



NEWS RELEASE

January 7, 2019

2018 Regional Air Quality Monitoring Results Released

Fort Air Partnership (FAP), the organization that monitors the air local residents breathe, released its 2018 regional air quality monitoring results today.

FAP operates seven stations that collect data used to calculate an hourly and forecast Air Quality Health Index (AQHI) in and around Alberta's Industrial Heartland. Overall, the AQHI risk to health rating in the region was significantly higher in 2018 when compared to 2017. In 2017, there were only 57 hours of high or very high risk readings. In 2018, the number was 849. The 2018 annual total was largely influenced by poor air quality conditions in August caused by wildfire smoke, predominantly coming from British Columbia.

Despite the significant impact of wildfire smoke on air quality readings in August, FAP still recorded low risk readings the majority of the time in 2018. The Lamont County station had the most low risk readings at 91% of the time, while Fort Saskatchewan had the least amount of low risk readings, at 83% of the time. Risk to health increases as the index level rises. Go to fortair.org for more information.

The total number of hours in 2018 that FAP collected AQHI readings increased by 31%. The addition of a portable station in Bon Accord in April, 2018 and a full year of air monitoring at FAP's Redwater station, which began operating in November, 2017, were the reasons for this increase in monitoring hours.

During 2018, there were 957 occurrences across FAP's ten monitoring stations where air quality measurements exceeded [Alberta's Ambient Air Quality Objectives](#). Almost all (97%) of these exceedances were due to high concentrations of Respirable Particulate Matter (PM_{2.5}) caused by wildfire smoke. A small number of PM_{2.5} exceedances were due to wintertime temperature inversions, grass fires or summertime smog. Exceedances recorded for other substances were attributed to summertime smog, local industry or wetlands.

Local residents can check the forecast and daily AQHI at fortair.org. The website also has a live data feed for a variety of substances FAP measures, and weekly, quarterly and annual statistical results.

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Media inquiries:

Nadine Blaney, Executive Director

Cell: (780) 289-6631

E-mail: Nadine.blaney@fortairmail.org

Attachment: Detailed 2018 monitoring results and multi-year Exceedances and AQHI comparisons.

2018 Monitoring Results



Air Quality Health Index (AQHI) Ratings

The AQHI is calculated by the Government of Alberta using data collected at FAP air monitoring stations. The AQHI describes the level of health risk associated with each of four different levels. These levels are categorized as low, moderate, high or very high. The higher the index number, the greater the risk to health. Go to [our website's AQHI page](#) for more information. Seven of FAP's 10 continuous air monitoring stations monitor the substances required to calculate the AQHI.

Station Name	Hours Monitored	Risk Level (% of time)			
		Low	Moderate	High	Very High
Bon Accord*	5,830	90.38%	8.39%	1.23%	0.21%
Bruderheim	8,556	90.65%	7.98%	1.37%	0.14%
Elk Island	8,194	90.46%	8.37%	1.17%	0.26%
Fort Saskatchewan	8,335	83.13%	15.57%	1.30%	0.14%
Gibbons	8,571	85.53%	12.90%	1.56%	0.16%
Lamont County	8,565	90.81%	8.04%	1.14%	0.08%
Redwater	8,445	88.79%	9.58%	1.63%	0.09%
Total hours	56,496	49,973	5,760	763	86

Station Name	Hours Monitored	Risk Level (# of hours)			
		Low	Moderate	High	Very High
Bon Accord*	5830	5269	489	72	12
Bruderheim	8556	7756	683	117	12
Elk Island	8194	7412	686	96	21
Fort Saskatchewan	8335	6929	1298	108	12
Gibbons	8571	7331	1106	134	14
Lamont County	8565	7778	689	98	7
Redwater	8445	7498	809	138	8
Total hours	56,496	49,973	5,760	763	86

*The new portable station at Bon Accord began operating in April, 2018.

Hours with a High or Very High Risk AQHI Rating

This table shows the number of hours with a high or very high risk AQHI rating during 2018, when they occurred and the likely cause, when identifiable.

Fort Air Partnership Continuous Air Quality Monitoring Station																
Event Dates	Bon Accord*		Bruderheim		Elk Island		Fort Sask.		Gibbons		Lamont County		Redwater		Total Hours	Attributed Cause
	High Risk	Very High Risk	High Risk	Very High Risk	High Risk	Very High Risk	High Risk	Very High Risk	High Risk	Very High Risk	High Risk	Very High Risk	High Risk	Very High Risk		
Jan. 20	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	Unknown local source
March 5	-	-	-	-	2	-	-	-	-	-	-	-	-	-	2	Wintertime inversion
March 8	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2	
March 12-14	-	-	-	-	7	-	6	-	9	-	-	-	-	-	22	
May 14	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	Grass fires
July 3	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	Summertime smog
Aug. 7	3	-	1	-	-	-	-	-	3	-	-	-	2	-	9	Wildfire smoke
Aug. 8	13	-	4	-	4	-	1	-	7	-	-	-	5	-	34	
Aug. 9	1	-	4	-	-	-	5	-	2	-	-	-	10	-	22	
Aug. 10	4	4	6	2	4	3	5	3	4	5	7	-	8	-	55	
Aug. 11	3	-	7	-	4	2	5	-	4	-	6	-	9	-	40	
Aug. 14	-	-	6	-	6	-	4	-	4	-	1	-	2	-	23	
Aug. 15	17	-	19	2	13	8	20	-	21	1	20	-	18	-	139	
Aug. 16	8	-	24	-	14	-	10	-	13	-	20	-	24	-	113	
Aug. 17	13	-	14	-	6	-	15	-	17	-	13	-	21	-	99	
Aug. 18	3	8	4	8	3	8	3	9	3	8	4	7	4	8	80	

