New Brunswick
Department of Environment
and Local Government

Air Quality Monitoring Results 2014

New Nouveau Brunswick
CANADA

Contents

Air Quality Monitoring in New Brunswick

This report provides an overview of air quality in the province of New Brunswick. General information about air quality science and the province's monitoring networks is also provided.

Air quality monitoring in New Brunswick is a partnership between the Federal Government (Environment Canada) and the Provincial Department of Environment and Local Government (DELG). This partnership has been formalized under a long-standing National Air Pollution Surveillance (NAPS) Agreement.

Through the NAPS agreement, Environment Canada provides most of the necessary monitoring equipment and a centralized national database for the air quality information collected. It is the Province's responsibility to deploy and maintain the equipment, operate the stations, perform necessary calibrations, and otherwise ensure that the data is accurate.

Air quality monitoring equipment. A Volatile Organic Compound (VOC) sampler (left/near-field), and a Particulate Matter monitor ($PM_{2.5}$) (right/far-field).

A typical air quality monitoring station (Moncton).

The provincial network includes 16 air quality monitoring stations. There are a total of 44 instruments operating at these stations at all times.

The stations and monitors have been established for a number of purposes:

- to detect and quantify impacts from regulated pollution sources;
- to assess and track ambient background levels of various pollutants;
- to monitor transboundary migration of pollution into New Brunswick; and,
- to provide real-time data to public health reporting systems such as the Air Quality Health Index.

As a condition of regulatory approval under the *Clean Air Act* the Province also requires the operators of large industrial facilities to participate in air quality monitoring. During the 2014 reporting year there were 30 industry-operated stations, with 50 instruments, dedicated to continuously monitoring the ambient concentrations of industry-specific contaminants in nearby communities.

What We Measure

Each air quality monitoring station is different, with monitors set up to suit the pollution sources in that particular area. The most common parameters monitored are:

- Ground Level Ozone
- Nitrogen Dioxide
- Volatile Organic Compounds
- Carbon Monoxide
- Particulate Matter
- Wind Speed
- Sulphur Dioxide
- Total Reduced Sulphur
- Wind Direction

Site maps and monitor inventories are provided on pages 5 and 6.

Understanding Air Pollution

Air quality is constantly changing from season to season, and is affected by a wide variety of factors, including the weather, long range movements of air from other parts of the world, natural events, industry cycles, and other human activities.

Below, we look at some of the more common air pollutants: what they are, where they come from, and how they can affect our environment and our health.

Overview of Key Air Pollutants - Sources and Effects

Air Pollutant	What is it?	What does it do?
Sulphur Dioxide (SO_2)	A colourless gas with a sharp odour, like that of a struck match. It is produced by the burning of sulphur-bearing fuels such as oil and coal.	High concentrations can damage plants, and corrode metals. It can irritate the eyes, throat, and lungs. It is a major contributor to acid rain, which impacts sensitive lakes and rivers.
Reduced Sulphur Compounds (TRS)	A group of gases with a characteristic "rotten egg" odour. These are produced by natural decomposition (e.g., in marshes and tidal flats), and certain industrial processes (e.g., kraft pulp mills, and oil refineries).	Causes nuisance odours. At very high concentrations they can cause respiratory irritation and related health concerns. They also contribute to acid rain.
Nitrogen Dioxide (NO_2)	A reddish-brown gas with a sharp odour. It is generated through combustion, especially motor vehicle exhaust and fossil fuel burning electrical power generation.	Similar to SO_2, high concentrations can harm plants, corrode metals, and cause irritation to the eyes, throat, and lungs. It also contributes to acid rain. NO_2 also reacts with other pollutants to cause the formation of ground level ozone.
Fine Particulate Matter, 2.5 microns in diameter or less ($PM_{2.5}$)	Tiny (invisible) airborne specks of solid or liquid material (e.g., dust & soot). It is generated by natural sources (e.g. wind-blown dust and forest fires), and through fuel burning (especially fossil fuels and wood).	Causes and aggravates a variety of human cardiovascular ailments (*e.g.*, asthma, lung disease, and bronchitis). It also contributes to haze.
Ground Level Ozone (O_3)	Ozone is invisible and odourless at typical ground level concentrations. It is formed through chemical reactions between a variety of "ozone precursor" pollutants, which are released by industrial facilities and motor vehicles. Most of New Brunswick's ozone is carried here by air masses originating in the United States and central Canada.	Irritates the lungs and makes breathing difficult. Also damages plants, weakens rubber, and attacks metals and painted surfaces.
Volatile Organic Compounds (VOCs)	A group of carbon-containing chemicals. They are produced by evaporation of solvents (e.g., paint thinner), by a variety of industrial processes (*e.g.*, petroleum refining), and through fuel combustion. Some VOCs are generated naturally by plants and animals.	Many act as "ozone precursors", and contribute to smog. Some VOCs can impact human health. Others are of interest in climate research.

In addition to the key pollutants described above, there are a variety of other air contaminants that are monitored on a case-by-case basis, depending on local emission sources.

Provincial Air Quality Monitoring Networks

Provincially Operated Air Quality Monitoring Stations

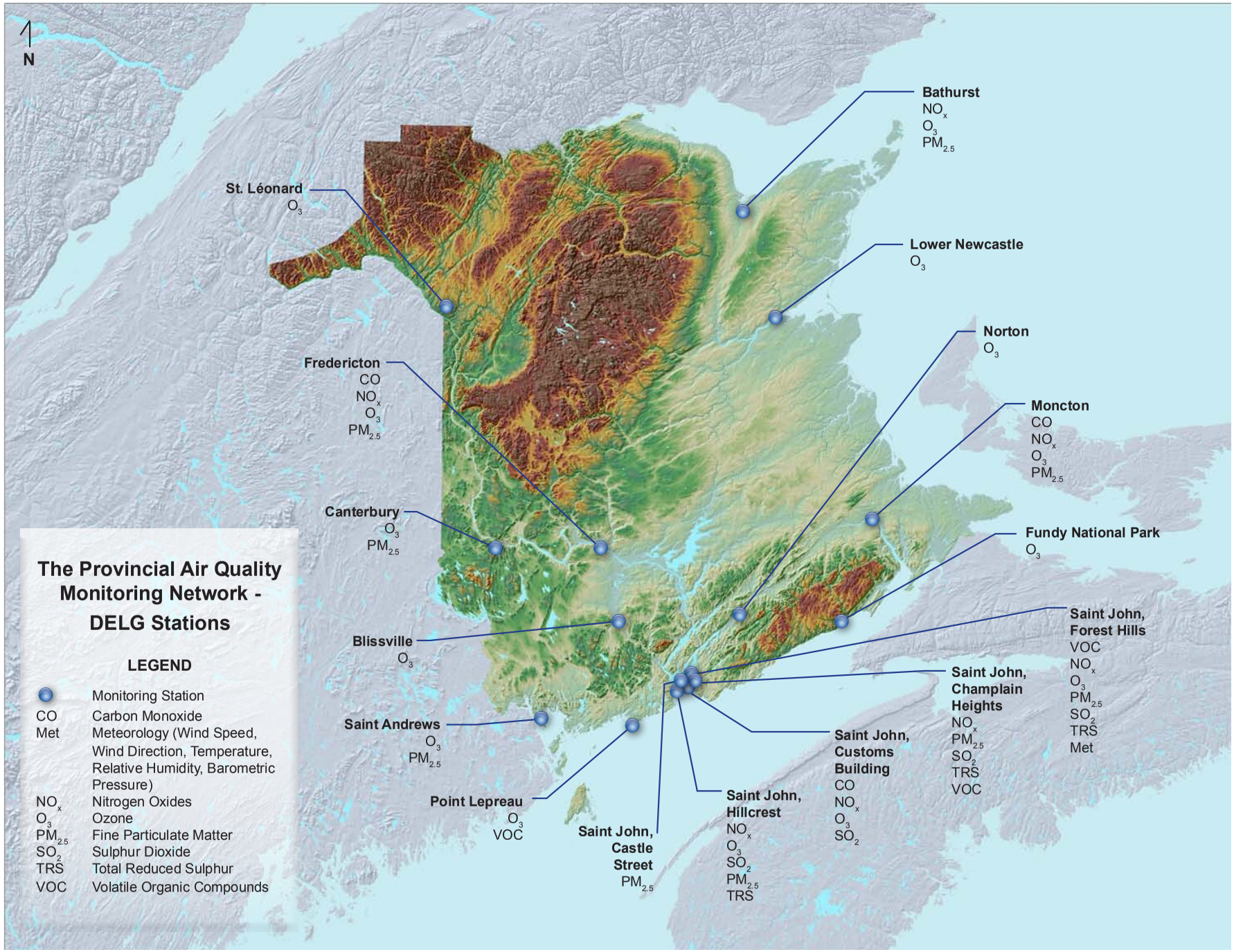
New Brunswick's 16 provincially operated air quality monitoring stations collect data continuously, year-round. Most monitors record a measurement every five minutes. Collectively, this generates over five million data points each year. The majority of this data is immediately transmitted to a central data management system. Operation and oversight of the network and data management system requires the constant attention of a team of dedicated air quality technicians.

