	230.26	163.31	164.09	128.81	154.73	150.02	107.51	--
Pennfield	329.09	409.11	349.97	290.78	--	228.24	265.32	223.61	179.91	--
Lakewood Heights	302.87	357.59	310.16	194.27	--	169.58	193.66	164.38	144.65	173.21
Fundy	332.23	428.04	322.81	226.37	263.55	208.08	249.13	200.13	143.40	126.30

-- insufficient data

PART II: ACID PRECIPITATION MONITORING NETWORK - Sulphate and Nitrate Deposition Trends

Annual Sulphate Wet Deposition (kg/ha/yr) at New Brunswick Monitoring Sites, 2007-2016

Site	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
St. Maure	10.62	11.02	7.67	7.80	7.19	5.17	5.06	5.92	3.60	3.97
Robertville	10.49	10.32	8.76	8.06	7.38	4.92	5.17	7.13	3.51	--
Nictau	7.91	8.21	6.44	5.01	6.07	3.77	4.25	4.65	3.02	2.59
Trout Brook	9.17	8.26	6.91	5.69	5.49	4.09	4.01	4.71	2.46	--
Holtville	9.26	11.43	8.93	4.99	7.52	3.88	5.02	5.00	2.92	2.79
Harcourt	8.79	10.92	8.52	6.76	5.69	3.67	3.92	4.82	2.77	--
South Oromocto Lake	11.55	11.89	9.80	6.77	6.73	5.16	6.24	5.96	4.00	--
Pennfield	14.41	17.81	15.20	12.49	---	9.65	11.28	9.31	7.30	--
Lakewood Heights	13.32	15.67	13.48	8.29	---	7.20	8.20	8.12	5.98	7.28
Fundy	14.53	18.79	13.91	9.65	11.20	8.86	10.64	8.21	5.82	5.14

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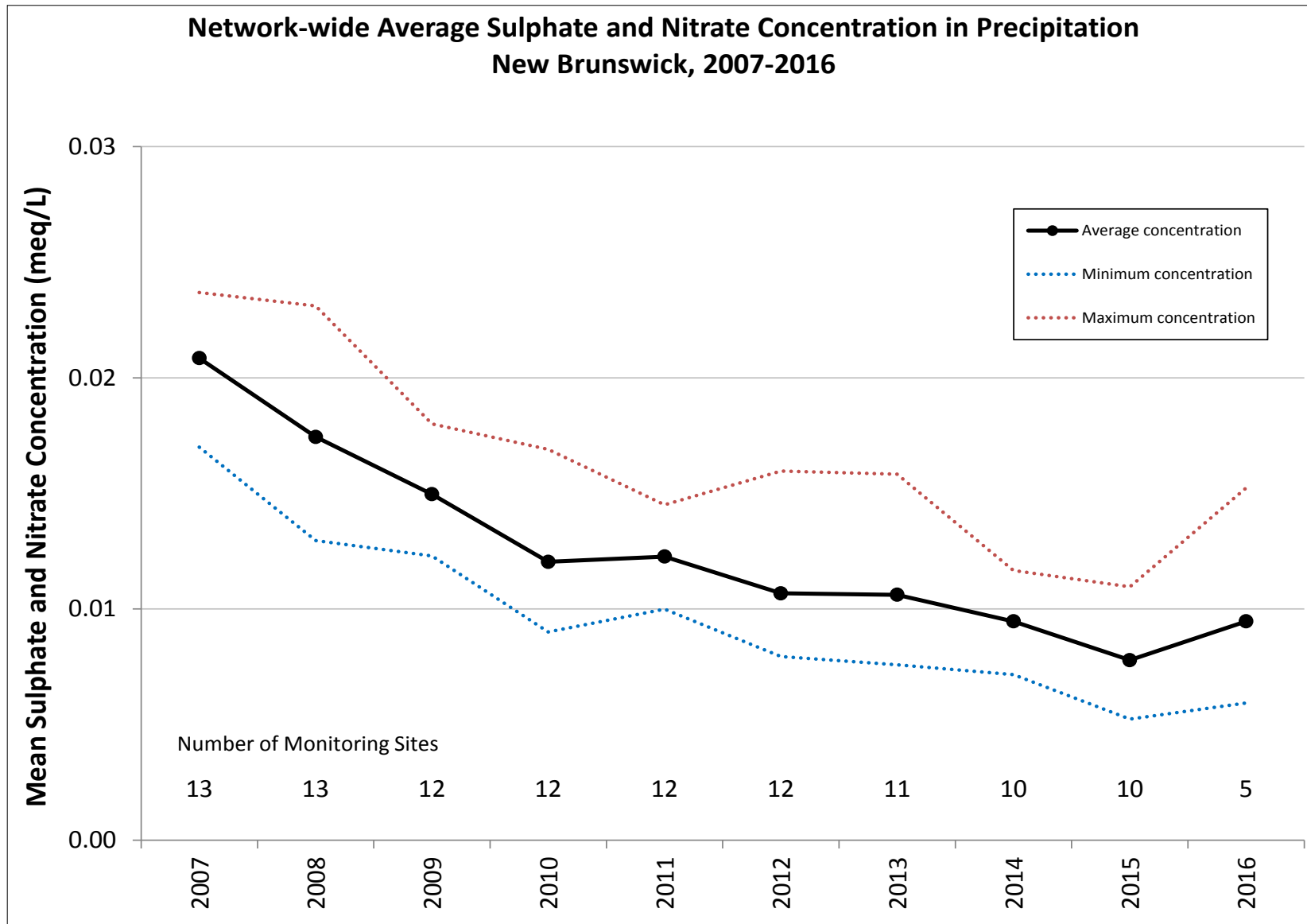
PART II: ACID PRECIPITATION MONITORING NETWORK - Sulphate and Nitrate Deposition Trends

Annual Nitrate Wet Deposition (kg/ha/yr) at New Brunswick Monitoring Sites, 2007-2016

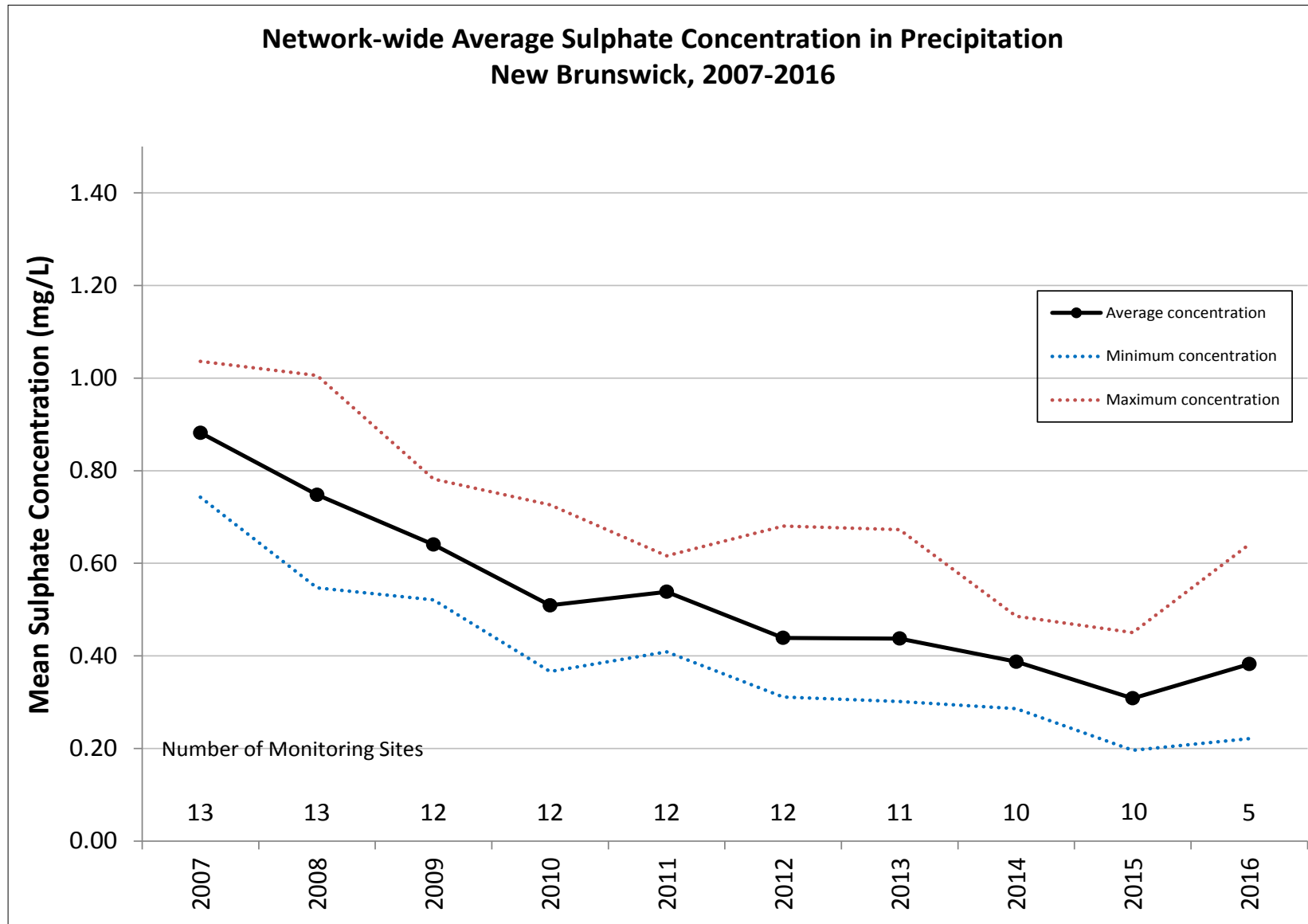
Site	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
St. Maure	1.45	1.50	1.03	0.90	1.18	0.80	0.99	1.09	0.72	0.80
Robertville	1.31	1.53	1.15	1.02	1.24	0.99	1.03	1.17	0.79	--
Nictau	1.23	1.69	1.27	1.05	1.46	1.12	1.23	1.44	1.11	1.07
Trout Brook	1.18	1.47	1.19	1.04	1.23	1.00	1.07	1.11	0.86	--
Holtville	1.43	1.98	1.50	1.16	1.72	1.08	1.41	1.40	1.08	0.97
Harcourt	1.34	1.84	1.40	1.19	1.30	0.95	1.14	1.26	1.01	--
South Oromocto Lake	1.68	1.92	1.63	1.39	1.49	1.33	1.54	1.61	1.51	--
Pennfield	1.80	2.38	2.08	1.90	---	1.70	1.89	1.85	1.74	--
Lakewood Heights	1.59	1.95	1.84	1.35	---	1.22	1.42	1.57	1.25	1.34
Fundy	1.84	2.29	2.06	1.58	1.89	1.46	1.71	1.81	1.39	1.20

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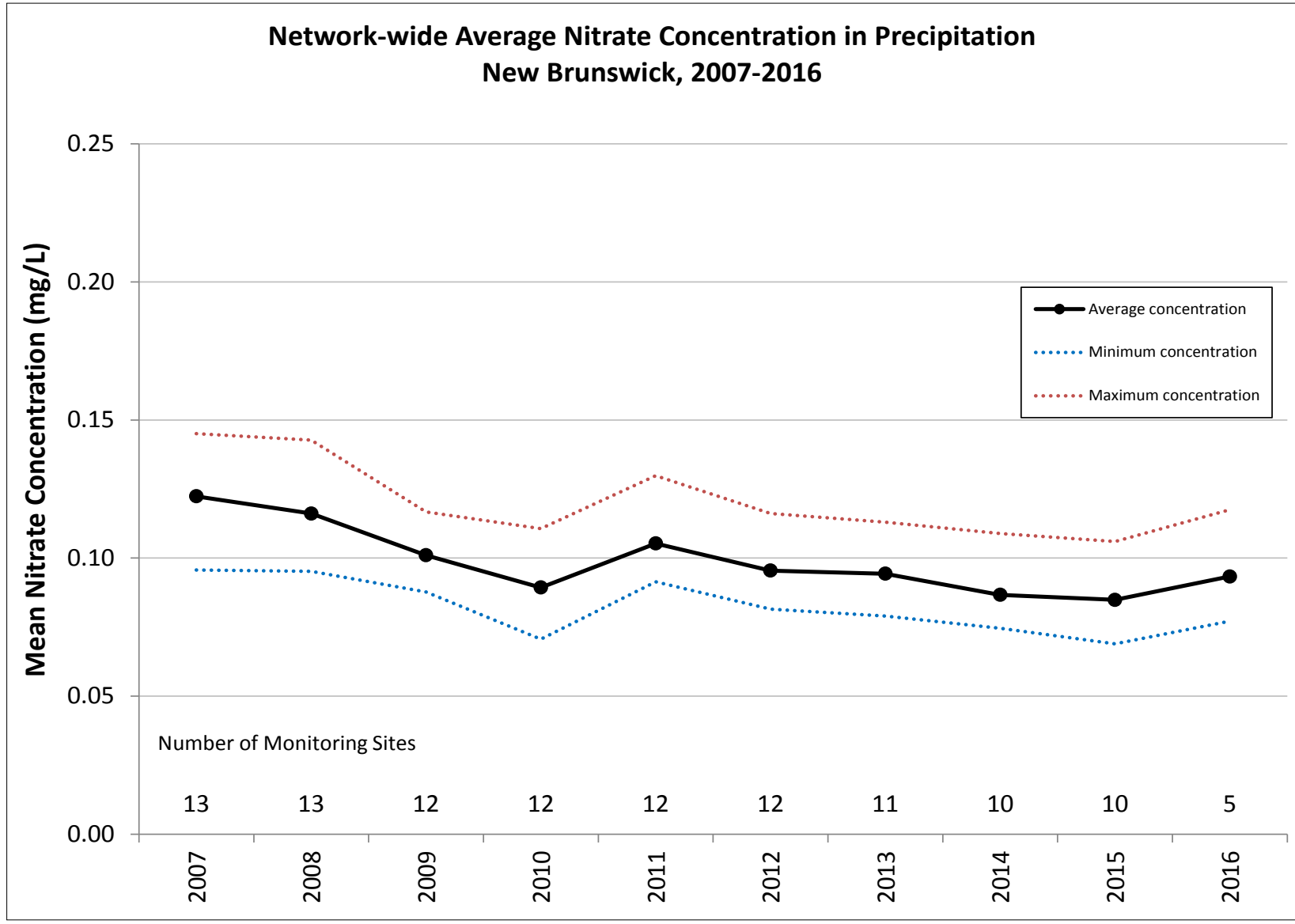
PART II: ACID PRECIPITATION MONITORING NETWORK - Network-wide Annual Mean Sulphate and Nitrate Concentration Trends