*The Bon Accord station began operations in April, 2018.

Fort Air Partnership Continuous Air Quality Monitoring Station																
Event Dates	Bon Accord*		Bruderheim		Elk Island		Fort Sask.		Gibbons		Lamont County		Redwater		Total Hours	Attributed Cause
	High Risk	Very High Risk	High Risk	Very High Risk	High Risk	Very High Risk	High Risk	Very High Risk	High Risk	Very High Risk	High Risk	Very High Risk	High Risk	Very High Risk		
Aug. 22	4	-	7	-	9	-	7	-	9	-	7	-	4	-	47	Wildfire smoke
Aug. 23	-	-	8	-	15	-	19	-	18	-	18	-	15	-	93	
Aug. 25	3	-	4	-	6	-	1	-	5	-	-	-	6	-	25	
Aug. 26	-	-	8	-	-	-	7	-	9	-	2	-	10	-	36	
Oct. 24	-	-	-	-	3	-	-	-	-	-	-	-	-	-	3	Local road paving
Oct. 31	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2	Unknown smoke
Total Hours	72	12	117	12	96	21	108	12	134	14	98	7	138	8	849	

*The Bon Accord station began operations in April, 2018.

Summary of Exceedances

Air quality measurements are compared hourly to the [Alberta Ambient Air Quality Objectives](#) (AAAQO). Any exceedance of an AAAQO is reported to the Alberta Government and the cause of the exceedance investigated.

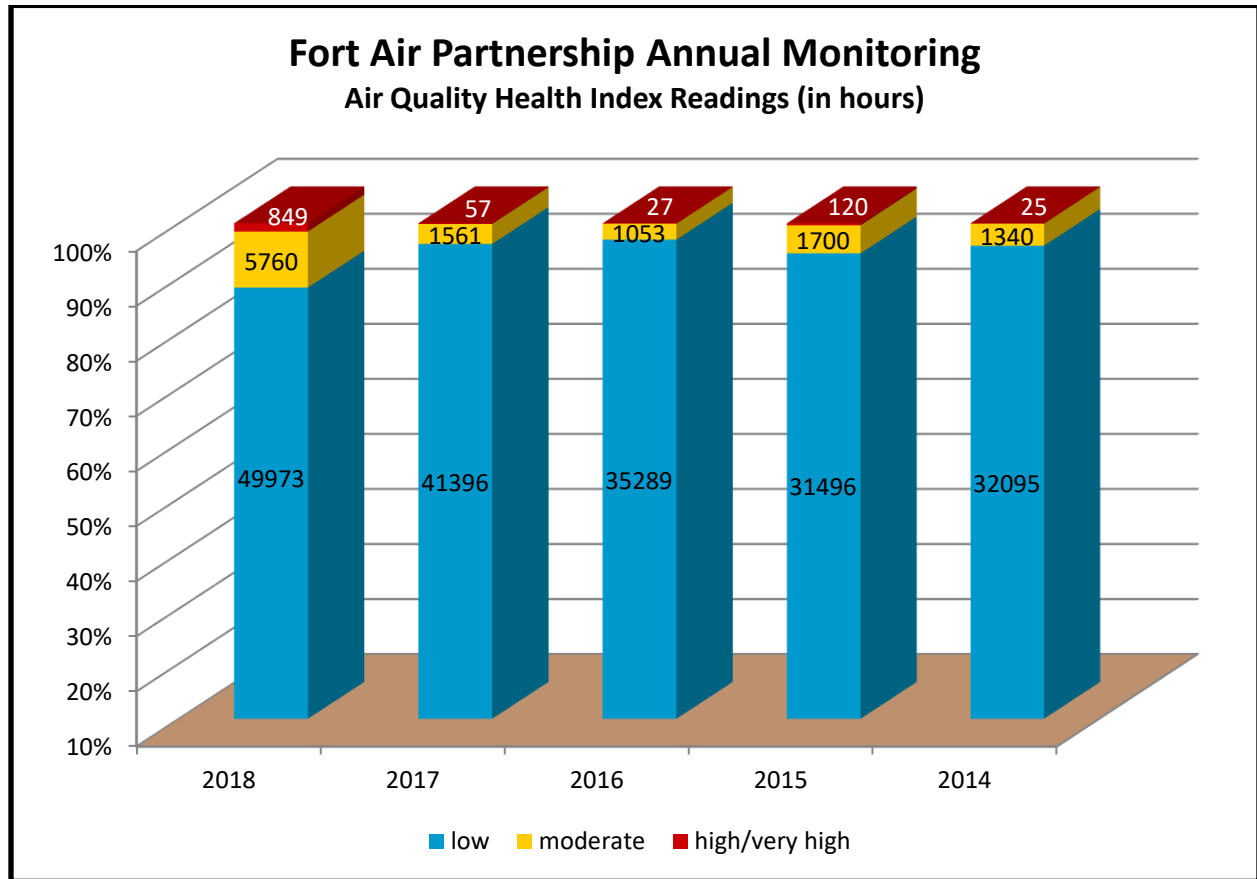
One Hour Exceedances			
Parameter	Exceedances	Dates	Attributed Cause
Hydrogen Sulphide (H ₂ S)	2	January 20	Local industry
Respirable Particulate (PM _{2.5})	1	January 20	Unknown localized source
	1	March 14	Wintertime inversion
Hydrogen Sulphide (H ₂ S)	14	May 5, 11, 14, 16, 19, 23, 27	Naturally occurring, from nearby wetlands
Respirable Particulate (PM _{2.5})	1	May 14	Grass fires
	1	July 3	Summertime smog
Hydrogen Sulphide (H ₂ S)	1	July 26	Local industry
	3	August 16, 19	
Ozone (O ₃)	6	August 9	Summertime smog
Respirable Particulate (PM _{2.5})	20	August 7	Wildfire smoke
	17	August 8	
	7	August 9	
	75	August 10	
	18	August 11	
	20	August 14	
	154	August 15	
	117	August 16	
	112	August 17	
	61	August 18	
	62	August 22	
	80	August 23	
	29	August 25	
34	August 26		
Total	836		

