



FORT MCMURRAY

ATHABASCA VALLEY & PATRICIA MCINNES

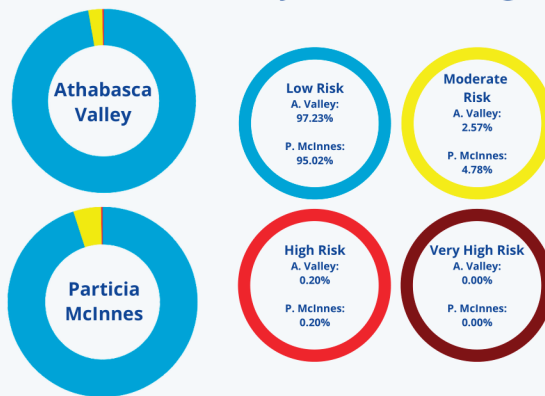
2021 AIR QUALITY



The Wood Buffalo Environmental Association (WBEA) operates two Air Monitoring Stations (AMS) in Fort McMurray (pictured above): Athabasca Valley near MacDonald Island Park (left), and Patricia McInnes in Timberlea (right).

In this report you'll find a summary of air quality data taken directly from your AMS stations.

Air Quality Health Index (AQHI) 2021 Hourly Annual Average



See the back page of this report for more information about AQHI

WHAT WE MEASURE

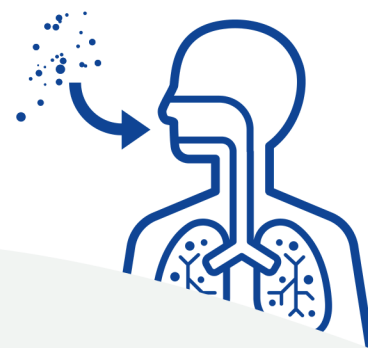
The WBEA continuously monitors the presence of various pollutants within the region.

The five compounds listed in this report are highlighted because of their impact to human health and the environment.

The first three compounds on this page are used to determine the AQHI rating of a particular region.

FINE PARTICULATE MATTER - PM_{2.5}

Particulate matter consists of a mixture of solid particles and liquid droplets found in the air. Fine particulate matter is produced mainly by combustion processes, including forest fires. Fine particulate matter poses a health risk as the particles can be inhaled deep into the lungs.



OZONE - O₃

Ozone at ground-level is not emitted directly into the air but formed by chemical reactions of NO_x and volatile organic compounds (VOCs), from vehicular and industrial emissions. Children, the elderly, and people with asthma are the most susceptible. Ozone can affect sensitive vegetation, by slowing plant growth and making them more susceptible to disease.

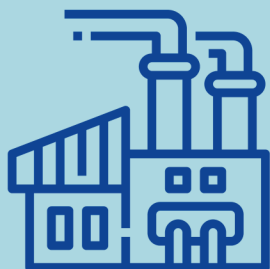


NITROGEN DIOXIDE - NO₂

Nitrogen dioxide is a reddish-brown gas with a pungent, irritating odour that is produced by combustion of fossil fuels. Nitrogen dioxide is a key ingredient for ground level ozone formation and destruction, and can also interact with water to form acid rain.



SULPHUR DIOXIDE - SO₂



Sulphur dioxide is produced from the combustion of sulphur-containing fossil fuels. Sulphur dioxide in the air at high concentrations can make breathing difficult, particularly for children, the elderly, and people with asthma.

TOTAL REDUCED SULPHURS - TRS

Hydrogen sulphide is a colourless gas with a rotten egg odour. It is produced through industrial processes. The term "Total Reduced Sulphur" covers a larger group of sulphur-containing compounds with the potential to cause unpleasant odours.