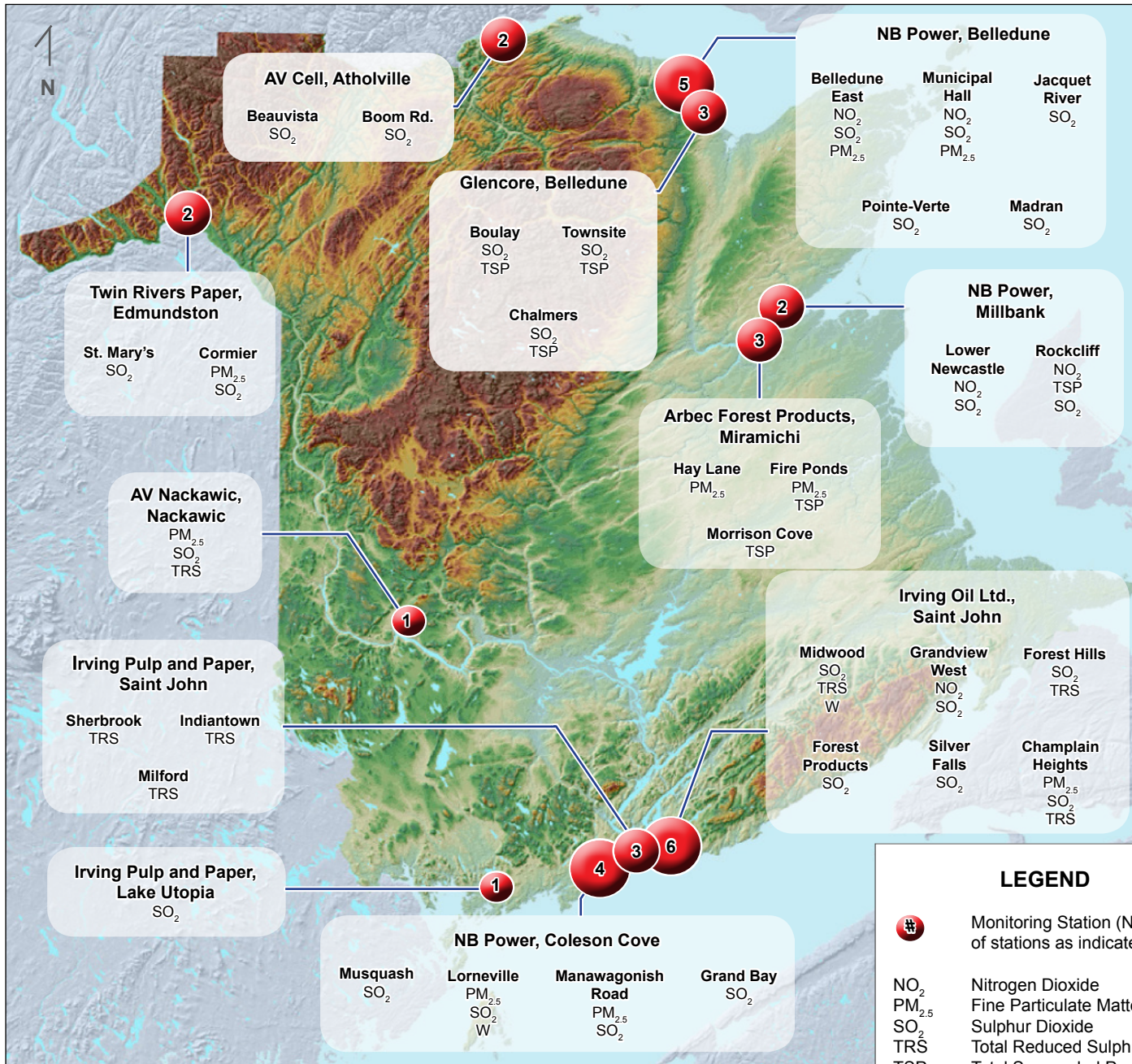
PART II: ACID PRECIPITATION MONITORING NETWORK - Network-wide Annual Mean Sulphate and Nitrate Concentration Trends



PART II: ACID PRECIPITATION MONITORING NETWORK - Network-wide Annual Mean Sulphate and Nitrate Concentration Trends



PART III:
THE PROVINCIAL AIR QUALITY MONITORING NETWORK:
STATIONS OPERATED BY INDUSTRY

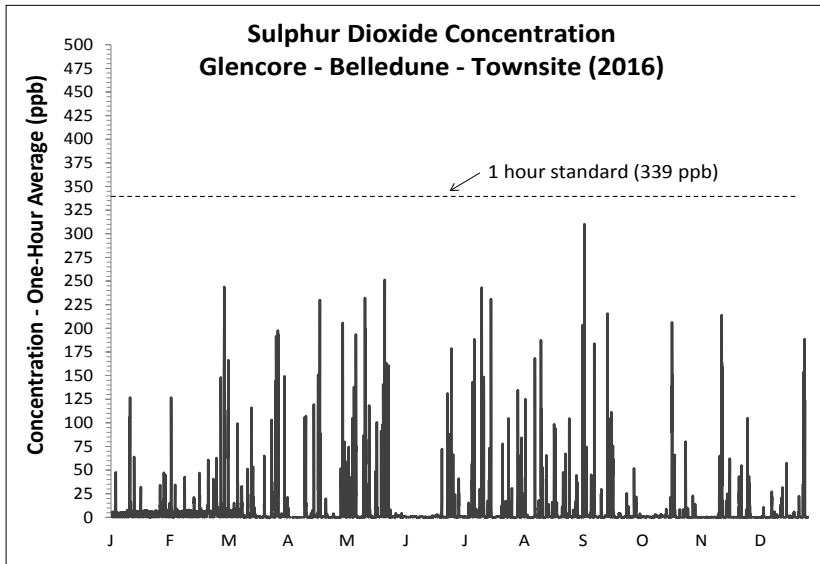
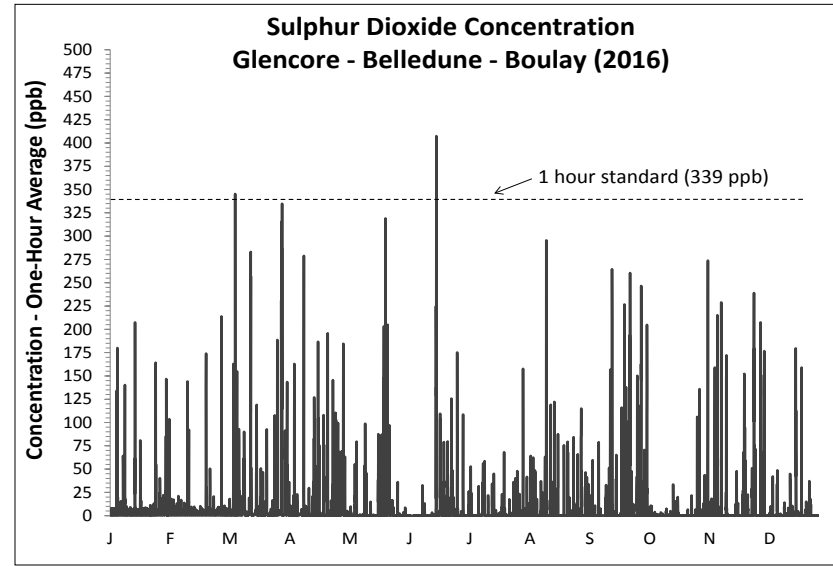
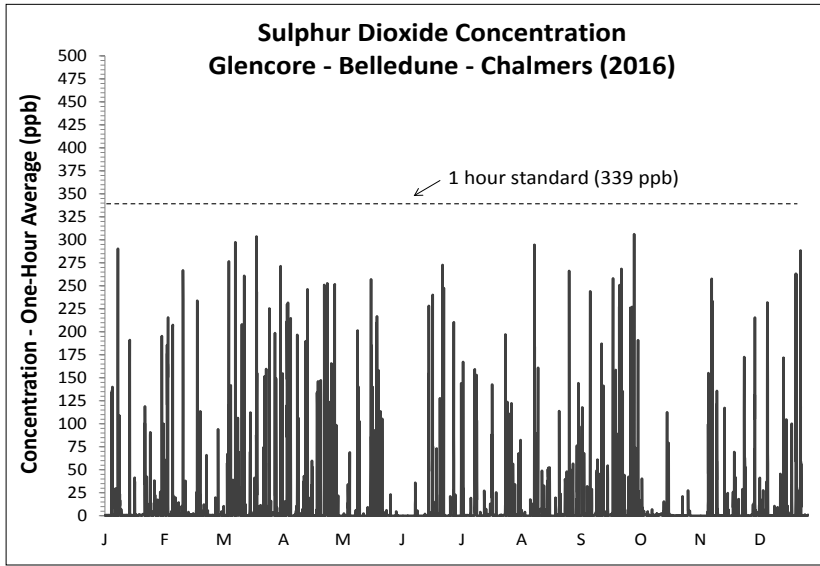


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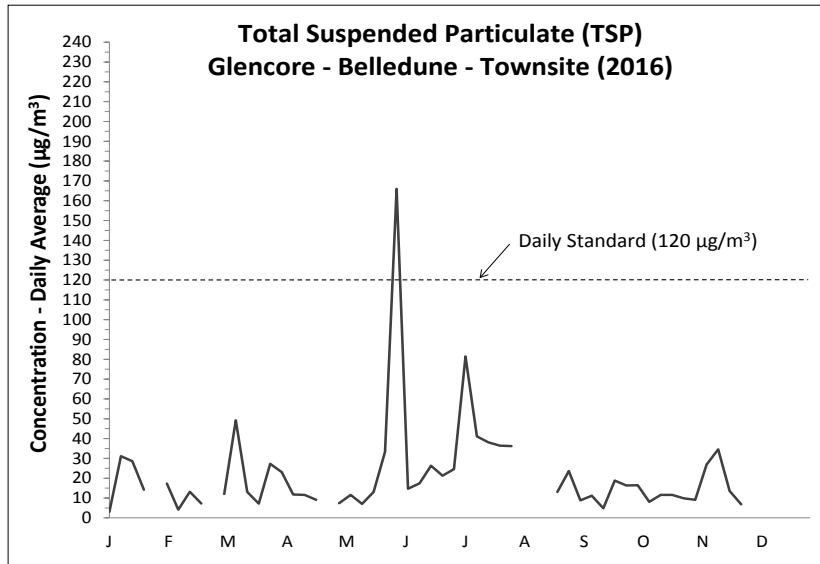
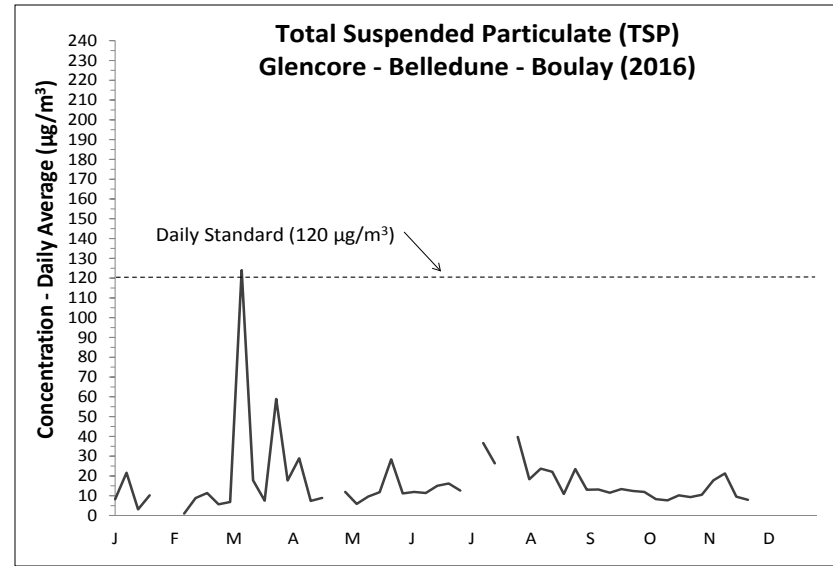
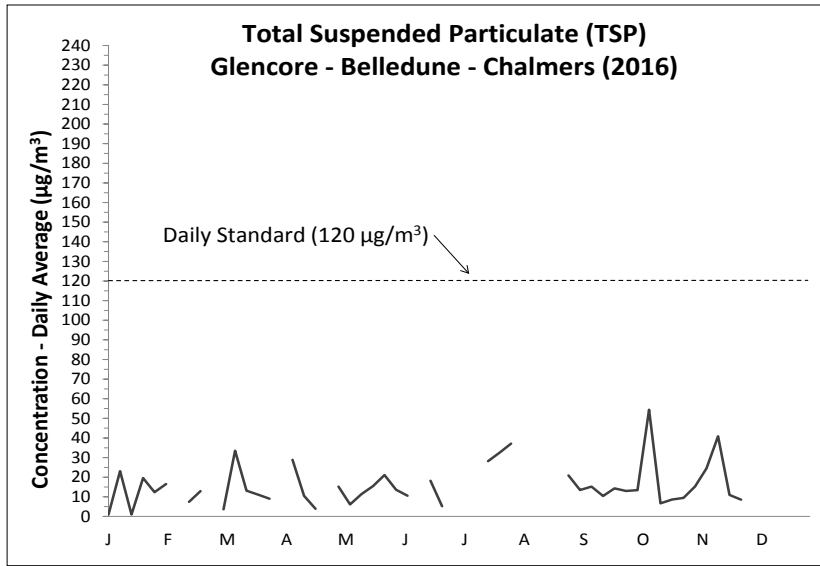
Monitoring Station (Number of stations as indicated)

