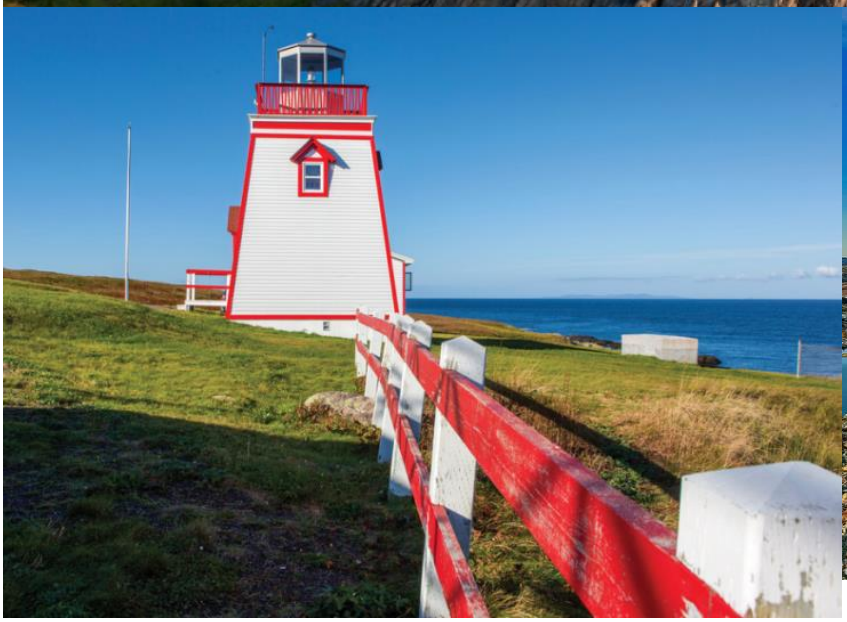
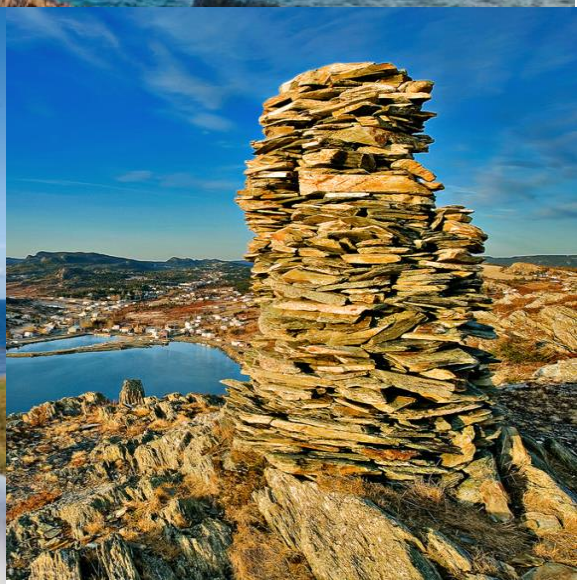
DEPARTMENT OF MUNICIPAL AFFAIRS AND ENVIRONMENT

2014 - 2016 AIR ZONE MANAGEMENT REPORT

April 2017





Background

Endorsed by the Canadian Council of Ministers of the Environment (CCME) in October 2010, the Air Quality Management System (AQMS) is a new comprehensive approach for improving air quality in Canada and is the product of unprecedented collaboration by the federal, provincial and territorial governments and stakeholders. It is comprised of four main elements: Canadian Ambient Air Quality Standards (CAAQS); airshed and Air Zone-based air quality management; Baseline Industrial Emission Requirements (BLIERs); and actions for the reduction of mobile source emissions. In October 2012, jurisdictions agreed to begin implementing AQMS by 2013.

AQMS is the avenue to meet the CAAQS and to drive continuous improvement in ambient air quality. To achieve this, each jurisdiction has established Air Zones which are meant to serve as the primary arena for air quality management. The goal in all Air Zones is to maintain air quality such that the CAAQS are not exceeded. In the province two Air Zones have been establish, one being the island of Newfoundland and the other as Labrador.

Complementary to the CAAQS, an Air Zone Management Threshold Table has been established for each pollutant to ensure, improve and maintain good air quality. Table 1 provides the thresholds for the three current CAAQS pollutants.

