

Report to the Community 2018



Message from the Chair

Heraclitus, a Greek philosopher, has been credited with saying “change is the only constant in life.” And so it was with Fort Air Partnership (FAP) in 2018. In addition to adding a tenth continuous air monitoring station to our network - a new portable station initially placed in Bon Accord - we also confirmed a course for the future growth and development of the organization.

The on-going involvement of the public, governments and industry in FAP’s decision-making helps our organization adapt to changing needs. A prime example of this was a [Vision 2030 Action Plan](#) that we released in October of 2018. The plan represents more than 18 months of work that was initiated in 2017 with an environmental scan and several months of consultation with our stakeholders. In May 2018, FAP published a [What We Heard](#) report which provided a summary of the external input we gathered.

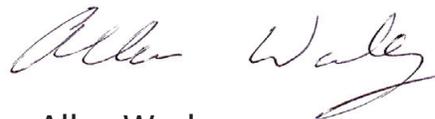
As a Board, we reviewed the input received, assessed feasibility, looked at what fit within our mandate and came to consensus on new, modified or enhanced initiatives we should pursue. This resulted in an implementation plan approved in the fall of 2018 that identifies actions, resources and timing that we will apply over the next several years.

Near term action items have been incorporated into FAP’s [three year rolling business plan](#). The Action Plan will be reviewed annually and progress tracked so we stay on course. By the end of 2018, we had already put into place or had under development several elements of the plan, including new or enhanced educational products.



As a public, non-profit organization, the Vision 2030 process reinforced for me the importance, value and necessity for FAP to engage individuals and organizations in the work that we do. While our monitoring and reporting on ambient air quality must be based on science, in order to align with our organizational values of transparency and credibility it’s critical that we continue to listen and respond to questions and input from our stakeholders.

On behalf of the Board, I would like to thank all of our volunteers (which include Board members), our hard working staff and contractors, and especially our funders, whose support is critical to the continuation of our valuable and important work.



Allan Wesley

2018 Highlights

Portable Station

Our first portable continuous air monitoring station became operational in the Town of Bon Accord in April, 2018. It was scheduled to end operations in February of 2019, after which it is to be moved to the Village of Chipman. Our **network** now has 10 continuous air monitoring stations.

In addition to weather information, the station collected and reported data on seven substances: sulphur dioxide, hydrogen sulphide, nitric oxide, nitrogen dioxide, oxides of nitrogen, ozone and fine particulate matter. This data enabled the calculation of a current and forecasted Air Quality Health Index (AQHI) for the local area. When completed, a report providing summarized data results for the Bon Accord monitoring project will be made public.



Sarah McCagherty from Fort Saskatchewan won the grand prize in our 2018 Fresh Air Experience contest. Sarah's winning photo was of her and her family enjoying a bike ride in downtown Fort Saskatchewan.



Fort Air Partnership Chairman Allan Wesley (centre left) and Bon Accord Mayor David Hutton (centre right) officially opened our new portable air monitoring station June 19 while local MLA Colin Piquette, members of the Bon Accord Council and FAP Board members look on.

Network Performance

The average monthly uptime of all continuous monitoring equipment in the network in 2018 was 99.57%. This is the highest uptime percentage since FAP began recording these statistics in 2012. While the Alberta Government only requires that monitoring equipment be fully operational a minimum of 90% of the time each month, our internal uptime target is 98.5%.

A 2018 provincial audit of our air monitoring network, conducted by Alberta Environment and Parks, gave FAP further assurance that the network is performing well. The independent auditor tested 52 analyzers and checked 92 critical and 56 non-critical items. Three fine particulate matter (PM_{2.5}) analyzers did not meet audit requirements but the auditors could not duplicate or determine the cause of the issue. Only one critical item and five non-critical items were given improvement recommendations in the **audit report**. The items listed for improvement were dealt with as soon the audit results were received.

Vision 2030

In 2017, we spent a number of months consulting with the public, municipal and provincial governments and industry regarding FAP's future growth and development. In May 2018, we published a What We Heard report which provided a summary of the external input we gathered during the consultation.

The FAP Board spent several months in 2018 considering all input through a number of lenses such as feasibility, desirability, funding and other factors. This resulted in a Vision 2030 Action Plan that details new, modified or enhanced initiatives that FAP will pursue over the course of the next several years. Any significant changes, as outlined in the action plan, will be contingent on acquiring sufficient and sustainable funding for development and operational support.

Information & Education

A significant portion of the Vision 2030 implementation plan deals with how FAP information is shared with stakeholders and the public. As a result of our on-going efforts to provide transparent, easy to access and easy to understand information, we produced an [exceedances fact sheet](#) with a flow chart to explain what we do when exceedances of provincial air quality objectives occur. Among other things, it shows that while FAP reports all Alberta Ambient Air Quality Objective exceedances to the provincial government, it is the province's responsibility to determine whether there is a need to issue an air quality advisory for the public.

