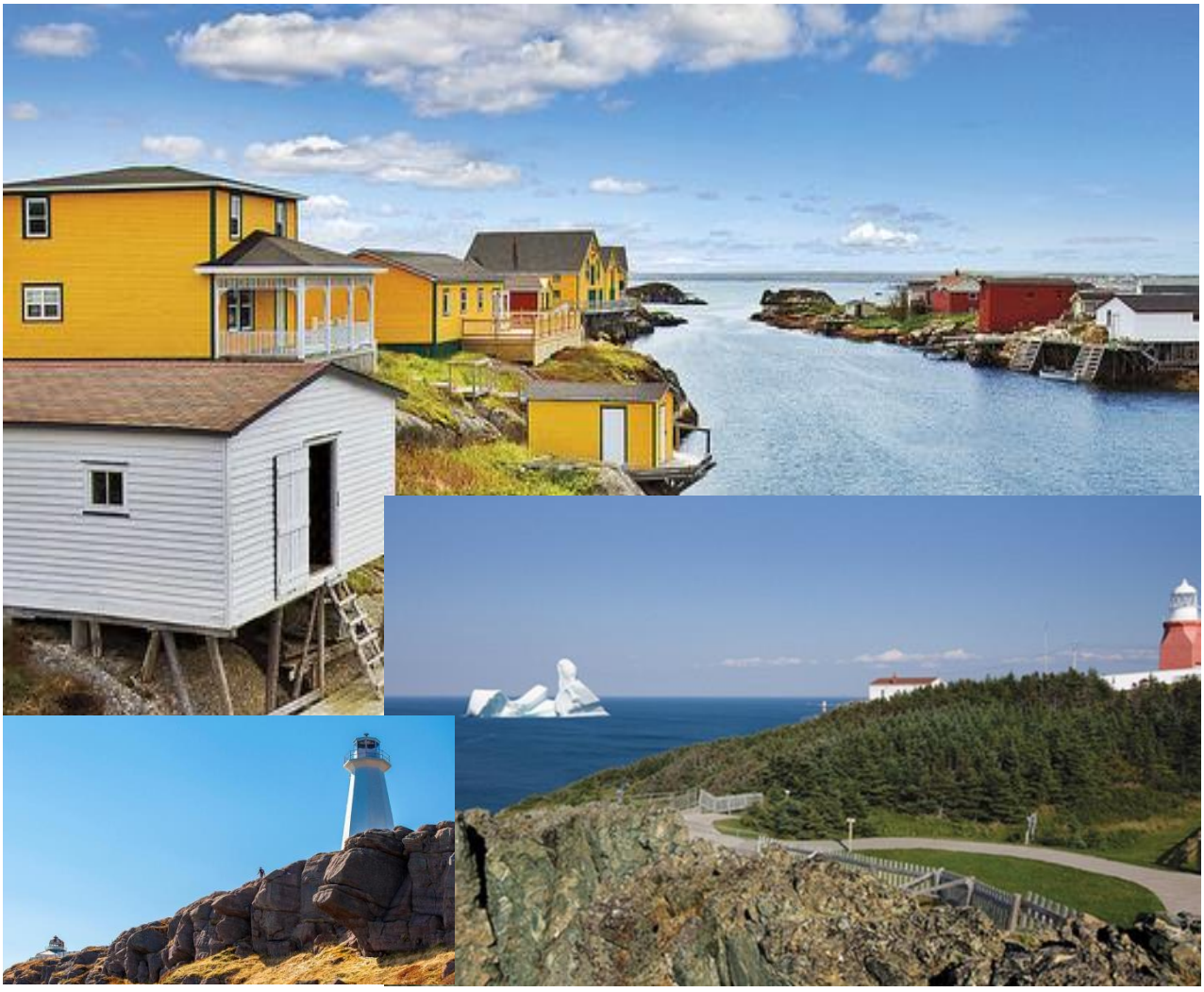
DEPARTMENT OF MUNICIPAL AFFAIRS AND ENVIRONMENT