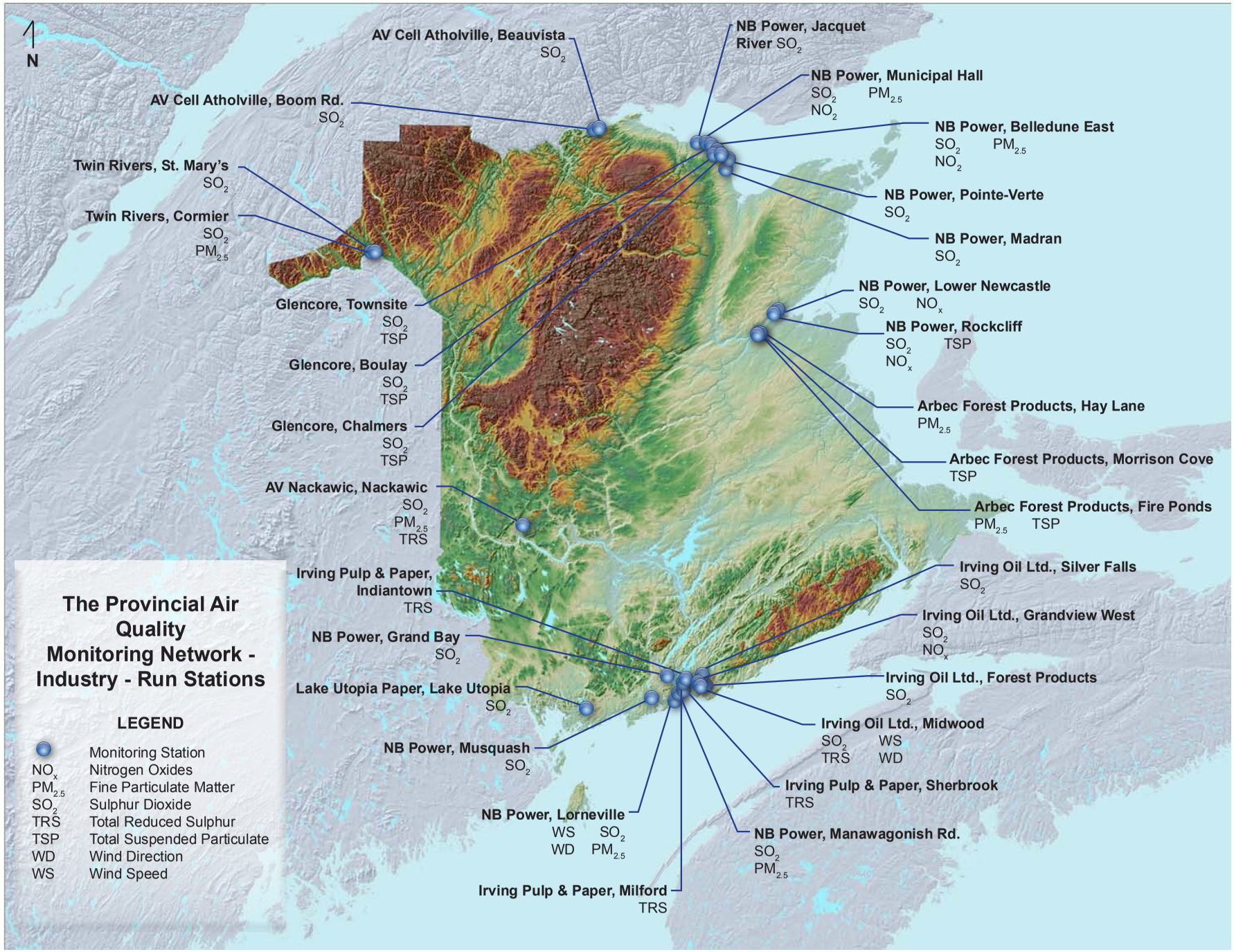
The stations are also audited by Environment Canada to ensure that monitors are appropriately maintained and data is accurate. Since the beginning of the program in the early 1970s these audits have consistently confirmed the high quality of the Province's reported data.

Industry-Operated Air Quality Monitoring Stations

As with provincial stations, New Brunswick's industry-operated stations are also operated continuously, year-round. This data is submitted annually to DELG.

DELG audits the industry-operated sites to ensure accuracy of the reported data.