NO₂ Nitrogen Dioxide
 PM_{2.5} Fine Particulate Matter
 SO₂ Sulphur Dioxide
 TRS Total Reduced Sulphur
 TSP Total Suspended Particulate
 W Wind Speed & Direction

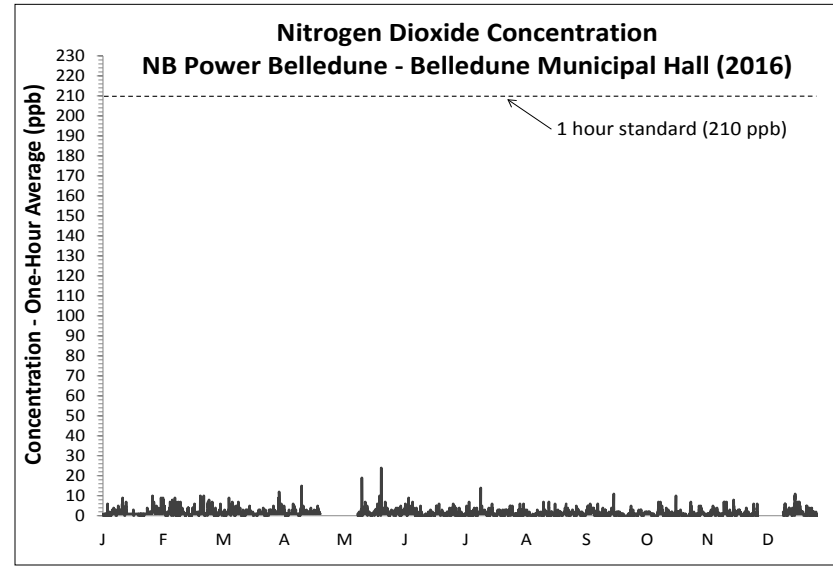
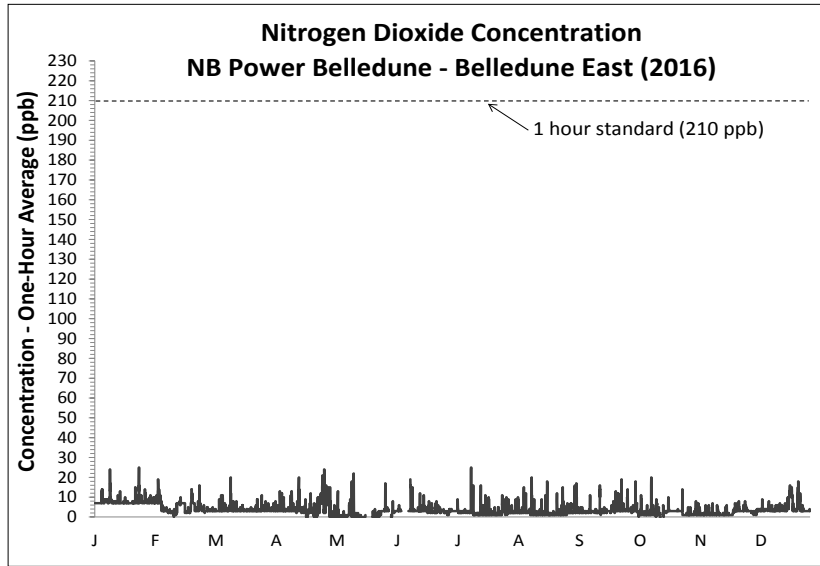
PART III: STATIONS OPERATED BY INDUSTRY - Glencore, Belledune - Sulphur Dioxide



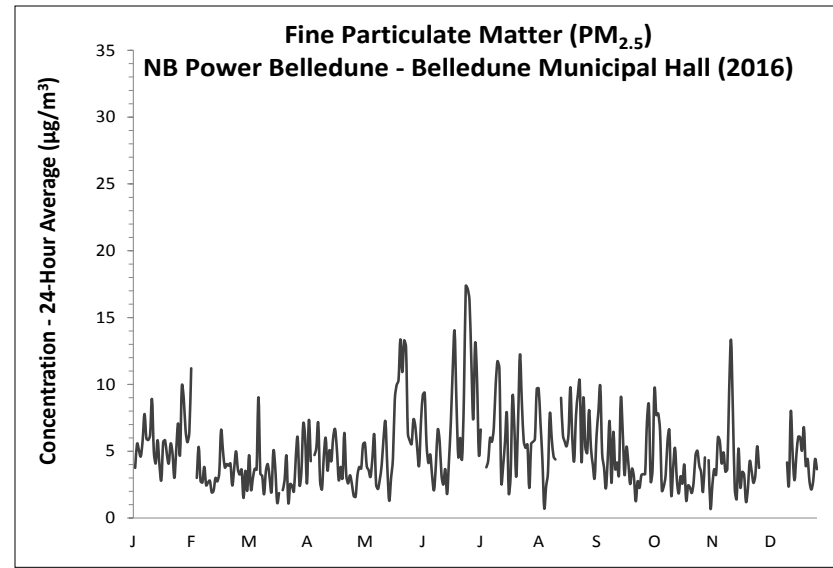
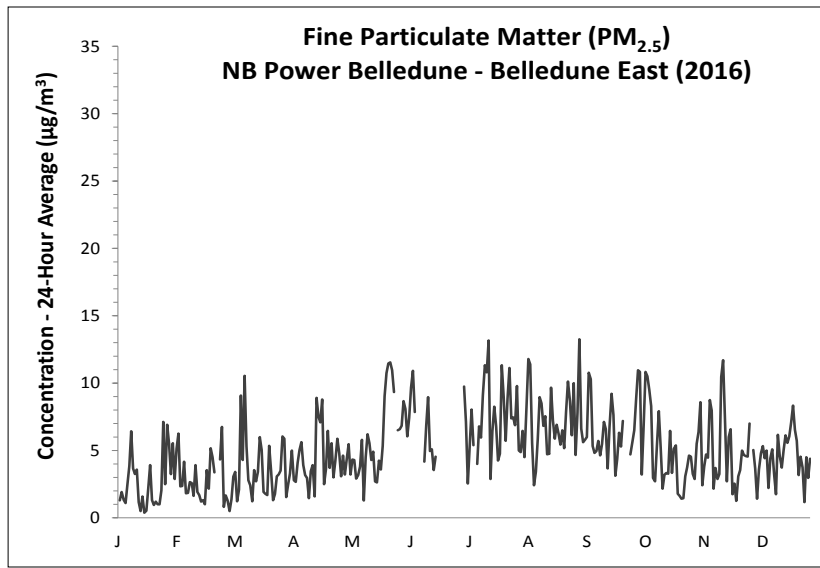
PART III: STATIONS OPERATED BY INDUSTRY - Glencore, Belledune - Total Suspended Particulate



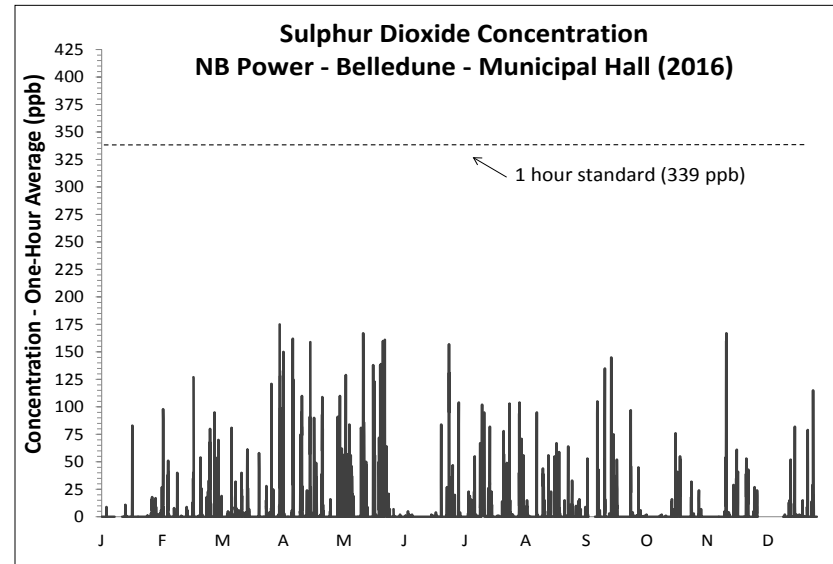
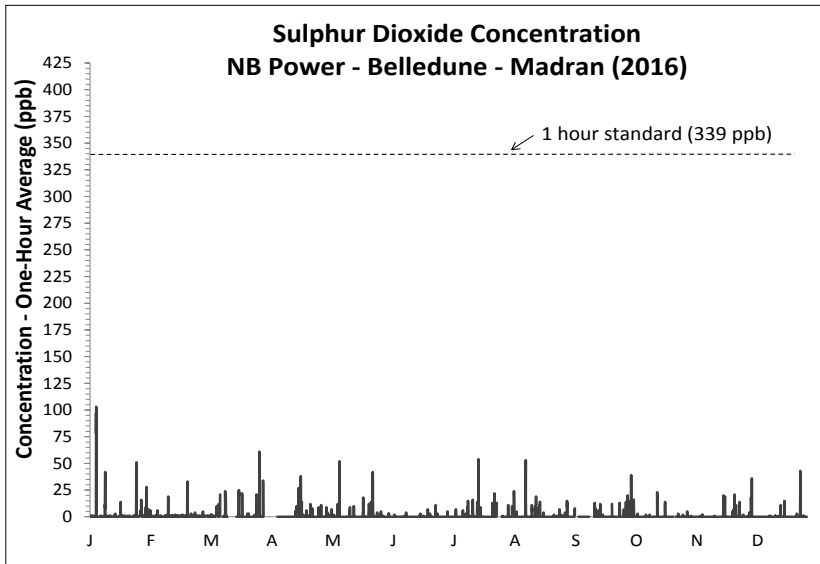
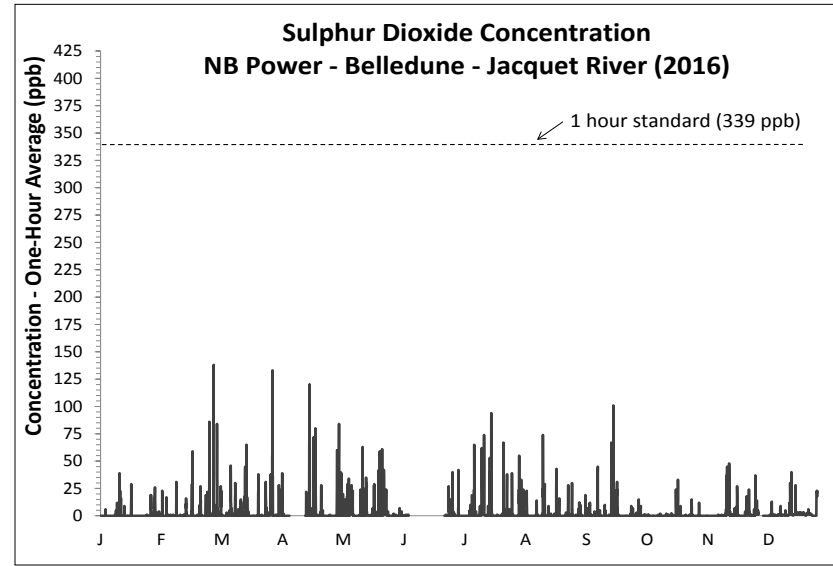
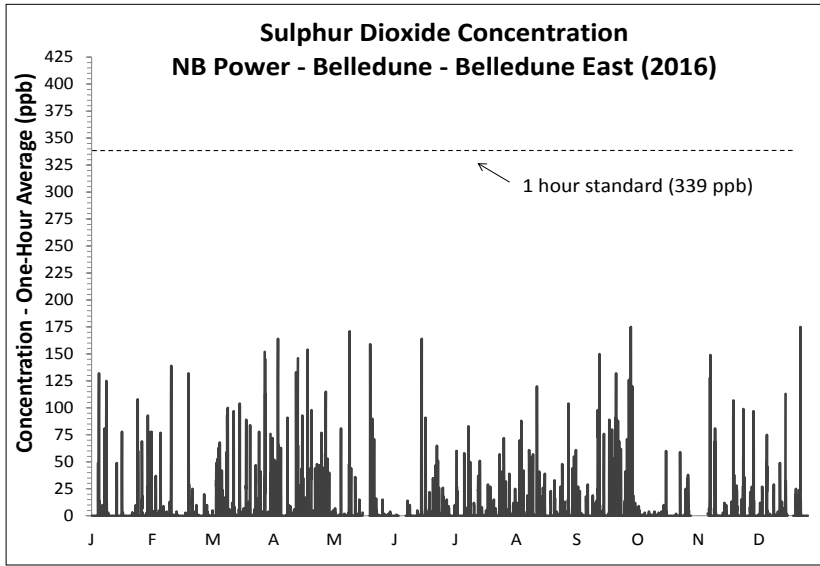
PART III: STATIONS OPERATED BY INDUSTRY - NB Power, Belledune - Nitrogen Dioxide



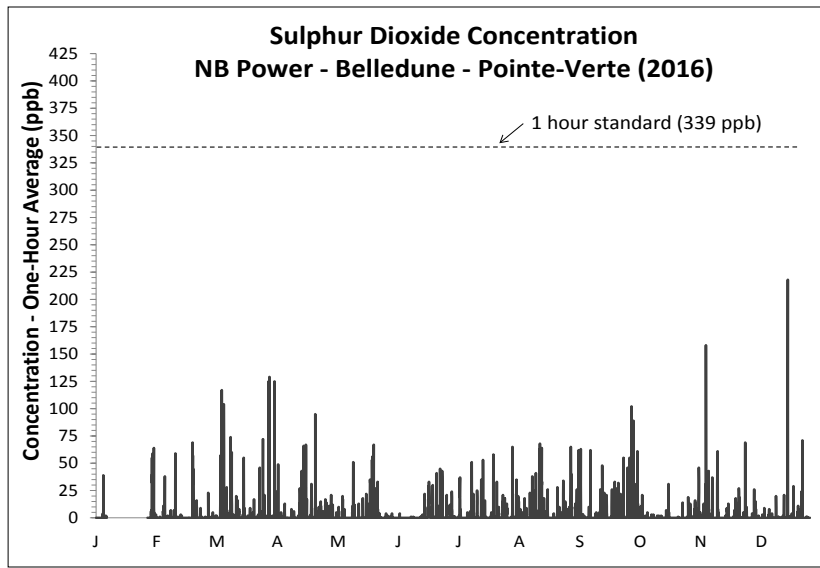
PART III: STATIONS OPERATED BY INDUSTRY - NB Power, Belledune - Fine Particulate Matter