Table 1: Air Management Threshold Table

Management level	Ozone (ppb)	$PM_{2.5}$ ($\mu g/m^3$)		SO_2 (ppb)	
	8-hour	24-hour	Annual	1-hour	Annual
	Effective 2015	Effective 2015	Effective 2015	Effective 2020	Effective 2020
Red Ensure that CAAQS are not exceeded through advanced air management actions	> 63 (CAAQS)	> 28 (CAAQS)	> 10 (CAAQS)	> 70 (CAAQS)	> 5.0 (CAAQS)
Orange Improve air quality through active air management and prevent exceedance of the CAAQS	> 56 to ≤ 63	> 19 to ≤ 28	> 6.4 to ≤ 10	> 50 to ≤ 70	> 3.0 to ≤ 5.0
Yellow Improve air quality using early and ongoing actions for continuous improvement	> 50 to ≤ 56	> 10 to ≤ 19	> 4.0 to ≤ 6.4	> 30 to ≤ 50	> 2.0 to ≤ 3.0
Green Maintain good air quality through proactive air management measures to keep clean areas clean	≤ 50	≤ 10	≤ 4.0	≤ 30	≤ 2.0

Current Air Quality Status

Table 2 presents the Newfoundland Air Zone and Labrador Air Zone status for the period 2014 to 2016. The air quality status for each Air Zone is based on the maximum level recorded at any monitoring location within the Air Zone. Though not required until 2020, the SO_2 Air Zone determination is also included.

Of note, in late 2015 the joint Industry / NAPS station in the Labrador Air Zone was relocated resulting in insufficient data being collected to generate all CAAQS metrics except annual SO_2.

For interpretation of the colour coding, refer to Table 1.

Table 2: Air Zone Air Quality, 2014 to 2016

Station Location	Air Zone	Station Type	8-hour Ozone (ppb)	24-hour $PM_{2.5}$ ($\mu g/m^3$)	Annual $PM_{2.5}$ ($\mu g/m^3$)	1-hour SO_2 (ppb)	Annual SO_2 (ppb)
Water Street St. John's	Newfoundland	NAPS	**50**	**14**	**6.6** *	**7**	**0.5**
Old Placentia Road Mount Pearl	Newfoundland	NAPS	44	11	5.2	6	0.2
Macpherson Avenue Corner Brook	Newfoundland	NAPS	49	12	5.4	2	0.3
Scott Avenue Grand Falls Windsor	Newfoundland	NAPS	49	11	4.6	nd	nd
Fisher Street Port aux Choix	Newfoundland	NAPS	44	-	-	-	-
Main Street Burin	Newfoundland	NAPS	49	12	5.9	1	0.1
Newfoundland Air Zone			**50**	**14**	**6.6**	**7**	**0.5**
Hudson Drive Labrador City	Labrador	Industry / NAPS	ins	ins	ins	ins	**0.6**
Labrador Air Zone			**ins**	**ins**	**ins**	**ins**	**0.6**

– indicates that data is not collected at this site

nd indicates the data did not comply with data completeness requirements

ins indicates metric cannot be determined as the station has been in operation for less than two years

* During 2015 there were several periods in which the 24-hour $PM_{2.5}$ was elevated; though at no time did the elevated levels exceed the provincial standard in the *Air Pollution Control Regulations, 2004*. These elevated episodes were sufficient to raise the 3-year annual average $PM_{2.5}$ Air Zone Management Level from yellow to orange. Construction activity in the area may have been a contributing factor.

Air Zone Management

It is recognized that the air quality in both the Labrador and Newfoundland Air Zones is largely affected by emissions from sources outside the province through long-range transport and as such, limits the number of mitigation measures available to maintain and reduce the impacts in the province. The Province continues to work with major industrial operations in the province to reduce particulate emissions and those emissions which are precursors to the formation of ozone. Additionally amendments to the *Air Pollution Control Regulations, 2004* are under consideration which will lower emissions in the province. Should further actions be necessary to reduce ambient levels in both Air Zones, the Province is prepared to take actions as appropriate.

Additional information on AQMS can be found at the Department of Municipal Affairs and Environment website:

http://www.env.gov.nl.ca/env/env_protection/science/aqms.html

and the Canadian Council of Ministers of the Environment website:

http://www.ccme.ca/en/resources/air/aqms.html