N
Bathurst
NOx
O3
PM2.5
St. Léonard
O3
Lower Newcastle
O3
Norton
O3
Fredericton
CO
NOx
O3
PM2.5
Moncton
CO
NOx
O3
PM2.5
Canterbury
O3
PM2.5
Fundy National Park
O3
Blissville
O3
Saint John, Forest Hills
VOC
NOx
O3
PM2.5
SO2
TRS
Met
Saint John, Champlain Heights
NOx
PM2.5
SO2
TRS
VOC
Saint Andrews
O3
PM2.5
Saint John, Customs Building
CO
NOx
O3
SO2
Point Lepreau
O3
VOC
Saint John, Hillcrest
NOx
O3
SO2
PM2.5
TRS
Saint John, Castle Street
PM2.5
The Provincial Air Quality Monitoring Network - DELG Stations
LEGEND
Monitoring Station
CO Carbon Monoxide
Met Meteorology (Wind Speed, Wind Direction, Temperature, Relative Humidity, Barometric Pressure)
NOx Nitrogen Oxides
O3 Ozone
PM2.5 Fine Particulate Matter
SO2 Sulphur Dioxide
TRS Total Reduced Sulphur
VOC Volatile Organic Compounds


N
AV Cell Atholville, Beauvista
SO2
NB Power, Jacquet River SO2
AV Cell Atholville, Boom Rd.
SO2
NB Power, Municipal Hall
SO2 PM2.5 NO2
NB Power, Belledune East
SO2 PM2.5 NO2
Twin Rivers, St. Mary's
SO2
NB Power, Pointe-Verte
SO2
Twin Rivers, Cormier
SO2 PM2.5
NB Power, Madran
SO2
NB Power, Lower Newcastle
SO2 NOx
Glencore, Townsite
SO2 TSP
NB Power, Rockcliff
SO2 TSP NOx
Glencore, Boulay
SO2 TSP
Arbec Forest Products, Hay Lane
PM2.5
Glencore, Chalmers
SO2 TSP
Arbec Forest Products, Morrison Cove
TSP
AV Nackawic, Nackawic
SO2 PM2.5 TRS
Arbec Forest Products, Fire Ponds
PM2.5 TSP
Irving Pulp & Paper, Indiantown
TRS
Irving Oil Ltd., Silver Falls
SO2
NB Power, Grand Bay
SO2
Irving Oil Ltd., Grandview West
SO2 NOx
Lake Utopia Paper, Lake Utopia
SO2
Irving Oil Ltd., Forest Products
SO2
NB Power, Musquash
SO2
Irving Oil Ltd., Midwood
SO2 TRS WS WD
Irving Pulp & Paper, Sherbrook
TRS
NB Power, Lorneville
WS WD SO2 PM2.5
NB Power, Manawagonish Rd.
SO2 PM2.5
Irving Pulp & Paper, Milford
TRS
The Provincial Air Quality Monitoring Network - Industry - Run Stations
LEGEND
Monitoring Station
NOx Nitrogen Oxides
PM2.5 Fine Particulate Matter
SO2 Sulphur Dioxide
TRS Total Reduced Sulphur
TSP Total Suspended Particulate
WD Wind Direction
WS Wind Speed

Provincial Air Quality Objectives

One of the main goals of this report is to describe the Province's success in achieving the provincial air quality objectives (listed below), which were established under the *Clean Air Act* in 1997.

New Brunswick Air Quality Objectives				
Pollutant	**Averaging Period**			
	1 Hour	**8 Hour**	**24 Hour**	**1 year**
Carbon Monoxide	35,000 µg/m^3 (30 ppm)	15,000 µg/m^3 (13 ppm)		
Hydrogen Sulphide	15 µg/m^3 (11 ppb)		5 µg/m^3 (3.5 ppb)	
Nitrogen Dioxide	400 µg/m^3 (210 ppb)		200 µg/m^3 (105 ppb)	100 µg/m^3 (52 ppb)
Sulphur Dioxide*	900 µg/m^3 (339 ppb)		300 µg/m^3 (113 ppb)	60 µg/m^3 (23 ppb)
Total Suspended Particulate			120 µg/m^3	70 µg/m^3

* The standard for sulphur dioxide is 50% lower in Saint John, Charlotte, and Kings counties.

About the Objectives

The provincial air quality objectives apply to ambient air. That is, the normal outdoor air that is generally available for use by people and the environment. They are not meant to apply indoors, nor directly at the end of a chimney or smokestack.

The air quality objectives are described in units of "micrograms" (i.e., millionths of a gram) per cubic meter (µg/m^3). In the table above, most are also provided in the somewhat more common "parts per million" (ppm) or "parts per billion" (ppb) units.

As reflected in the table above, there are two or more objectives for each pollutant, each with an associated "averaging period". This is to ensure that the objectives properly address a variety of exposure scenarios, including short term peaks, long term exposure to lower levels, and potential combinations.

Accomplishing Our Air Quality Objectives

The table below summarizes the exceedances of the provincial air quality objectives that occurred in 2014. Province-wide, there were 13 exceedance events in 2014. Most events were very short-lived. The longer duration events were all odour related, involving relatively low concentrations of odorous reduced sulphur compounds that were likely related to unusual local weather conditions (poor dispersion).

Air Quality Objective Statistics for 2014

Parameter	Number of Exceedances Events	Location	Comments
Carbon Monoxide	0	-	None
Hydrogen Sulphide (as Total Reduced Sulphur)	1	Saint John, East	The one-hour objective (11 ppb) was exceeded once (one hour duration) at the Midwood Avenue Station. This exceedance was related to a flaring event at the refinery.
	8	Saint John, West Side	The 24-hour objective (3.5 ppb) was exceeded on 8 occasions. Four of these events were recorded at the Milford station (cumulative duration of 50 hours), and four were recorded at the Sherbrook station (cumulative duration of 46 hours). Both stations are operated by Irving Pulp and Paper. However, there were no unusual operational events at the mill during this period that would explain the exceedances.
Nitrogen Dioxide	0	-	None
Sulphur Dioxide	1	Saint John, East	The 24-hour objective for Saint John (56.5 ppb) was exceeded for 27 hours at the Grandview West (Irving Oil Limited) monitoring station on April 1st and 2nd, 2014. The one-hour objective for Saint John (169.5 ppb) was also exceeded for one hour. This event occurred as a result of a brief maintenance related shut-down of a piece of pollution control equipment at the refinery.
Total Suspended Particulate	1	Miramichi	The 24-hour objective (120 µg/m^3) was exceeded once at the fire ponds (Arbec) monitoring station.
	2	Belledune	The 24-hour objective (120 µg/m^3) was exceeded on two occasions. The first event was recorded simultaneously at the Townsite and Chalmers stations (Glencore) on February 4th. The second was recorded only at the Townsite station, on February 22nd. In both cases, further analyses of the dust from the filters suggests that the smelter was not likely to have been the source.

To place the data presented above in historical perspective, in 1997 (when the current air quality standards were first established), the provincial network recorded 3,931 cumulative hours of exceedances (across all stations). As reflected in the table above, 2014 saw only 223 cumulative hours of exceedances. This represents a 94% improvement on this metric since the creation of the *Clean Air Act*. Where exceedances were once relatively frequent, they are now rare and unusual events.