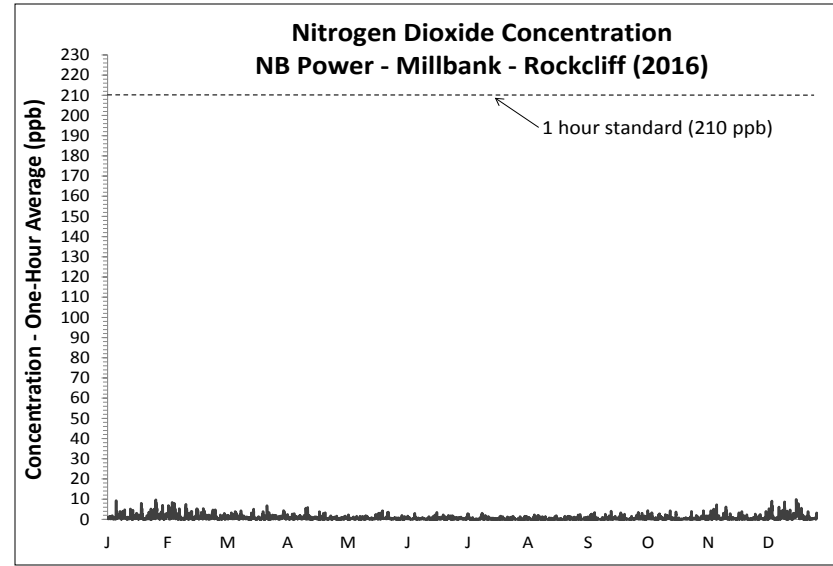
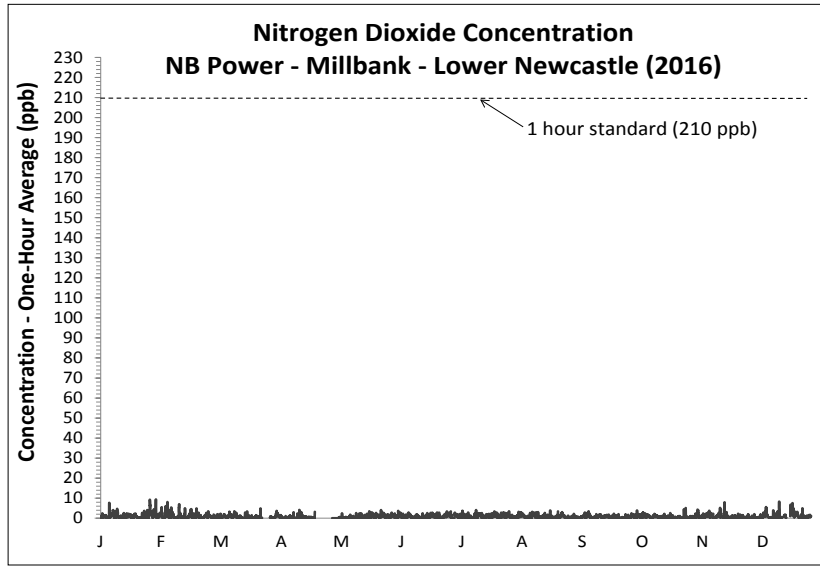
PART III: STATIONS OPERATED BY INDUSTRY - NB Power, Belledune - Sulphur Dioxide



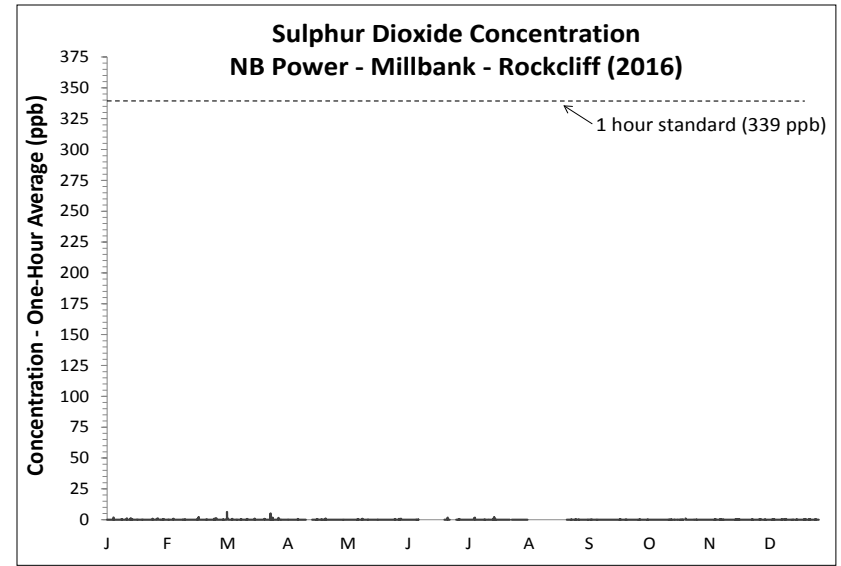
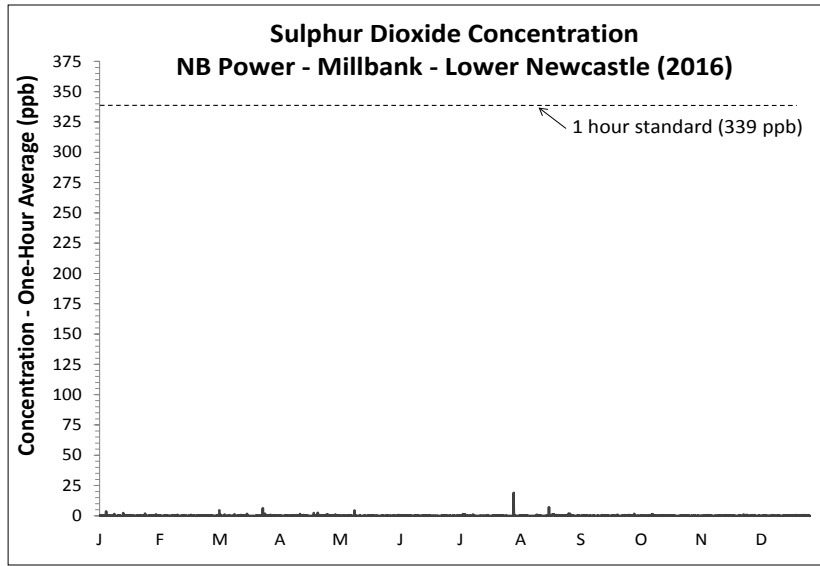
PART III: STATIONS OPERATED BY INDUSTRY - NB Power, Belledune - Sulphur Dioxide



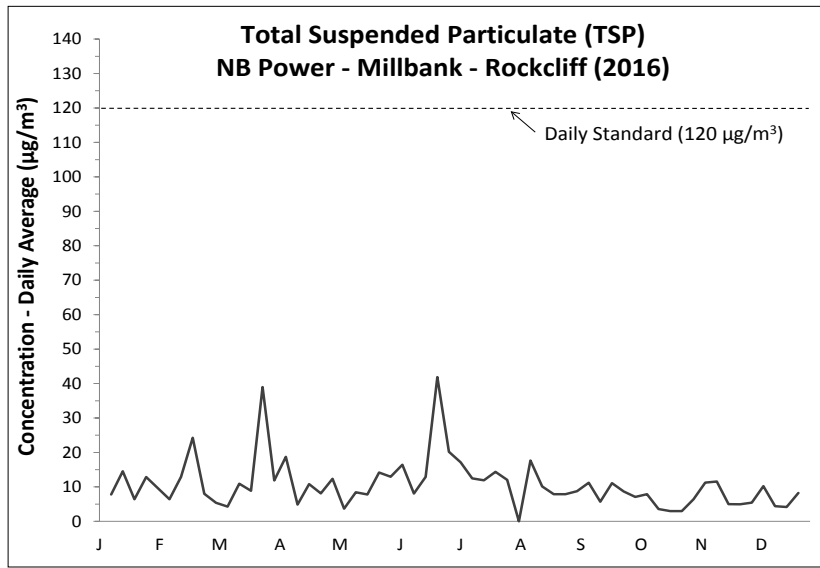
PART III: INDUSTRY-OPERATED NETWORKS - NB Power, Millbank - Nitrogen Dioxide



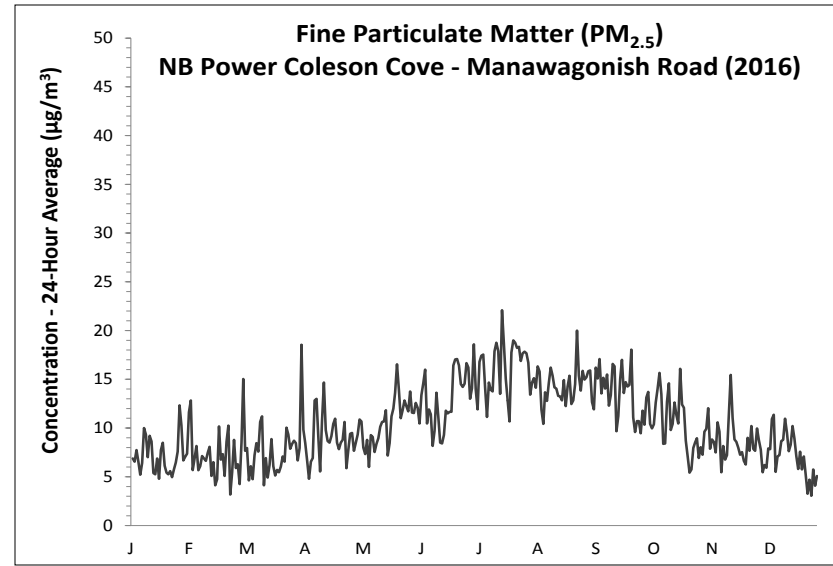
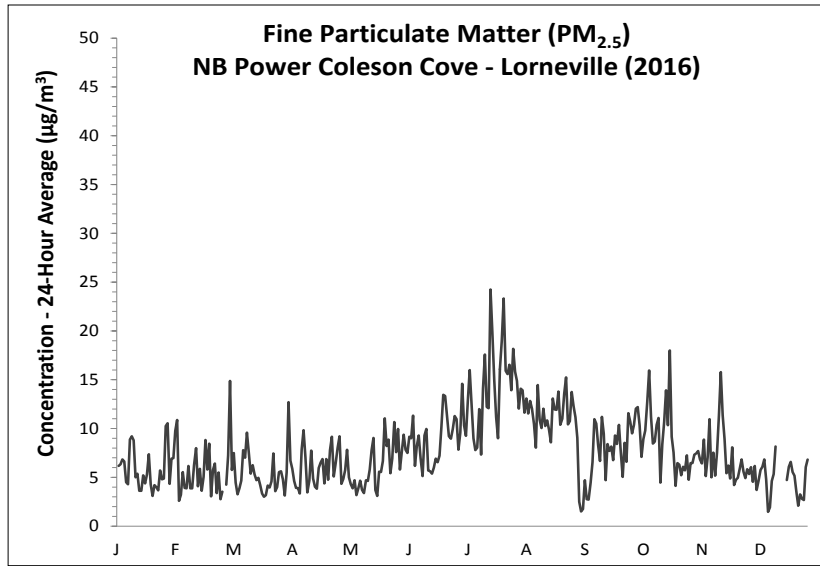
PART III: INDUSTRY-OPERATED NETWORKS - NB Power, Millbank - Sulphur Dioxide