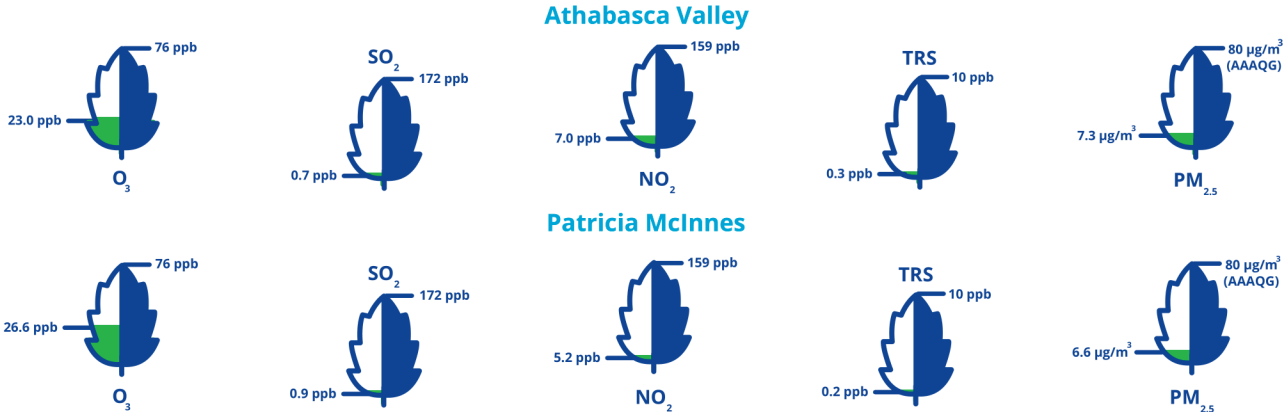


COMMUNITY AIR MONITORING

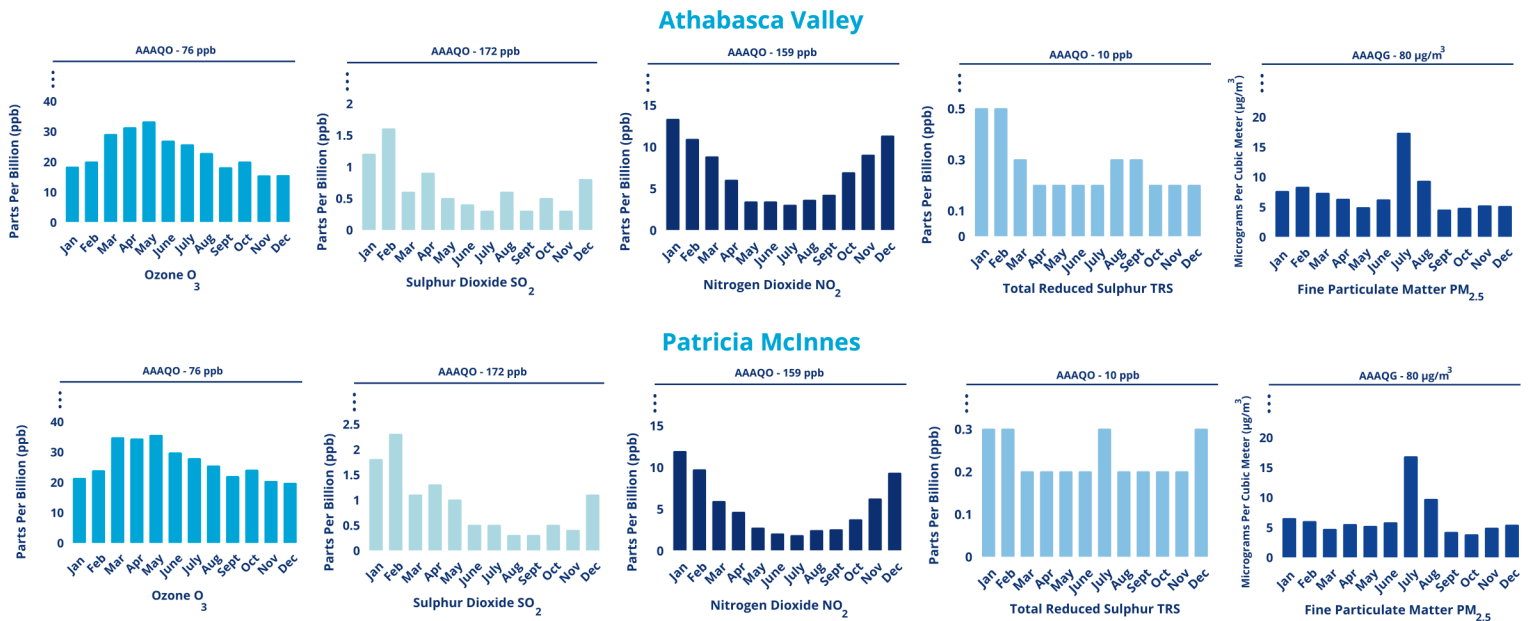
Comparing Your Air in 2021 to Alberta Ambient Air Quality Objectives and Guidelines (AAAQO/G)