2015 - 2017 AIR ZONE MANAGEMENT REPORT

April 2018



Background

The Air Quality Management System (AQMS) is a 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)		NO_2 (ppb)	
	8-hour	24-hour	Annual	1-hour	Annual	1-hour	Annual
	Effective 2020	Effective 2020	Effective 2020	Effective 2025	Effective 2025	Effective 2025	Effective 2025
Red Ensure that CAAQS are not exceeded through advanced air management actions	> 62 (CAAQS)	> 27 (CAAQS)	> 8.8 (CAAQS)	> 65 (CAAQS)	> 4.0 (CAAQS)	> 42 (CAAQS)	> 12.0 (CAAQS)
Orange Improve air quality through active air management and prevent exceedance of the CAAQS	> 56 and ≤ 62	> 19 and ≤ 27	> 6.4 and ≤ 8.8	> 50 and ≤ 65	> 3.0 and ≤ 4.0	> 31 and ≤ 42	> 7.0 and ≤ 12.0
Yellow Improve air quality using early and ongoing actions for continuous improvement	> 50 and ≤ 56	> 10 and ≤ 19	> 4.0 and ≤ 6.4	> 30 and ≤ 50	> 2.0 and ≤ 3.0	> 20 and ≤ 31	> 2.0 and ≤ 7.0
Green Maintain good air quality through proactive air management measures to keep clean areas clean	≤ 50	≤ 10	≤ 4.0	≤ 30	≤ 2.0	≤ 20	≤ 2.0

Current Air Quality Status

Table 2 presents the Newfoundland Air Zone and Labrador Air Zone status for $PM_{2.5}$ and ozone for the period 2015 to 2017. The air quality status for each Air Zone is based on the maximum level recorded at any designated monitoring location within the Air Zone. Although the SO_2 and NO_2 Air Zone determination is not required until 2020 and the standard will become more stringent in 2025, the comparison against the 2025 standard is included in Table 3.

Of note, in late 2015 the joint Industry / NAPS station in the Labrador Air Zone was relocated resulting in only two years of data being collected in the Labrador Air Zone from that site for this report. The data is included herein as the data completeness requirements were met.

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

Table 2: Air Zone Air Quality 2015 to 2017, $PM_{2.5}$ and Ozone

Station Location	Air Zone	Station Type	8-hour Ozone (ppb)	24-hour $PM_{2.5}$ ($\mu g/m^3$)	Annual $PM_{2.5}$ ($\mu g/m^3$)
Water Street St. John's	Newfoundland	NAPS	**52**	12	**6.2**
Old Placentia Road Mount Pearl	Newfoundland	NAPS	45	11	4.4
Macpherson Avenue Corner Brook	Newfoundland	NAPS	48	**13**	6.1
Scott Avenue Grand Falls Windsor	Newfoundland	NAPS	48	10	4.5
Fisher Street Port aux Choix	Newfoundland	NAPS	45	-	-
Main Street Burin	Newfoundland	NAPS	48	12	6.0
Newfoundland Air Zone			**52**	**13**	**6.2**
Hudson Drive Labrador City	Labrador	Industry / NAPS	59	8	2.3
Labrador Air Zone			**59**	**8**	**2.3**

– indicates that data is not collected at this site

Table 3: Air Zone Air Quality 2015 to 2017, SO_2 and NO_2

Station Location	Air Zone	Station Type	1-hour SO_2 (ppb)	Annual SO_2 (ppb)	1-hour NO_2 (ppb)	Annual NO_2 (ppb)
Water Street St. John's	Newfoundland	NAPS	**8**	0.7	**36**	**6.9**
Old Placentia Road Mount Pearl	Newfoundland	NAPS	6	**1.1**	21	1.6
Macpherson Avenue Corner Brook	Newfoundland	NAPS	2	0.4	22	2.5
Scott Avenue Grand Falls Windsor	Newfoundland	NAPS	2	0.4	19	0.9
Main Street Burin	Newfoundland	NAPS	1	0.1	10	nd
Newfoundland Air Zone			**8**	**1.1**	**36**	**6.9**
Hudson Drive Labrador City	Labrador	Industry / NAPS	**31**	**0.4**	**34**	**2.7**
Labrador Air Zone			**31**	**0.4**	**34**	**2.7**

nd indicates the data did not comply with data completeness requirements

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 supports national and international initiatives that will reduce the effects of air pollution resulting from long range transport and improve air quality globally.

The Province also continues to work with major industrial operations in the province to reduce particulate, sulphur dioxide and nitrogen dioxide 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