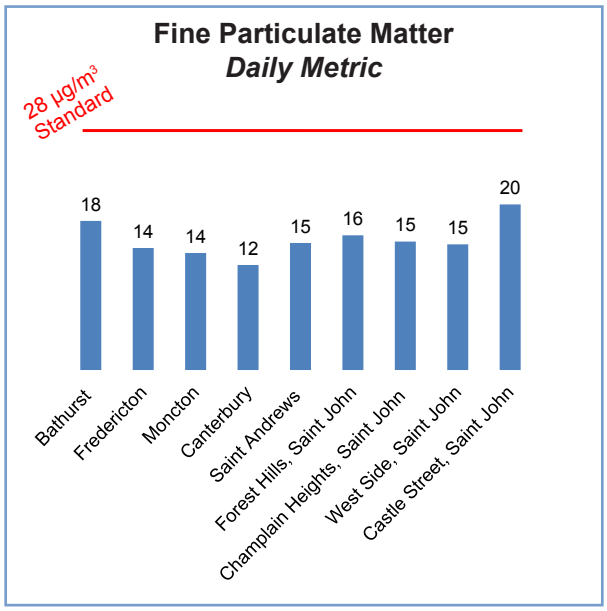
Canadian Ambient Air Quality Standards

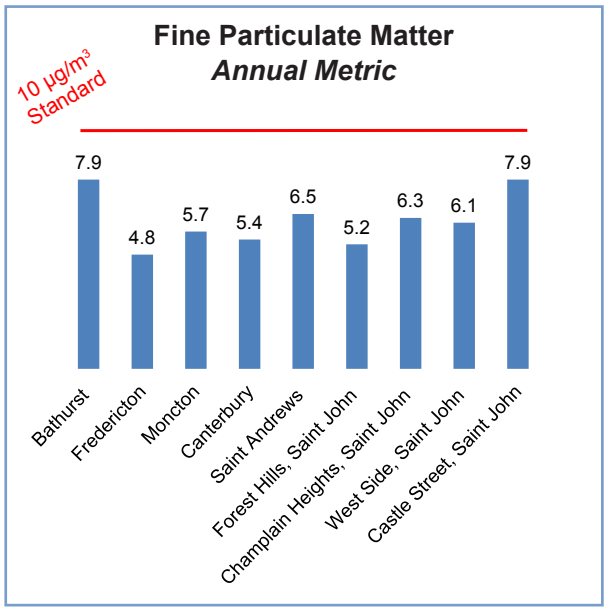
In 2012, the Canadian Council of Ministers of Environment (CCME) approved Canadian Ambient Air Quality Standards (CAAQS) for particulate matter and ground level ozone.

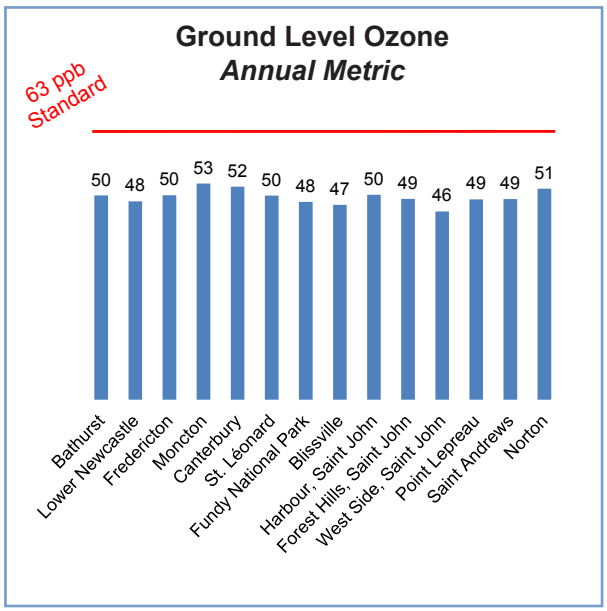
The approved standards include two target deadlines. The first target date is 2015, followed by a more stringent target in 2020. As illustrated below, New Brunswick has achieved its 2015 CAAQS targets at all reporting sites. This is based on data collected in 2012, 2013, and 2014.

The CAAQS were designed to replace the previous system of "Canada-wide Standards" for these contaminants, and use a similar statistical approach.

There are two CAAQS for fine particulate matter. One is for annual average conditions, and the other is based on the daily average of the 98th percentile day (one of the poorest air quality days of the year). Similarly, the ozone CAAQS is based on the fourth worst day of the year. In all cases, the calculated annual statistic is averaged over a three year period.





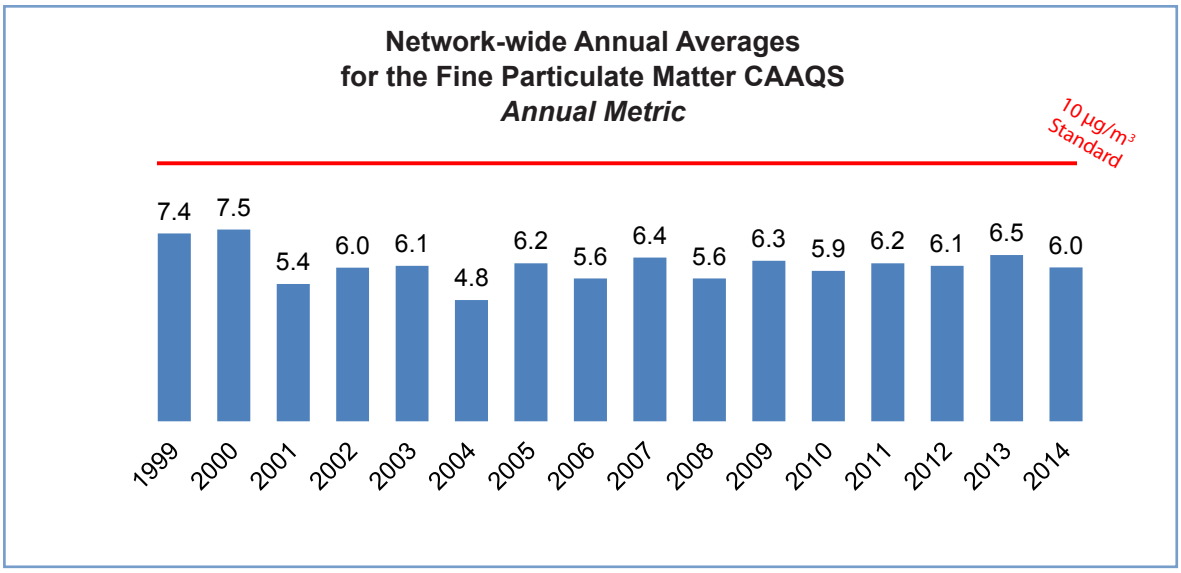


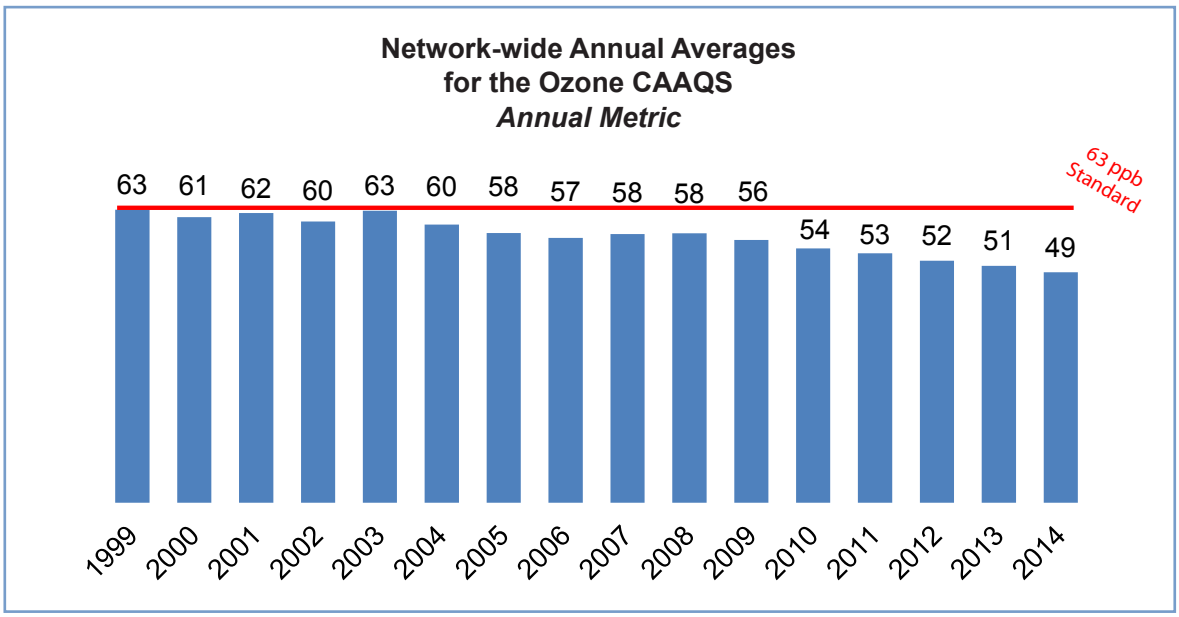
Early Achievement!