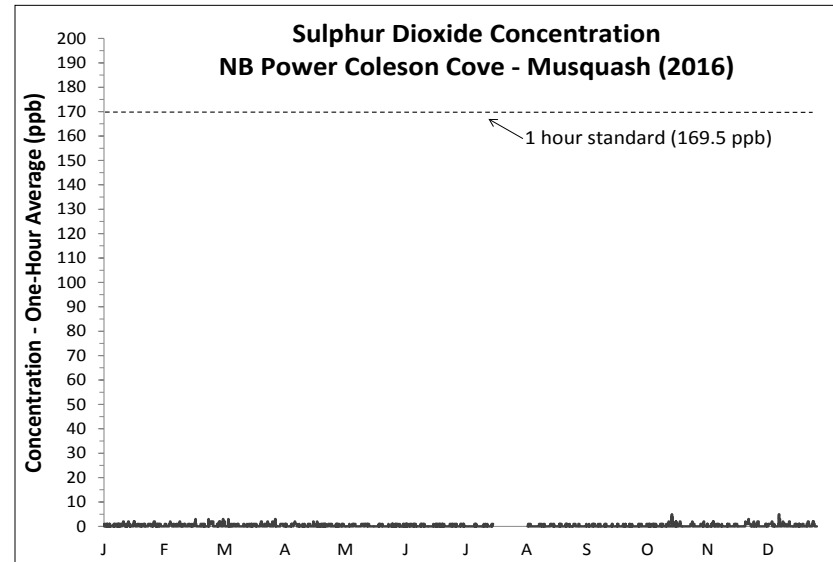
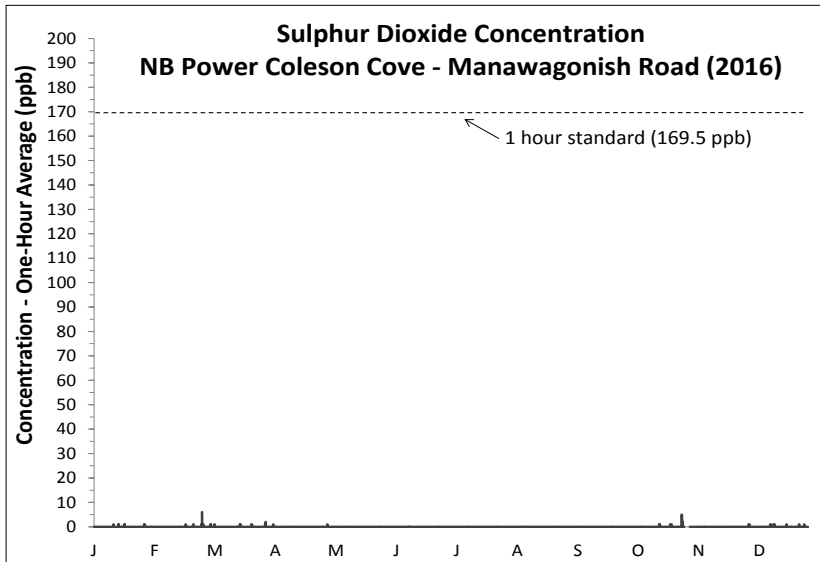
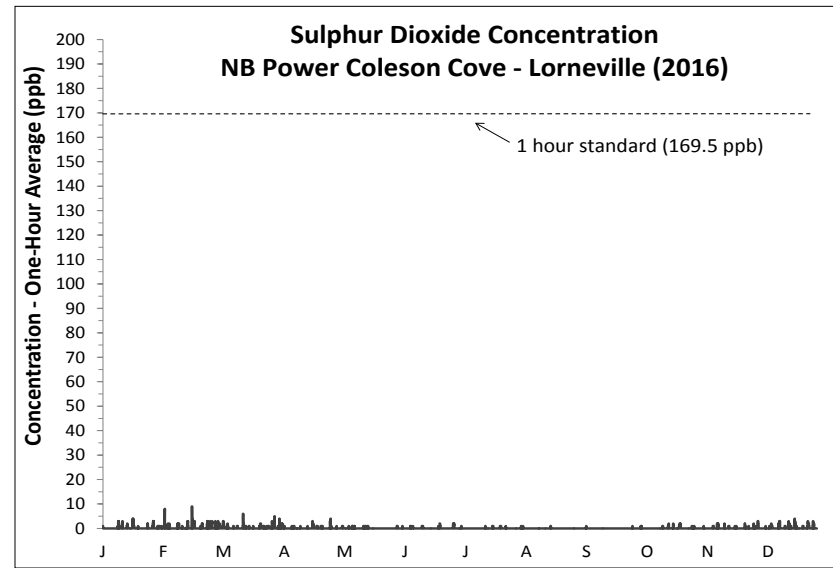
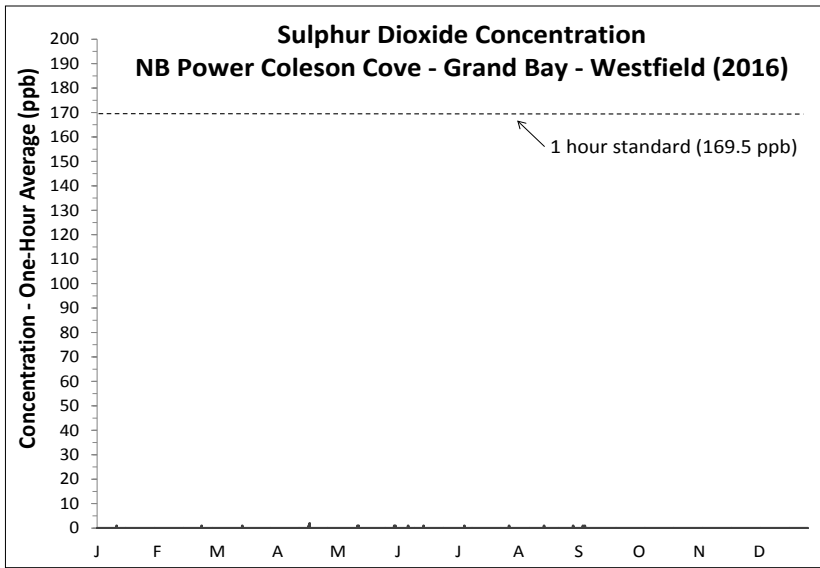
PART III: STATIONS OPERATED BY INDUSTRY - NB Power, Millbank - Total Suspended Particulate



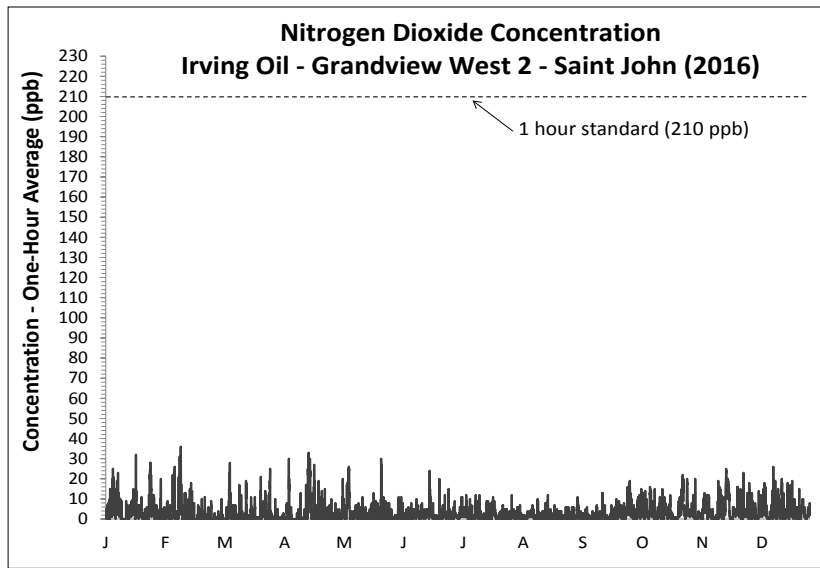
PART III: STATIONS OPERATED BY INDUSTRY - NB Power, Coleson Cove - Fine Particulate Matter



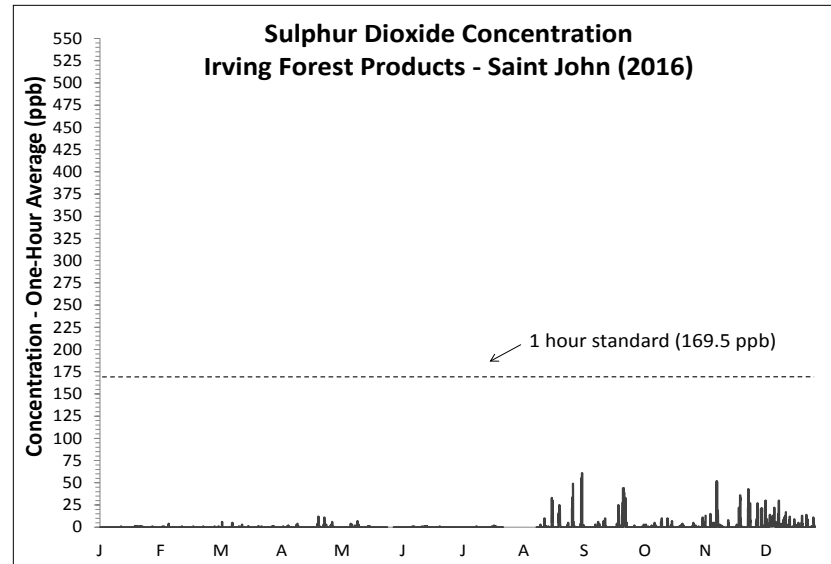
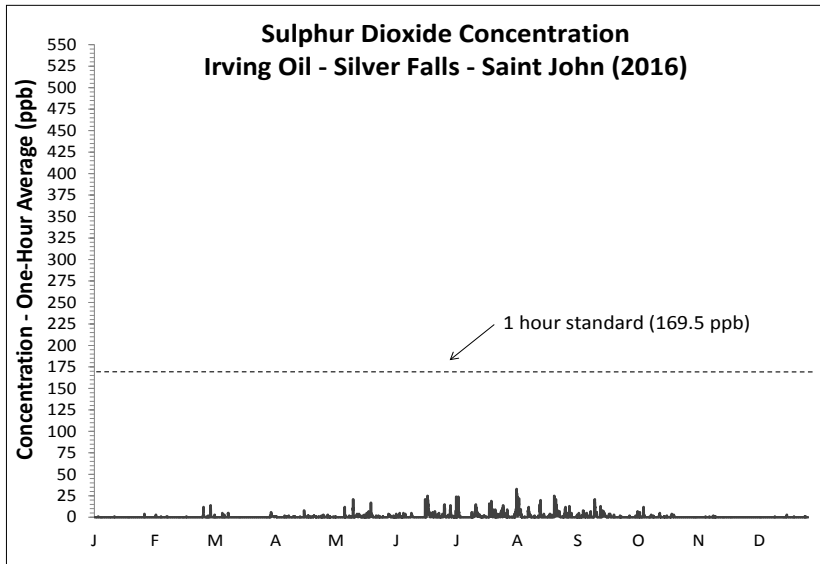
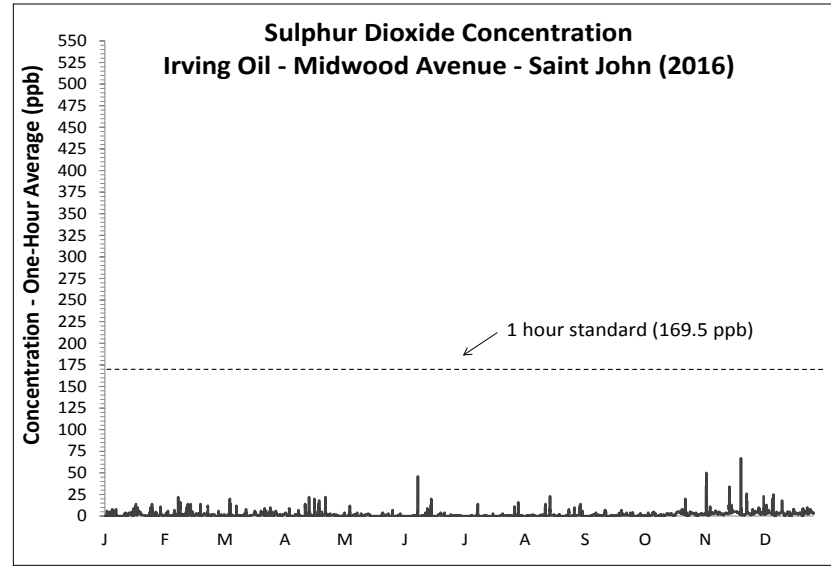
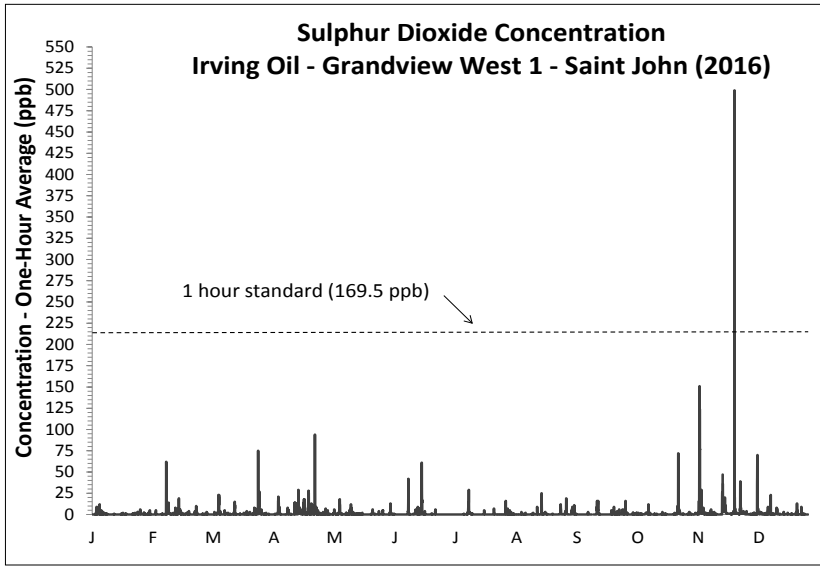
PART III: STATIONS OPERATED BY INDUSTRY - NB Power, Coleson Cove - Sulphur Dioxide



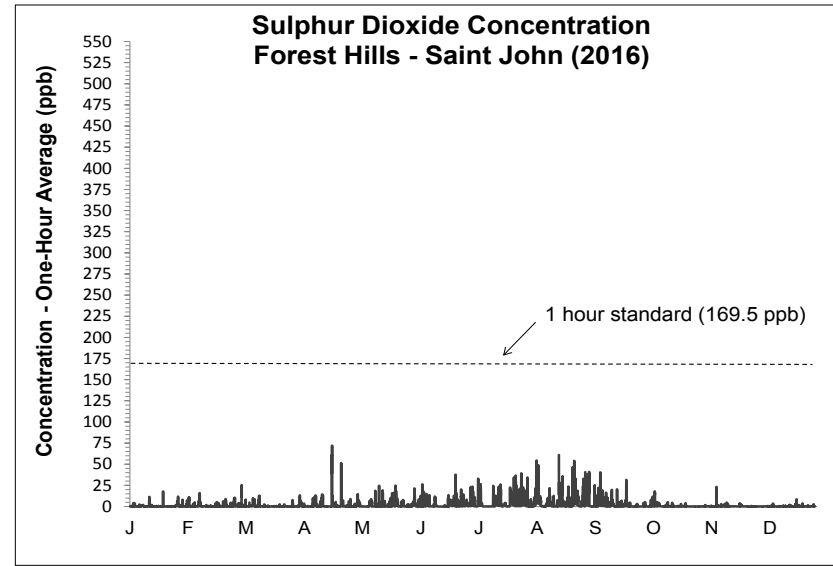
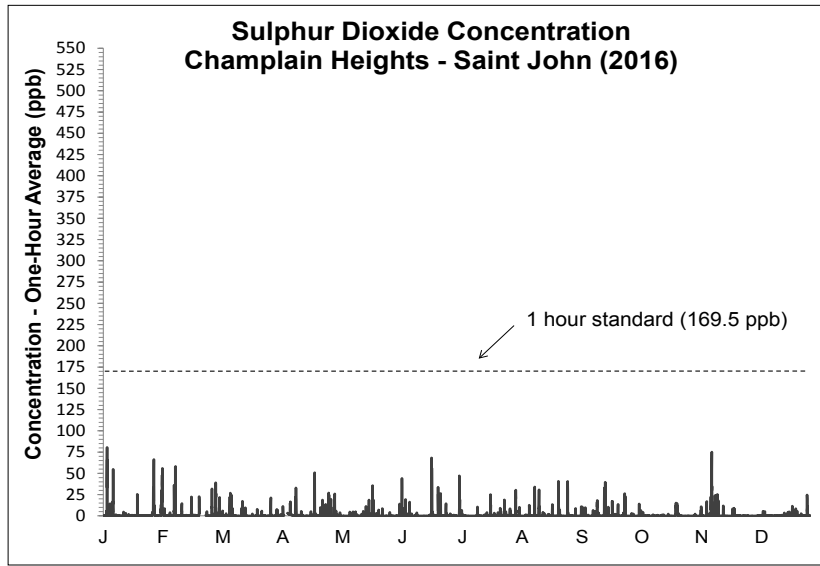
PART III: STATIONS OPERATED BY INDUSTRY - Irving Oil Ltd., Saint John - Nitrogen Dioxide