We simplified our website's [live air quality data feed](#) to make it more user-friendly and add clarity and understanding to the information provided by our 10 continuous air monitoring stations. We also added to the website a number of air quality resources produced by others, such as the provincial Air Quality Health Index app and educational videos produced by the Alberta Airsheds Council.

To improve our outreach, we connected with more allied organizations within the Airshed and asked them to use their communication channels to help us share information about network changes, air quality reports and other news of interest and importance to the public.



Attendance at public events like Life in the Heartland's community information evenings continues to be an important part of our education and outreach efforts.

Lastly, we began the process of pulling together information for a historical Data Comparison and Trending Report. The report, expected to be ready in the spring of 2019, will provide important information about how the concentration levels of five key substances that affect local air quality have changed over time. Trends and comparisons for fine particulate matter, ozone, sulphur dioxide, nitrogen dioxide and carbon monoxide will be provided for stations within our Airshed that monitor for these substances and have the longest data sets, and between our Fort Saskatchewan station and other selected Alberta, national and international locations.

Alberta Airsheds Council

We actively participate in and support the Alberta Airsheds Council (AAC) in its efforts to strengthen and better integrate province-wide and regional air quality monitoring, evaluation and reporting. The AAC represents all 10 Airsheds in Alberta and provides a forum for Airsheds to work and learn together, contribute to provincial policy development, provide leadership in the monitoring of air quality, and promote education and engagement on air quality issues that impact Albertans.



The AAC continued its discussions with Alberta Environment and Parks throughout 2018 to develop a provincial air monitoring framework. It is AAC's and our position that the current Airshed multi-stakeholder governance and operating structure provides many benefits and should be retained and where feasible, expanded within the province. Key elements of this model that have proven to be successful include being placed-based, collaborative, and using a multi-stakeholder engagement and a consensus based decision-making process.

2018 Monitoring Results

Air Quality Health Index Ratings

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.

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.



		Risk Level (Percentage of time)			
Station Name	Hours Monitored	Low	Moderate	High	Very High
Bon Accord*	5,842	90.19%	8.37%	1.23%	0.21%
Bruderheim	5,568	90.52%	7.97%	1.37%	0.14%
Elk Island	8,215	90.23%	8.35%	1.17%	0.26%
Fort Saskatchewan	8,347	83.01%	15.55%	1.29%	0.14%
Gibbons	8,585	85.39%	12.88%	1.56%	0.16%
Lamont County	8,572	90.74%	8.04%	1.14%	0.08%
Red Water	8,453	88.70%	9.57%	1.63%	0.09%
Total Hours	56,582	49,973	5,760	763	86

		Risk Level (Number of hours)			
Station Name	Hours Monitored	Low	Moderate	High	Very High
Bon Accord*	5,842	5,269	489	72	12
Bruderheim	8,568	7,756	683	117	12
Elk Island	8,215	7,412	686	96	21
Fort Saskatchewan	8,347	6,929	1,298	108	12
Gibbons	8,585	7,331	1,106	134	14
Lamont County	8,572	7,778	689	98	7
Redwater	8,453	7,498	809	138	8
Total Hours	56,582	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.

Event Dates	<div style="display: flex; justify-content: space-around; align-items: center;"> High Risk Very High Risk </div>														Total Hours	Attributed Cause
	Bon Accord*	Bruderheim	Elk Island	Fort Saskatchewan	Gibbons	Lamont County	Redwater									
January 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
August 7	3		1						3				2		9	Wildfire smoke
August 8	13		4		4		1		7				5		34	
August 9	1		4				5		2				10		22	
August 10	4	4	6	2	4	3	5	3	4	5	7		8		55	
August 11	3		7		4	2	5		4		6		9		40	
August 14			6		6		4		4		1		2		23	
August 15	17		19	2	13	8	20		21	1	20		18		139	
August 16	8		24		14		10		13		20		24		113	
August 17	13		14		6		15		17		13		21		99	
August 18	3	8	4	8	3	8	3	9	3	8	4	7	4	8	80	
August 22	4		7		9		7		9		7		4		47	
August 23			8		15		19		18		18		15		93	
August 25	3		4		6		1		5				6		25	
August 26			8				7		9		2		10		36	
October 24					3										3	
October 31									2						2	Unknown local source
Total Hours	72	12	117	12	96	21	108	12	134	14	98	7	138	8	849	

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

Summary of Exceedances

During 2018, there were 957 occurrences across FAP's ten monitoring stations where air quality measurements exceeded Alberta's Ambient Air Quality Objectives (AAAQO). Almost all (97%) of these exceedances were due to high concentrations of Fine 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.