2015** Targets reached in **2014

Particulate Matter and Ozone Trends

The illustrations on page 9 provide a detailed, station-by-station view of CAAQS achievement status for a single year (2014), but this tells us little about our long-term progress toward reducing the levels of these contaminants in our air. The graphs below are included to provide this historical context. These graphs are based on the CAAQS calculations previously described, with the added step of averaging all of the CAAQS values for each year. In so doing, they reveal the 16-year network-wide trends for these contaminants.





Air Zone Management

In addition to the Canadian Ambient Air Quality Standards that were approved in 2012, the CCME has also created an accompanying Air Zone Management Framework (AZMF) to help guide air quality management actions within each province.

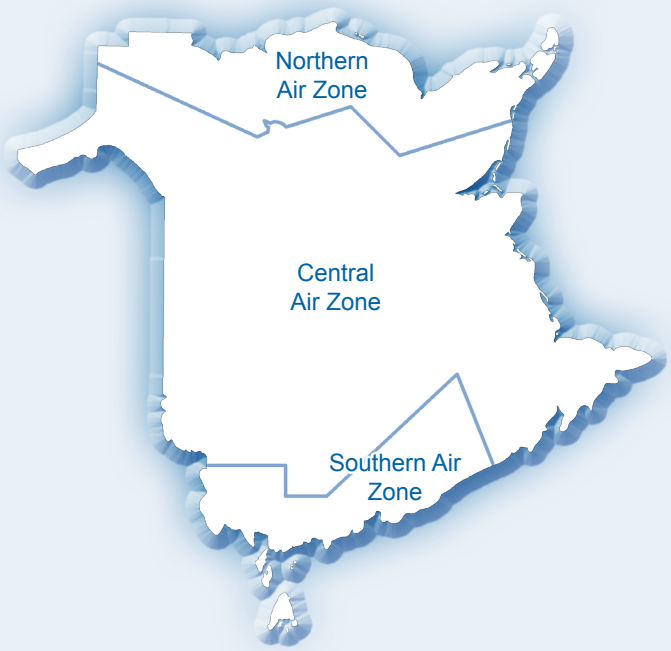
Under the AZMF, each province will establish "Air Zones", which are geographic areas that have similar air quality profiles and challenges. New Brunswick's air zones were established in 2013 and are illustrated right. New Brunswick's air zone boundaries match pre-existing boundary lines used by DELG's regional offices.

Each year, CAAQS values for each Air Zone are graded against a colour-coded system of "Management Levels". The Management Levels and their thresholds are described in the table below.

Management Levels are based on the CAAQS metric values, but may be adjusted to remove the influence of exceptional events (e.g., forest fires). However, adjustments were not necessary for 2014.

New Brunswick's 2014 Management Levels for each provincial station are illustrated on page 12.

New Brunswick's Provincial Air Zones



Air Zone Management Levels

Management Level and Associated Goal	Threshold Values		
	Fine Particulate Matter		Ozone (ppb)
	Daily (µg/m³)	Annual (µg/m³)	
Red Goal: Achieve CAAQS	>28	>10	>63
Orange Goal: Prevent CAAQS non-achievement	>19 to 28	>6.4 to 10	>56 to 63
Yellow Goal: Prevent air quality deterioration	>10 to 19	>4 to 6.4	>50 to 56
Green Goal: Keep clean areas clean	0 to 10	0 to 4	0 to 50

Additional information about the CAAQS and AZMF are available via the CCME web site:

www.ccme.ca

2014 Air Zone Management Levels

Guide to Interpretation

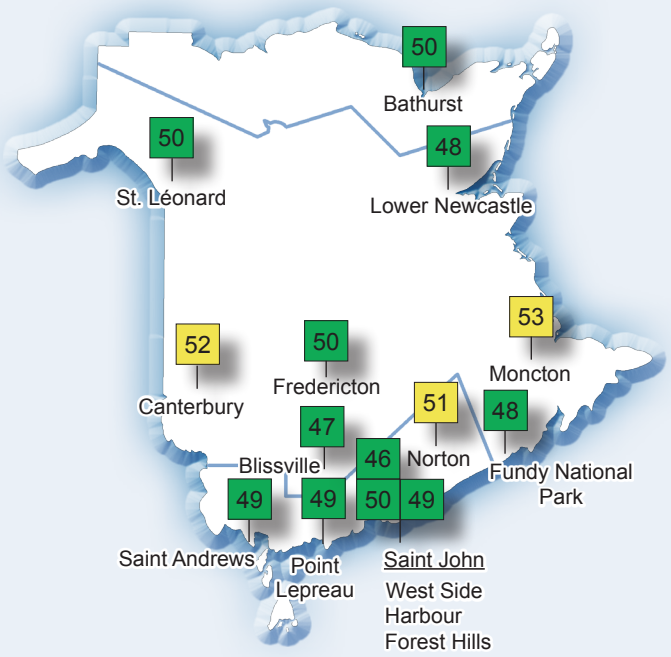
Each signpost in the three illustrations identifies the location of a monitoring station within the provincially operated air quality monitoring network that collects data for the CAAQS metric identified.

The colour of each signpost indicates the Air Zone Management Level associated with that location.

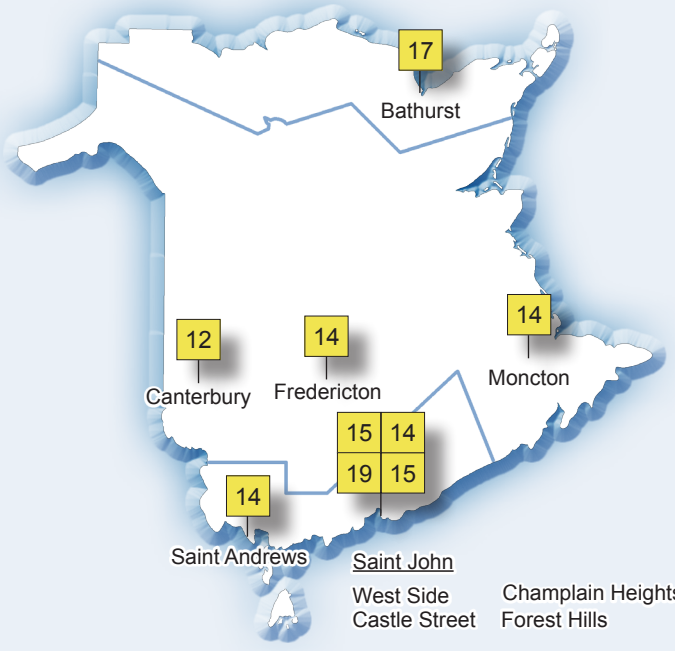
The number on each signpost represents the calculated 2014 Management Level value for that parameter at that location. The three-year averages used for each metric include data from 2013, which was adjusted to remove the influence of a forest fire smoke event during the month of July.