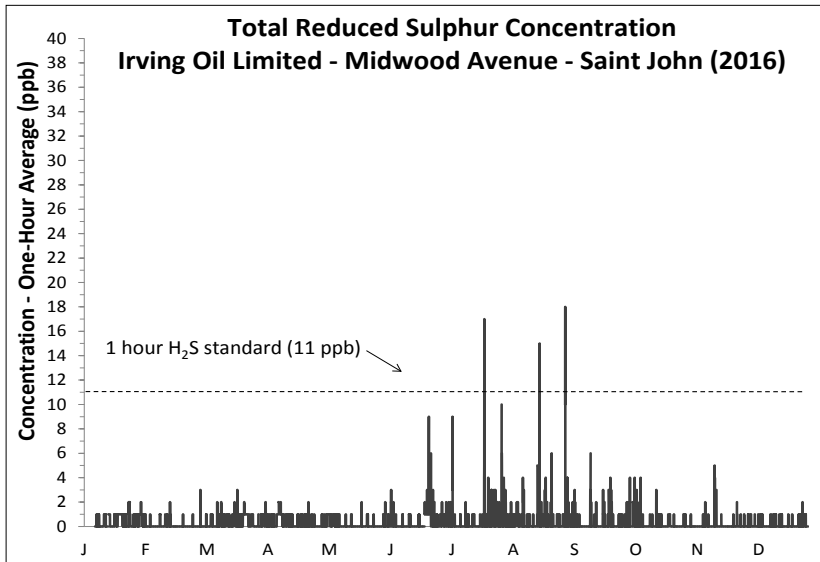
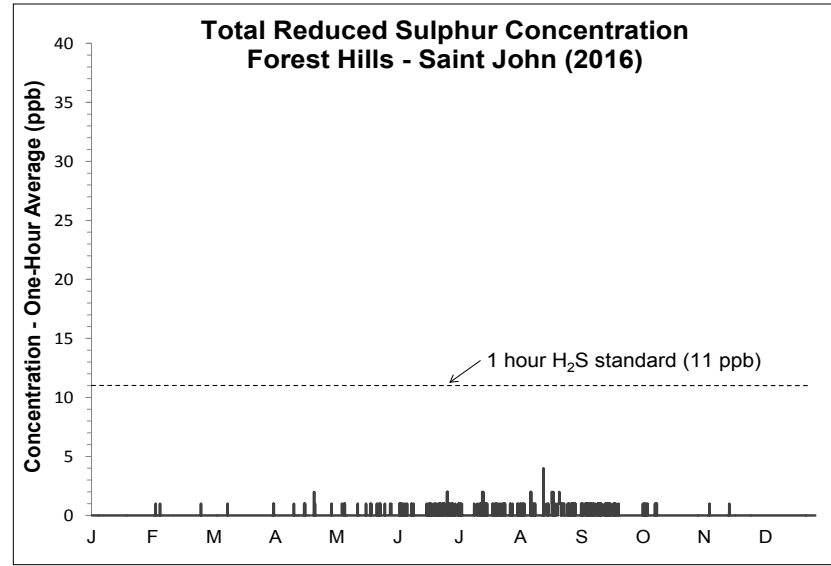
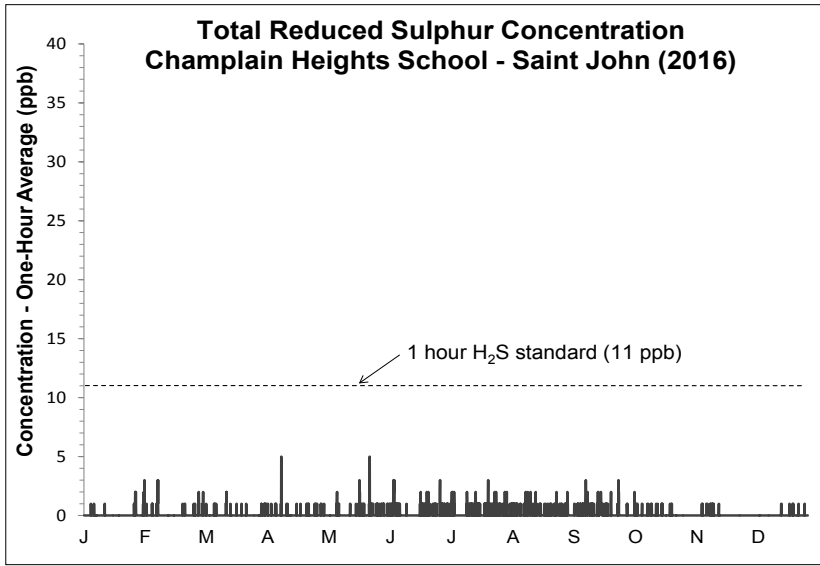
PART III: STATIONS OPERATED BY INDUSTRY - Irving Oil Ltd., Saint John - Sulphur Dioxide



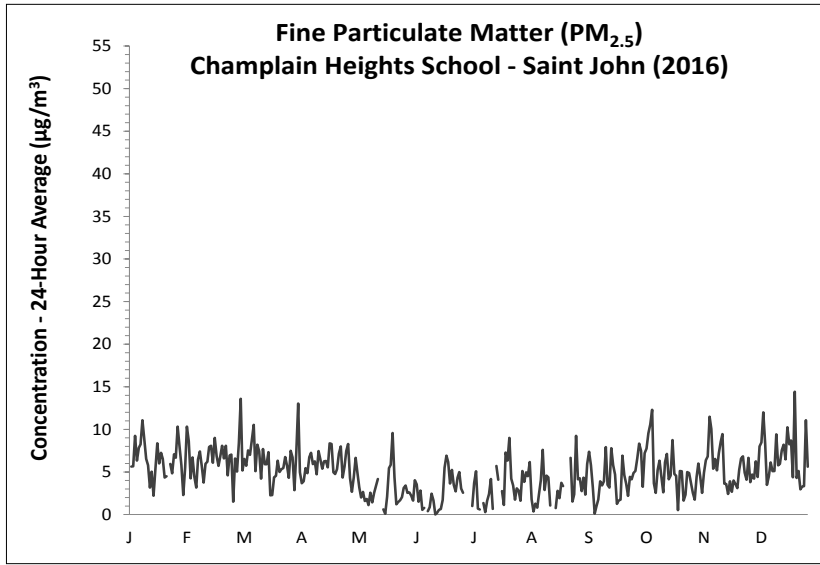
PART III: STATIONS OPERATED BY INDUSTRY - Irving Oil Ltd., Saint John - Sulphur Dioxide



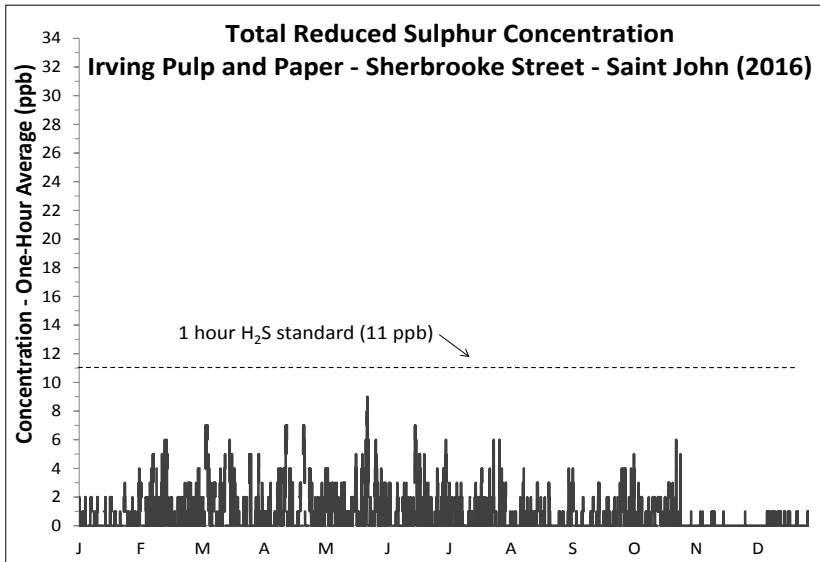
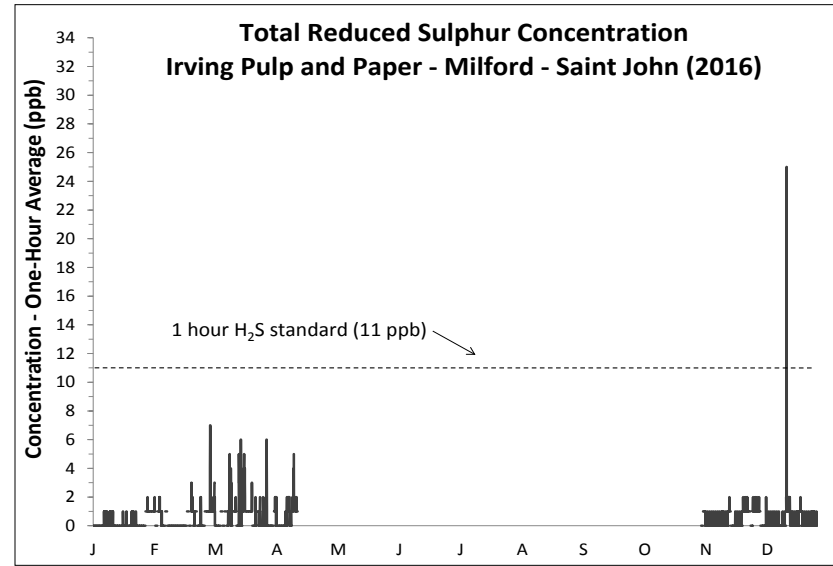
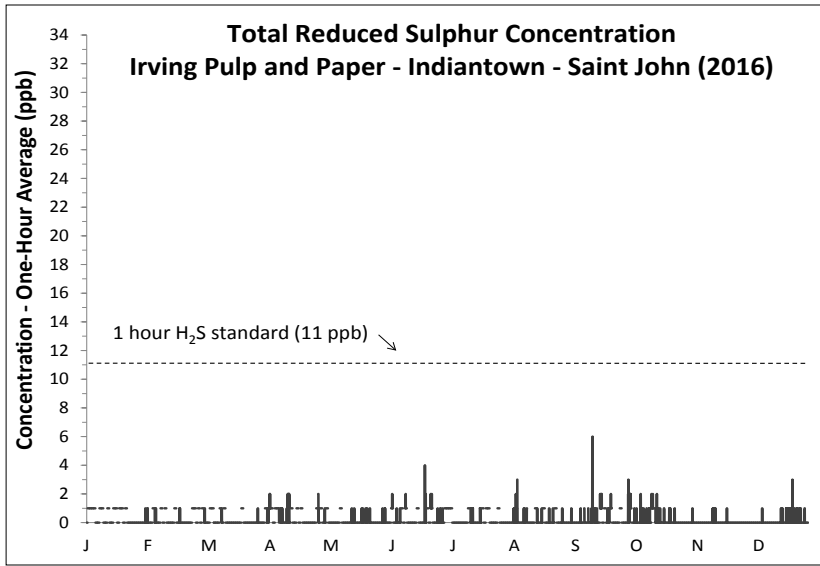
PART III: STATIONS OPERATED BY INDUSTRY - Irving Oil Ltd., Saint John - Total Reduced Sulphur



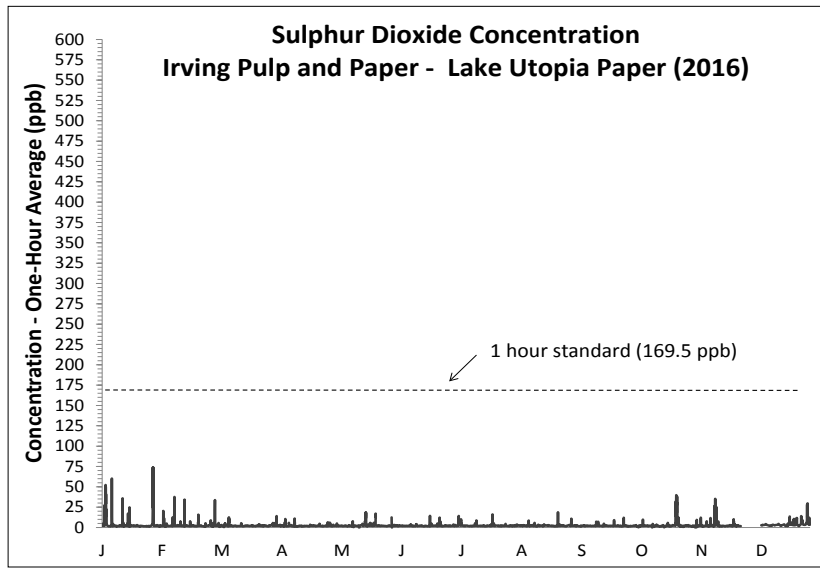
PART III: STATIONS OPERATED BY INDUSTRY - Irving Oil Ltd., Saint John - Fine Particulate Matter



PART III: STATIONS OPERATED BY INDUSTRY - Irving Pulp and Paper, Saint John - Total Reduced Sulphur