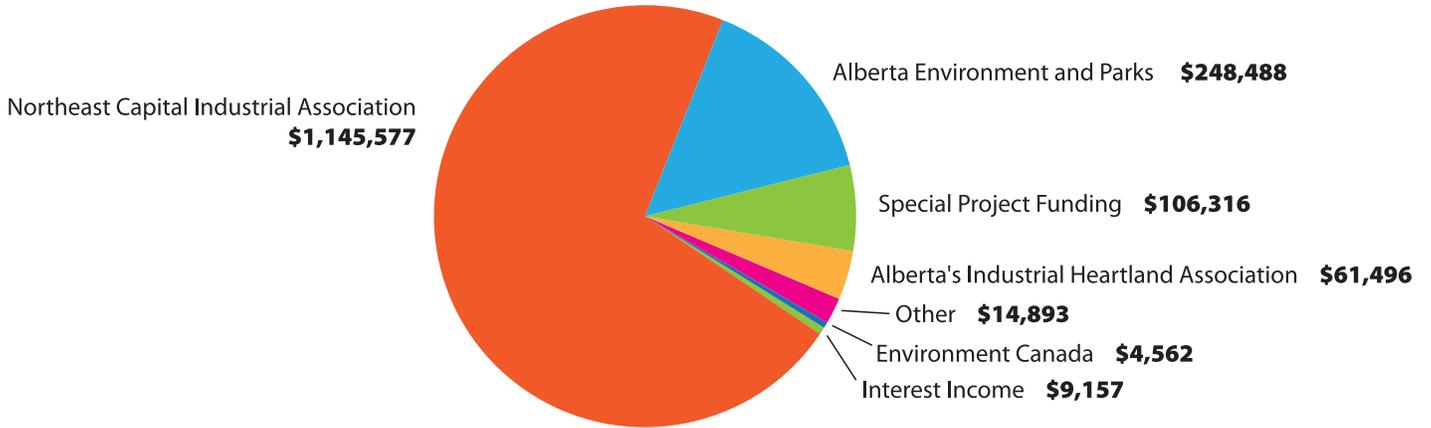
Air quality measurements are compared hourly to the AAAQO. Any exceedance of an AAAQO is reported to the Alberta Government and the cause of the exceedance investigated by FAP.

One Hour Exceedances			
Parameter	Exceedances	Dates	Attributed Cause
Hydrogen Sulphide (H ₂ S)	2	January 20	Local industry
Fine Particulate Matter (PM _{2.5})	1	January 20	Unknown local 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
Fine Particulate Matter (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
Fine Particulate Matter (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		

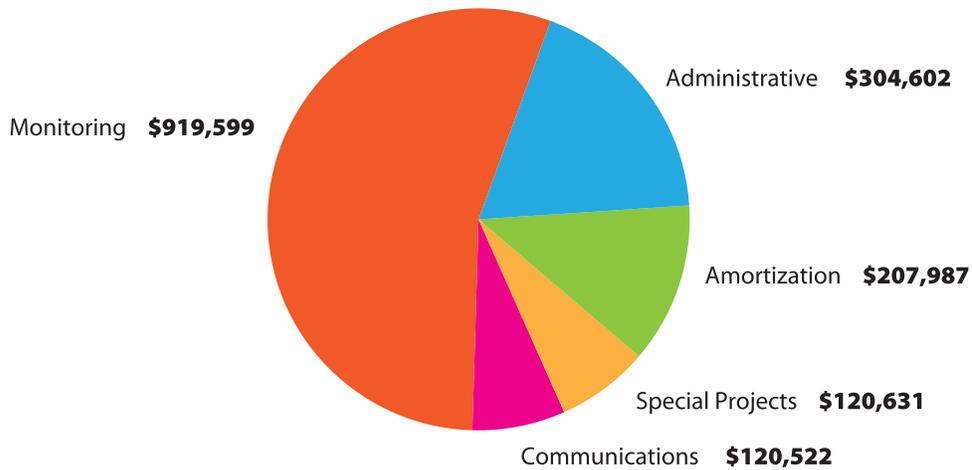
24 Hour Exceedances			
Parameter	Exceedances	Dates	Attributed Cause
Fine Particulate Matter (PM _{2.5})	2	March 8	Wintertime inversion
	1	March 12	
	4	March 13	
	1	March 17	
Hydrogen Sulphide (H ₂ S)	4	May 11, 14, 23, 27	Naturally occurring, from nearby wetlands
Fine Particulate Matter (PM _{2.5})	7	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		

Fort Air Partnership 2018 Financial Summary

Where the Money Came From **\$1,590,489**



Where the Money Went **\$1,673,341**





Statement of Financial Position

Current

Cash	\$477,575
GIC (wind--up reserve)	\$255,000
GIC	\$285,420
GST recoverable	\$18,451
Accounts Receivable	\$22,508
Prepaid Expenses	\$4,949

Equipment

Air Monitoring Equipment	\$875,621
Computer and Office Equipment	\$335
Communications Equipment	\$860

Total Assets **\$1,940,719**

Liabilities

Accounts Payable and Accrued Liabilities	\$138,199
Deferred Contributions	\$539,365
Long term Deferred Contributions Related to Equipment	\$120,726

Total Liabilities **\$798,290**

Net Assets **\$1,819,993**