Each air zone is considered to have an overall management level that corresponds to the colour assigned to its poorest air quality station.

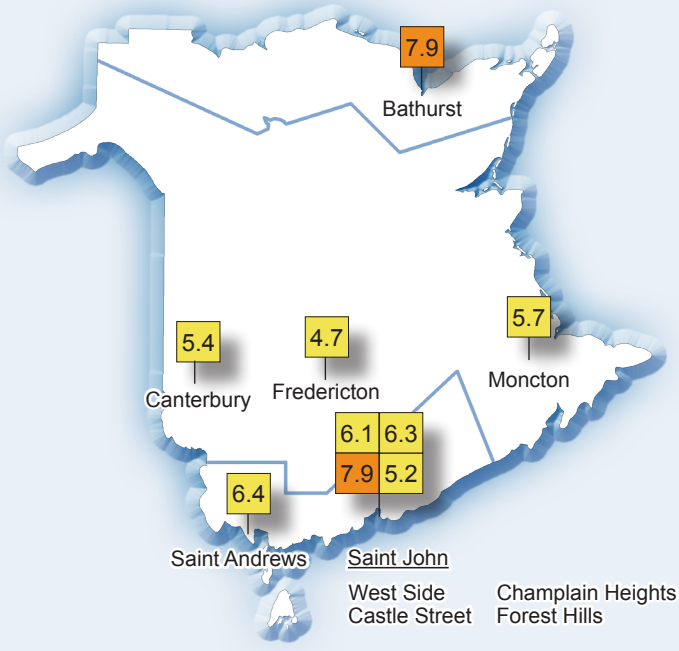
Ground Level Ozone (ppb)



Fine Particulate Matter - Daily Metric (µg/m³)



Fine Particulate Matter - Annual Metric (µg/m³)



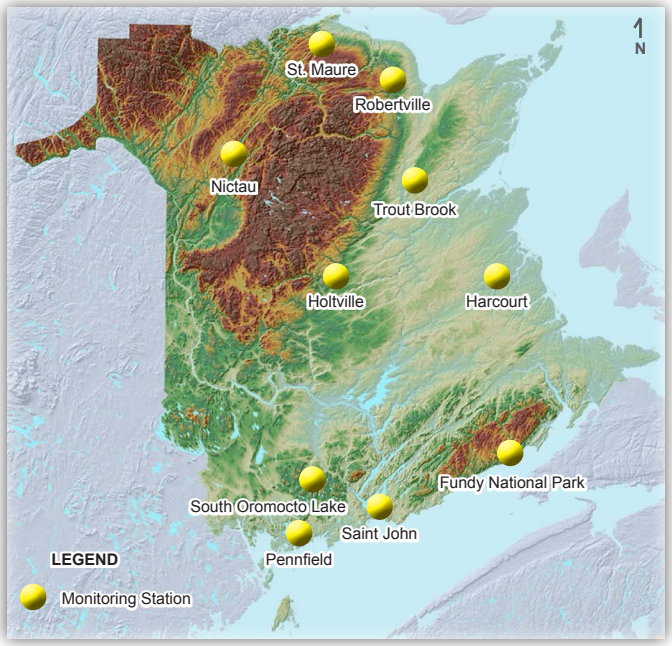
Acid Rain Monitoring

Some air pollutants can be transformed in the atmosphere into acidic particles that ultimately fall out as acid rain (or snow, hail, etc). The emissions that cause acid rain typically travel long distances, hundreds or even thousands of kilometers, before returning to the surface as rain or snow.

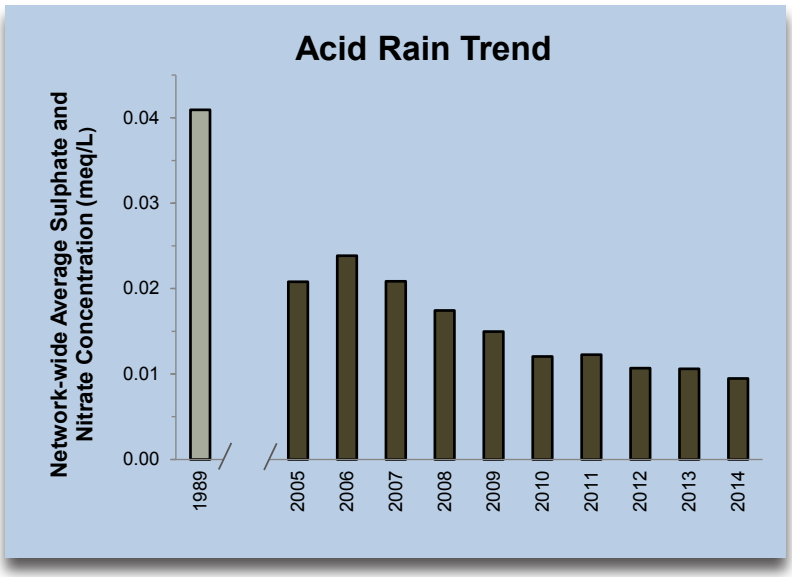
The adverse impacts of acid rain have been recognized since the early 1980s. Acid rain harms sensitive ecosystems by changing the chemistry of lakes, streams, and forest soils. It can also damage trees and agriculturally important plants. Infrastructure is also impacted by acid rain, as it can degrade paints and protective coatings, which accelerates corrosion.

Measures to reduce the emissions that contribute to acid rain have been undertaken in North America since the late 1980s. Most recently, this has included commitments to reduce emissions under the Canadian Council of Ministers of Environment's "Post-2000 Canada-wide Acid Rain Strategy". Over the past two decades emissions from major sources within New Brunswick have been reduced significantly.

2014 Acid Precipitation Network Map



In an effort to track the results of our pollution reduction efforts, DELG has operated an extensive acid precipitation (rain and snow) monitoring network in cooperation with NB Power since the early 1980s. The above map shows the location of the 10 acid precipitation monitoring sites in New Brunswick. Samples are collected at each of these sites by a local site operator every day, and sent to the DELG laboratory for analysis. DELG staff coordinate the monitoring program, perform data quality assurance, and maintain the official data archive.



The key indicators for acid rain are sulphate and nitrate concentration. Each of these parameters has a slightly different effect on acidity, but can be combined and expressed as "milliequivalents per litre" (meq/L). As reflected in the chart to the left, peak levels occurred in 1989. Emission reduction strategies have reduced sulphate and nitrate concentrations by approximately 77% since then, and the trend is continuing.