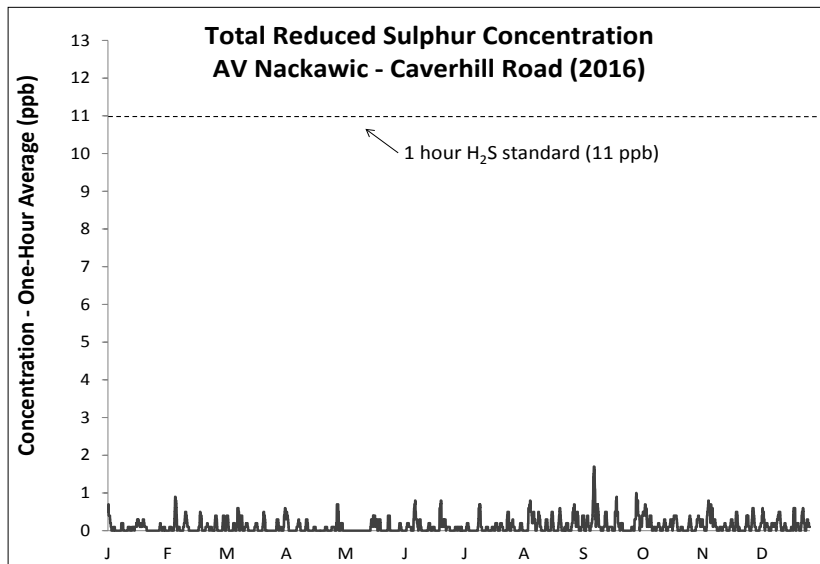
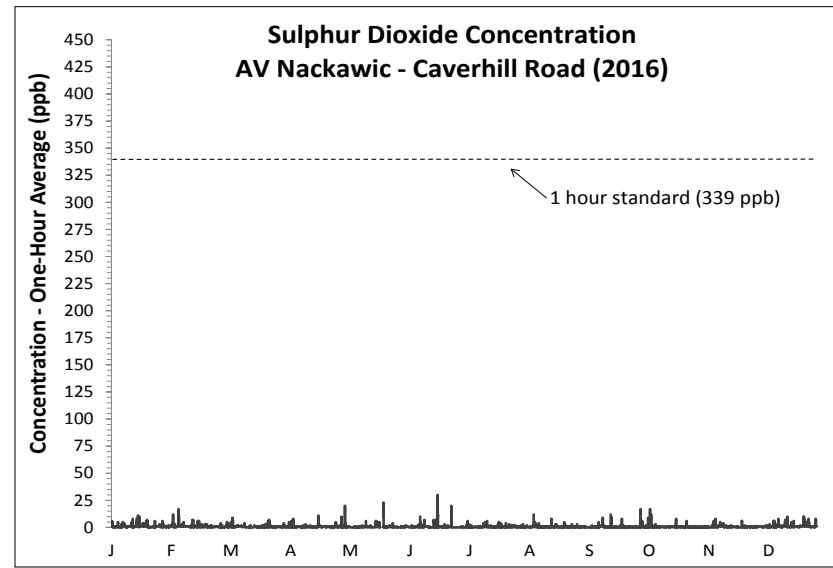
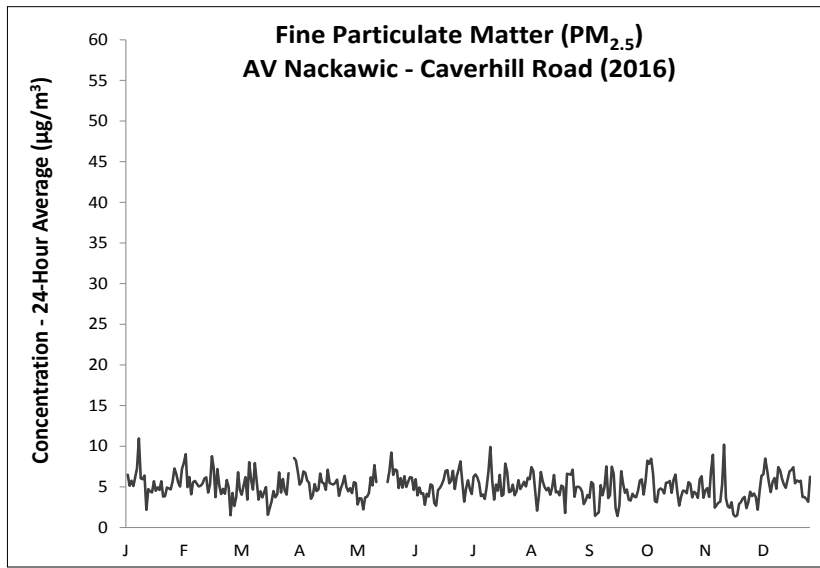
PART III: STATIONS OPERATED BY INDUSTRY - Irving Pulp and Paper, Lake Utopia - Sulphur Dioxide



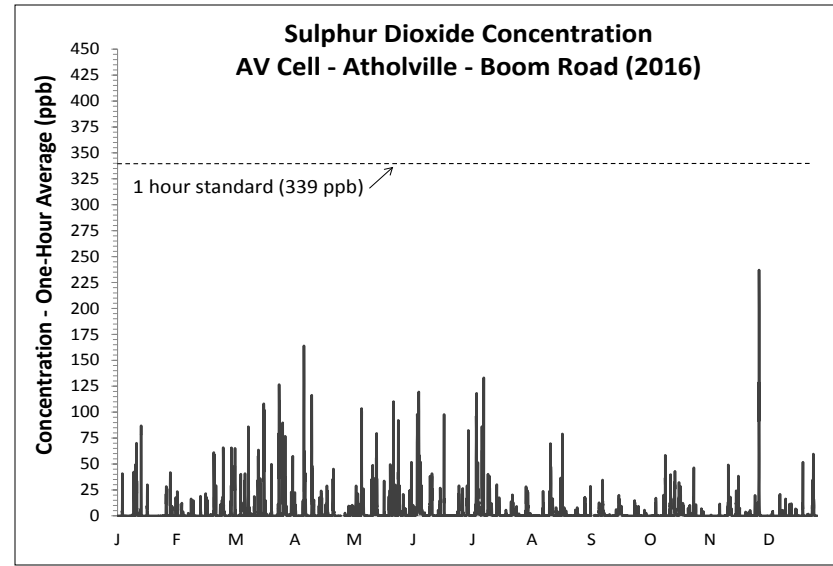
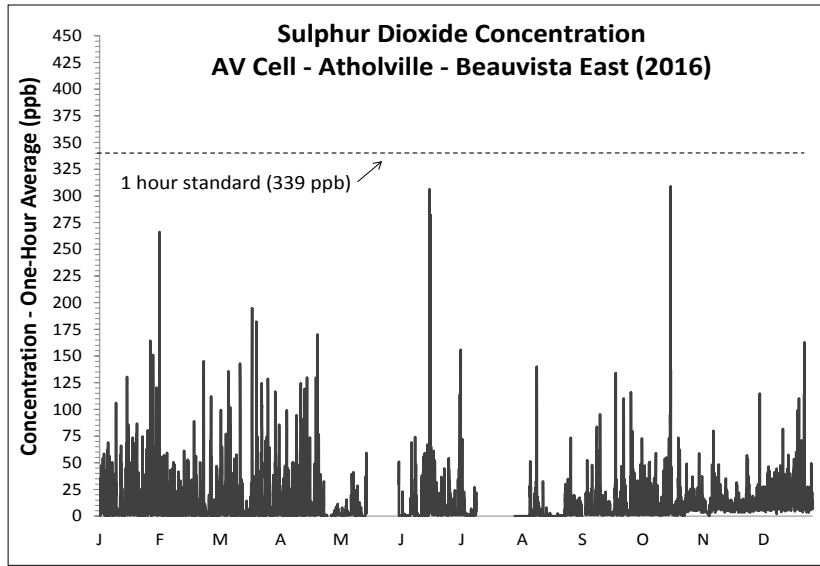
PART III: STATIONS OPERATED BY INDUSTRY - Twin Rivers Paper Company, Edmundston - All Parameters

Data not available

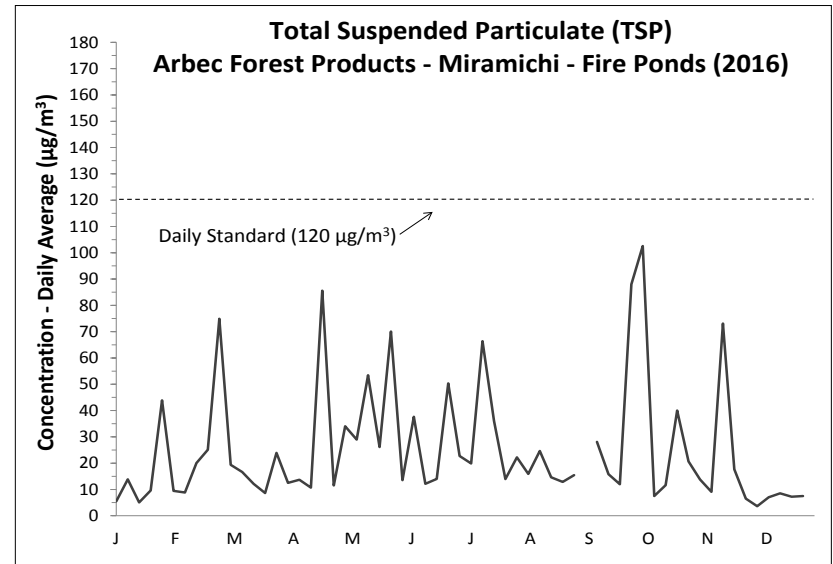
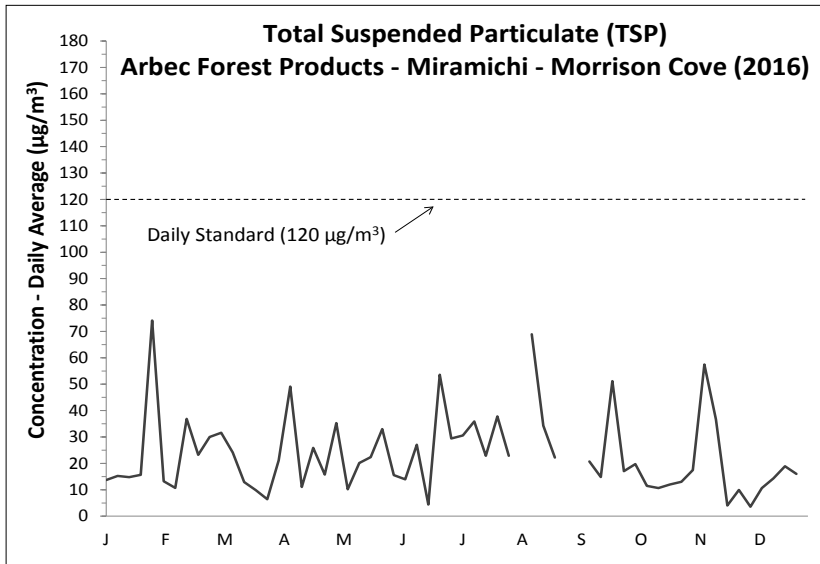
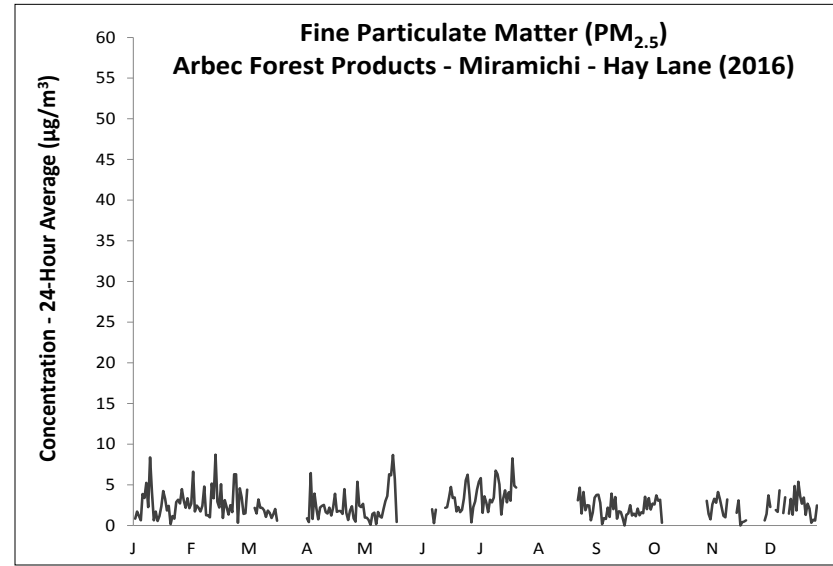
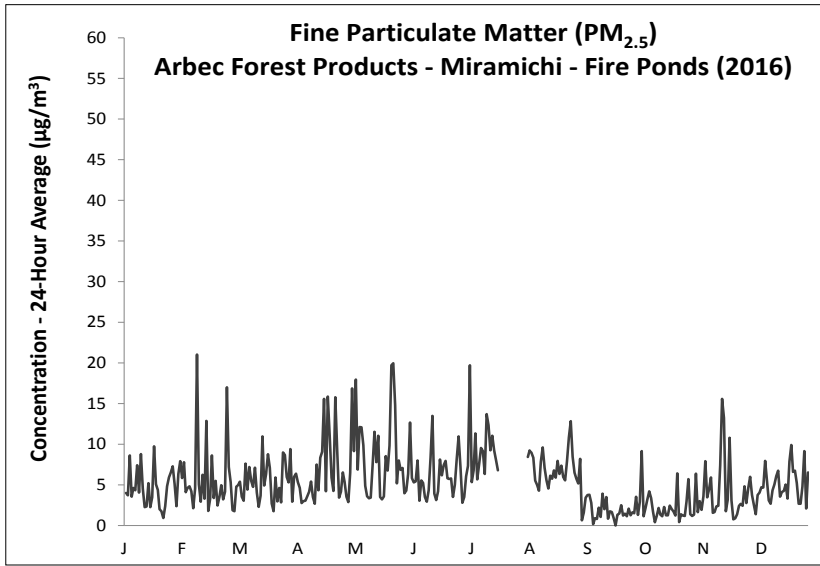
PART III: STATIONS OPERATED BY INDUSTRY - AV Nackawic, Nackawic - All Parameters