24 Hour Exceedances			
Parameter	Exceedances	Dates	Attributed Cause
Respirable Particulate (PM _{2.5})	2	March 8	Wintertime inversion
	1	March 12	
	4	March 13	
	1	March 17	
Hydrogen Sulphide (H ₂ S)	4	May 11, 14, 23, 27	Naturally occurring, from nearby wetlands
Respirable Particulate (PM _{2.5})	7	August 7	Wildfire smoke
	7	August 8	
	7	August 9	
	7	August 10	
	6	August 11	
	6	August 14	
	7	August 15	
	6	August 16	
	6	August 17	
	7	August 18	
	3	August 19	
	7	August 20	
	7	August 21	
	7	August 22	
	6	August 23	
	7	August 25	
6	August 26		
Total	121		

Summary of Exceedances: 2011-2018

Parameter Measured		2018	2017	2016	2015	2014	2013	2012	2011
Ammonia (NH ₃)	1 hr	-	1	-	4	-	-	-	-
	8 hr	-	-	-	-	-	-	-	-
Benzene (C ₆ H ₆)	1 hr	-	-	-	2	5	-	1	2
Carbon Monoxide (CO)	1 hr	-	-	-	-	-	-	-	-
	8 hr	-	-	-	-	-	-	-	-
Ethyl Benzene (C ₆ H ₅ CH ₂ CH ₃)	1 hr	-	-	-	-	-	-	-	-
Ethylene (C ₂ H ₄)	1 hr	-	-	-	-	-	-	-	-
	3 day	-	-	-	-	-	-	-	-
	Annual	-	-	-	-	-	-	-	-
Hydrogen Sulphide (H ₂ S)	1 hr	20	-	-	3	-	147	163	15
	24 hr	4	-	-	1	-	29	28	2
Nitrogen Dioxide (NO ₂)	1 hr	-	-	-	-	-	-	-	-
	24 hr	-	-	-	-	-	-	-	-
	Annual	-	-	-	-	-	-	-	-
Ozone (O ₃)	1 hr	6	-	-	3	-	-	-	4
Styrene (C ₆ H ₅ CH=CH ₂)	1 hr	-	-	-	-	-	-	-	-
Sulphur Dioxide (SO ₂)	1 hr	-	38	51	34	26	6	7	30
	24 hr	-	9	9	6	3	2	-	2
	30 day	-	1	2	-	-	-	-	-
	Annual	-	-	-	-	-	-	-	-
Respirable Particulate Matter (PM _{2.5})	1 hr	810	69	35	144	13	15	28	47
	24 hr	117	29	11	27	12	11	9	15
Toluene (C ₆ H ₅ CH ₃)	1 hr	-	-	-	-	-	-	-	-
Xylenes (o-, m- and p- isomers)	1 hr	-	-	-	-	-	-	-	-
Totals		957	147	108	224	59	210	236	117

Five Year Trend - AQHI



Note: Total monitoring hours increased by 13,482 hours in 2018 because a new station added in the Town of Redwater during 2017 reported AQHI for the full year in 2018. Also, a new portable station in Bon Accord became operational in April, 2018.