Although levels have declined, acid rain monitoring remains important to ensure that our most sensitive lakes and rivers are provided with long-term protection from acid damage.

Special Air Quality Studies

In addition to its fixed network of permanent air quality monitoring stations, since 2001 DELG has operated a mobile air quality monitoring unit that can be moved from place to place to carry out special monitoring projects.

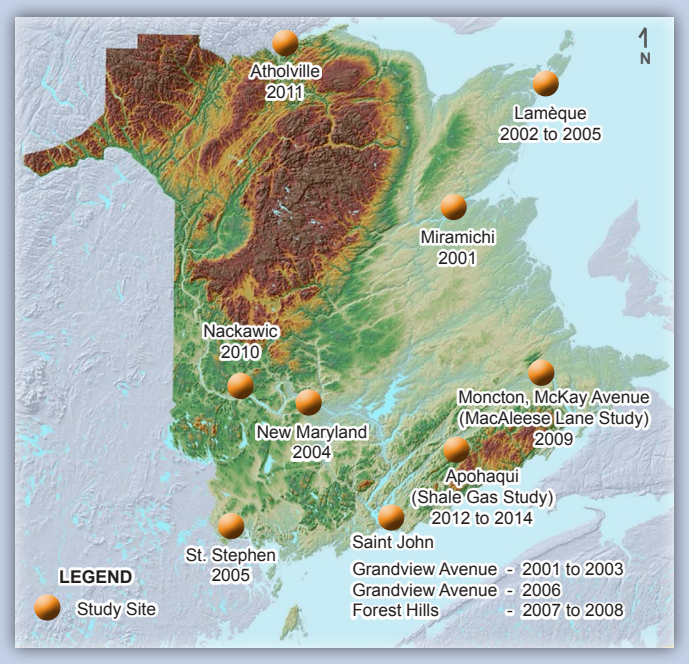
The mobile air quality monitoring unit is deployed as needs arise. Typical uses include:

- Assessing air quality near pollution sources.
- Evaluating potential sites for permanent monitoring stations.
- Verifying air quality modelling predictions.
- Measuring background (baseline) air quality levels prior to a development.

Results from special studies are reported in the annual air quality monitoring results for the year in question, or in separate stand-alone reports.

During 2014 the unit was used to study the shale gas industry in the Penobsquis area. This study was undertaken in partnership with Health Canada. Results are being published in a series of stand-alone reports.

Special Air Quality Study Sites (2001 - 2014)



The DELG mobile air quality monitoring unit (pictured above) is typically equipped with monitors for:

Common Study Parameters

- Sulphur dioxide
- Nitrogen oxides
- Ground level ozone
- Carbon monoxide
- Fine particulate matter
- Total reduced sulphur
- Meteorology (wind speed, wind direction, temperature, and barometric pressure)

The unit can also be equipped with a variety of other sensors and sampling equipment when needed (*e.g.*, total suspended particulate, volatile organic compounds, and metals).

A Closer Look at the Saint John Region

Air quality in the City of Saint John has been monitored extensively over the years due to it being a major population centre for the province and because of the wide variety of industries that it is home to. Consequently, there is data available for the Saint John region that is not collected elsewhere in the province.

Unlike the other pollutants monitored in the provincial network, these "extra" parameters are not monitored in real-time. Rather, bottled air samples and filters are periodically collected and shipped to an Environment Canada laboratory for analysis.

The additional monitoring in Saint John can be divided into two broad categories: Volatile Organic Compounds (VOCs), and fine particulate "speciation". These are described further below.

Volatile Organic Compounds

Although VOC emissions are common to many industries, monitoring in Saint John is largely in response to the region's significant oil refining industry.

VOCs have been monitored in the Saint John region since 1992. Within the city, VOC data is being collected in Forest Hills and Champlain Heights. Background reference data is also being collected at Point Lepreau.

All samples are analyzed for more than 150 VOC compounds. For many of these compounds, the primary interest is their impact on the formation of ground level ozone. However, some carry other environmental and human health risks.

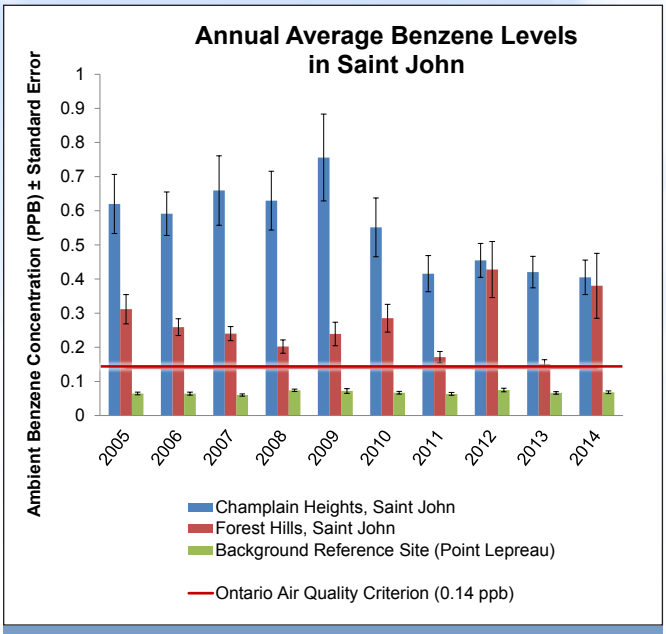
One particular VOC, benzene, receives special attention as it recognized as cancer-causing by the World Health Organization and the United States Environmental Protection Agency. As such, it has been the target of emissions reduction efforts all over the world.

Major sources of benzene include evaporation and combustion of petroleum products (especially gasoline), as well as other types of combustion. There are also natural sources (e.g., volcanoes and forest fires).

New Brunswick has not developed a provincial standard for benzene, but instead measures its progress against Ontario's provincial criterion for benzene, which is the most stringent currently available.

The ten-year trends for benzene values in Saint John are illustrated in the graph below. As indicated, the target value for benzene has not been reached. However, progress continues to be made.

Also notable in the graph below are the substantial year to year differences in levels measured at the Forest Hills location. A detailed review of the data indicates that this is due to seasonal trends in wind direction. For instance, the higher than normal values illustrated for 2014 were due to peaks recorded in the month of July. Winds during this period originated continuously from the direction of the refinery and industrial park.



Note: the black error bars on the graph represent the "Standard Error" of the average. This is a statistical tool meant to illustrate the variability of the data that contributed to each average value. Wider error bars indicate a larger amount of variability.

Fine Particulate "Speciation"

New Brunswick has been reporting on the quantity of fine particulate matter ($PM_{2.5}$) in the air for many years as it is considered a key pollutant from a human health perspective. However, it is also interesting to consider what these tiny particles are actually made of. This type of analysis is called "particulate speciation".

Speciation samples in Saint John are collected at the Forest Hills monitoring station. This type of sampling started in 2007, and was enhanced in 2010 to include additional chemical tests.

Unlike most other air quality monitoring, the purpose of speciation analysis is not typically to identify environmental or human health threats. In fact, the concentrations of the various constituents are typically negligible from this perspective (often measured in nanograms per cubic meter - ng/m^3). Rather, this analysis helps determine where the pollution is coming from by seeking out key "markers" in the chemical make-up of the particles. It can also help us identify and track pollution trends.