PART III: STATIONS OPERATED BY INDUSTRY - AV Cell, Atholville - Sulphur Dioxide



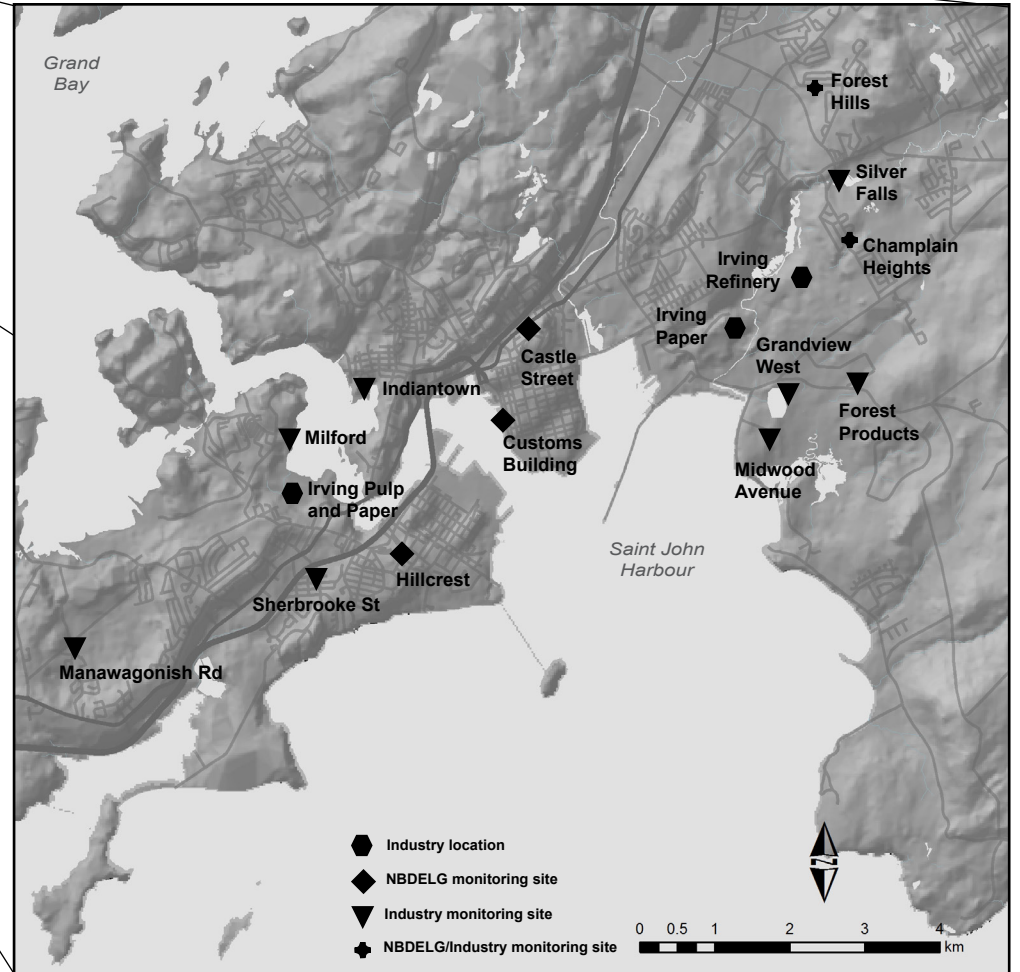
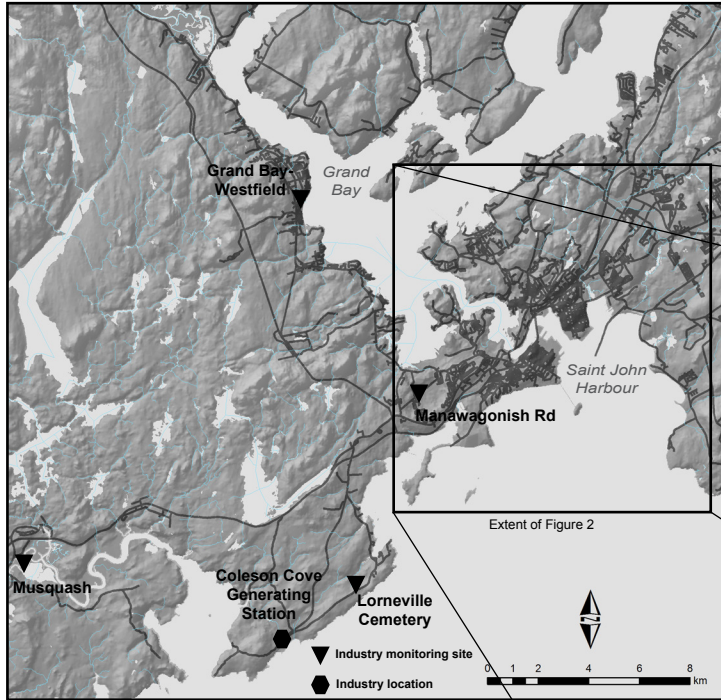
PART III: STATIONS OPERATED BY INDUSTRY - Arbec Forest Products, Miramichi- All Parameters



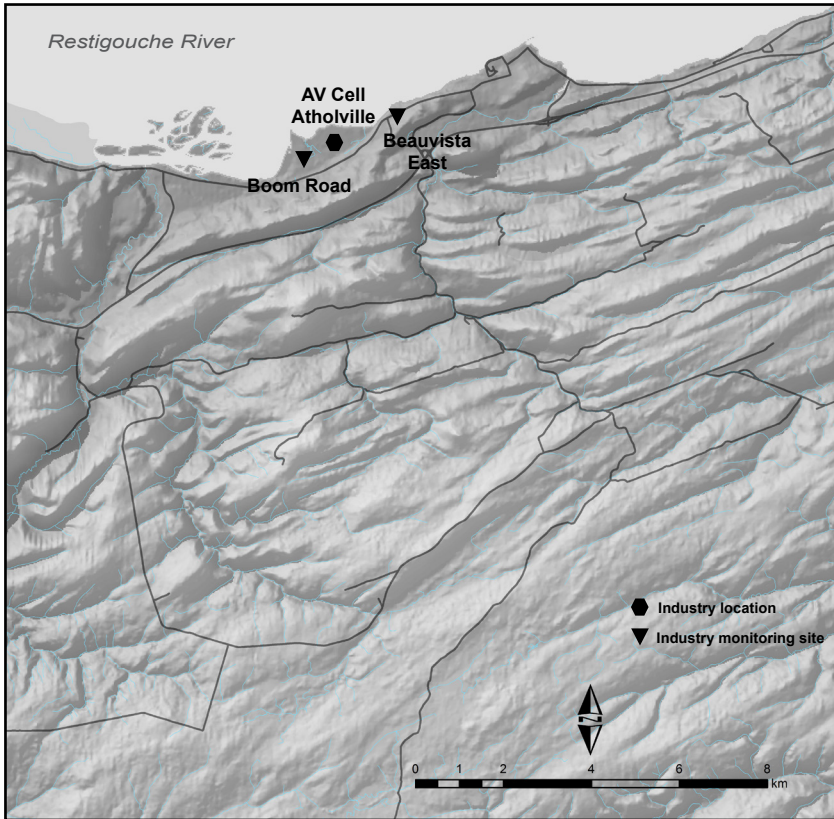
PART IV:
DETAILED STATION LOCATION MAPS

PART IV: DETAILED STATION LOCATION MAPS - Saint John Region

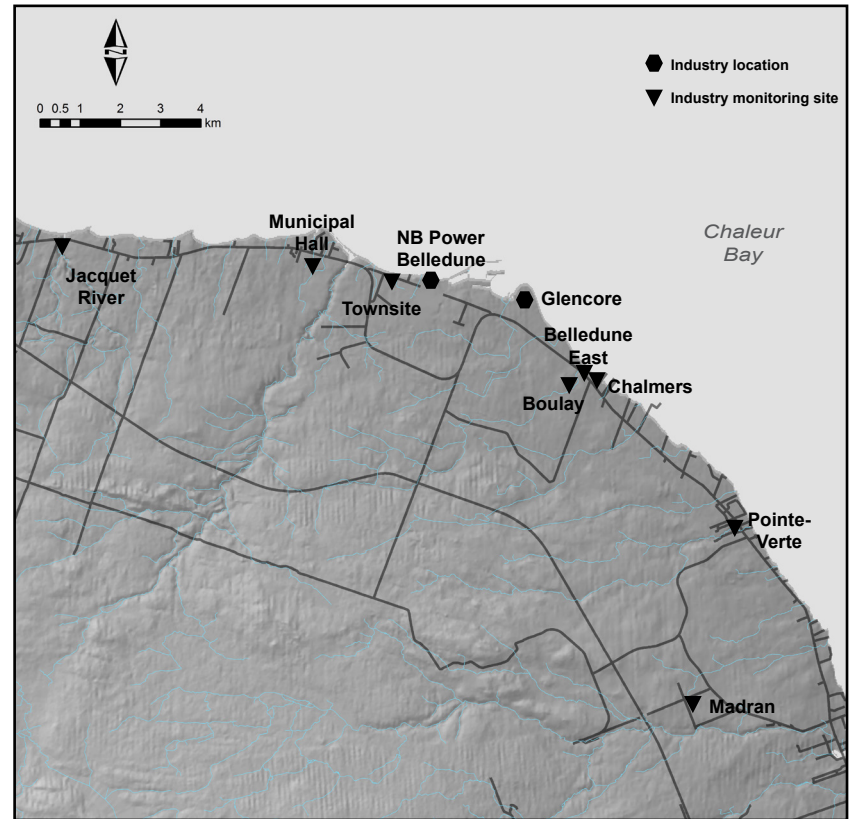
Grand Bay/Musquash/Saint John Area



PART IV: DETAILED STATION LOCATION MAPS - Atholville and Belledune

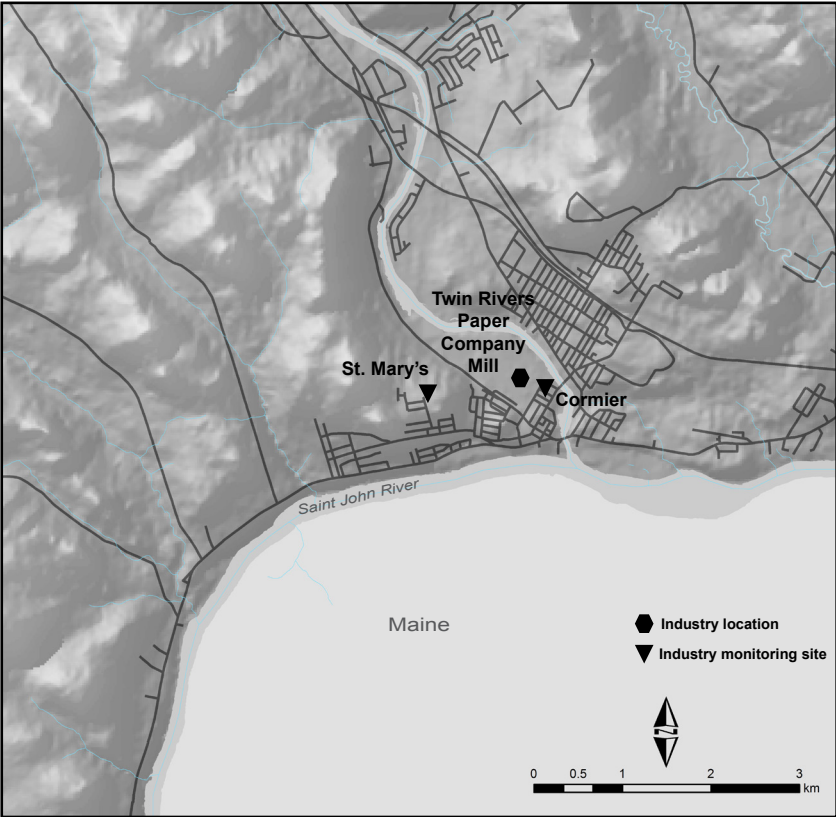


Atholville Area

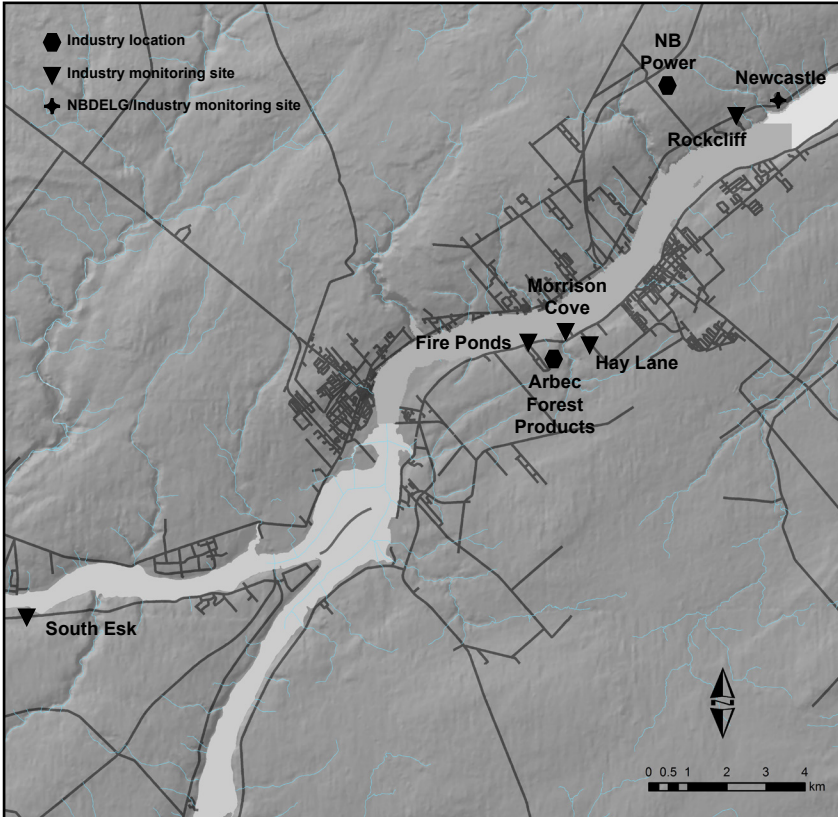


Belledune Area

PART IV: DETAILED STATION LOCATION MAPS - Edmundston and Lower Newcastle



Edmundston Area



Lower Newcastle