To illustrate some of the benefits of this type of analysis, two of the key speciation components are explored further below.

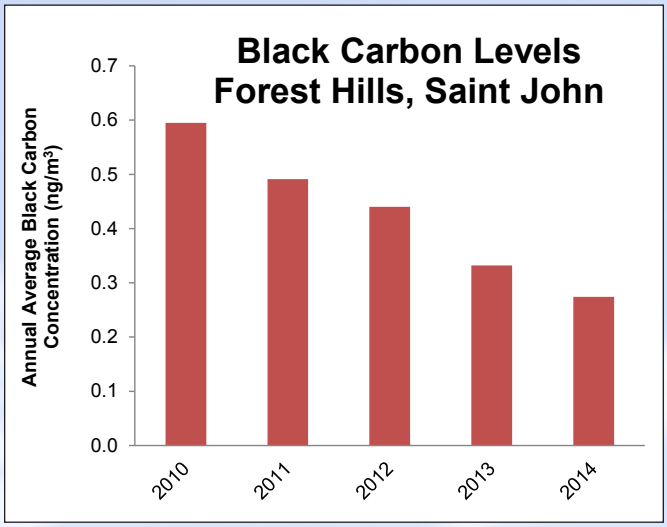
Black (Elemental) Carbon
Black carbon is a component of soot, and is released to the air whenever combustible materials (wood, petroleum products, etc.) are burned.

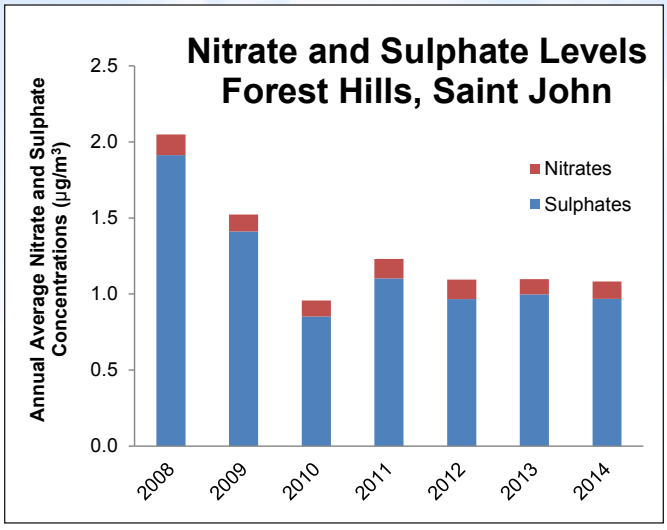
As indicated in the graph, right, the amount of black carbon in the air in Saint John has shown a marked decrease since analysis began in 2010.

Sulphates and Nitrates
As described previously in the Acid Rain Monitoring section of this report, sulphates and nitrates are emitted into the air through a variety of industrial activities. These particles eventually combine with water and fall to the ground as acid rain.

Speciation analysis allows us to sample these particles directly from the air, rather than as a component of precipitation. This allows us to compare airborne levels against the results of our acid rain monitoring program.

As illustrated below, nitrate and sulphate particulates in the Saint John region have declined in recent years, matching the improvements that have been observed through acid rain monitoring (see chart on page 13).





Local Air Quality Information - *When You Need It*

Although daily fluctuations in ambient pollution levels may pass unnoticed by many, for people with reduced lung function from respiratory disease and other types of environmental sensitivity, such changes can have significant impacts on their daily lives. Recognizing this, tools have been developed to provide timely information to the public about current and forecasted pollution levels in different areas of the province.

Air Quality Advisories

Air quality data and pollution forecasts are continually monitored by DELG, the provincial Department of Health, and Environment Canada. Whenever air quality objectives are exceeded or are forecasted to be exceeded, air quality and health advisories are issued to the media to provide timely notice to the public. These notices include health-related messaging to advise at-risk groups about the level of risk and appropriate precautions that they should take.

There were no air quality advisories issued in 2014.

Air Quality Indices

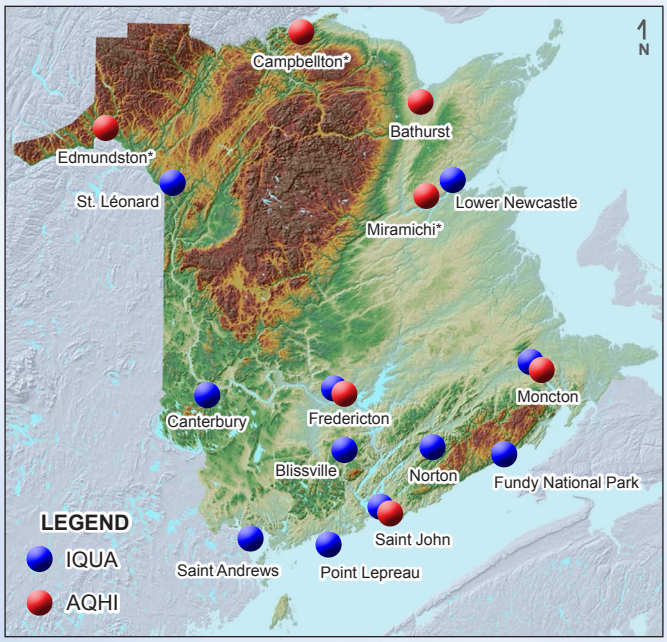
In addition to the air quality advisory system, in 2014 New Brunswick also reported air quality information to the public in real time through two air quality indices: the Index of the Quality of the Air (IQUA) and the Air Quality Health Index (AQHI).

The IQUA has been used in New Brunswick since 1979 and is gradually being replaced by the AQHI, which was first introduced in New Brunswick in 2008.

The AQHI is considered superior to the older IQUA as it is based on the latest science and focusses on the relationship between air quality conditions and associated health risks.

Health Canada also provides health-related messaging to accompany the AQHI values to aid the public in understanding what the numbers mean in terms of health risks, and how best to respond to those risks to avoid health problems.

2014 IQUA and AQHI Coverage



* Index values for these locations are estimated.

Additional information is available via the following web sites:

www.gnb.ca/environment
www.gnb.ca/health

Current AQHI information is also available via the following national website *www.weather.gc.ca*. AQHI information is also reported through The Weather Network, and via privately developed Smartphone Apps.

Conclusion

As reflected in this report, air quality in New Brunswick is very good, and the province continues to benefit from air pollution reduction initiatives that have been implemented over the past decade.

The New Brunswick Department of Environment and Local Government remains committed to air quality surveillance throughout the province, and comprehensively reporting air quality information to New Brunswickers.

Learn More About Air Quality

In addition to this overview, complete site-specific monitoring results are available in the "Air Quality Monitoring Results - Supplementary Data 2014" companion document, which is available electronically via the DELG website:

www.gnb.ca/environment

Data from the provincially operated monitoring network is also available through Environment Canada's National Air Pollution Surveillance Program database, which is available online at:

www.ec.gc.ca/rnspa-naps

Feedback...

We are interested in your feedback on this report. All suggestions will be considered, and if possible, incorporated in future reports. Please forward any comments to:

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