The Alberta government sets limits called "AAAQOs" and "AAAQGs" for the amount of pollutants that can be in the air. The following images show the results of data collected at Athabasca Valley and Patricia McInnes Air Monitoring Stations. They demonstrate the annual averages of hourly data for each pollutant compared to its relative AAAQO/G limit.

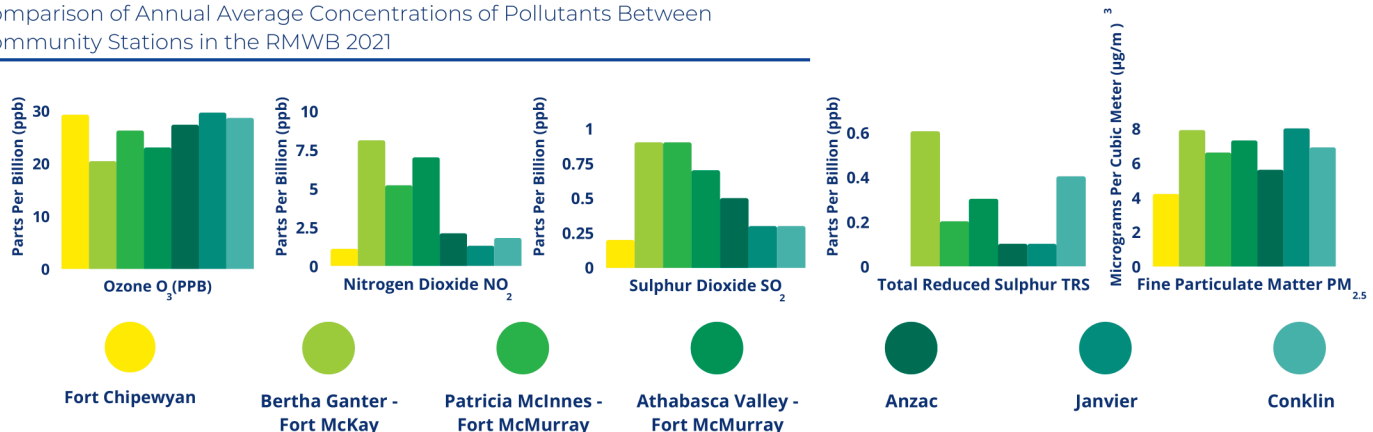
The **solid blue** area shows the total AAAQO/G limit, while the **green area** shows each station's annual averages for each pollutant (measured hourly).



These bar graphs show a monthly average of hourly data for pollutants measured in the air outside in 2021. We've compared each pollutant to its relative hourly AAAQO/G limit.



Comparison of Annual Average Concentrations of Pollutants Between Community Stations in the RMWB 2021



AIR QUALITY HEALTH INDEX (AQHI)

The **AQHI** is a number from 1 to 10 that indicates the relative health risk associated with local air quality. A low AQHI number means that it is a good time to be active outdoors. A high AQHI number means that precautions should be taken to limit exposure to the air, especially for 'at risk' individuals, including children, seniors, and those with lung conditions.

Health risk	AQHI	At Risk Population	General Population
Low Risk	1-3	Enjoy your usual outdoor activities.	Ideal air quality for outdoor activities.
Moderate Risk	4-6	Consider reducing or rescheduling strenuous activities outdoors if you are experiencing symptoms.	No need to modify your usual outdoor activities unless you are experiencing symptoms such as coughing and throat irritation.
High Risk	7-10	Reduce or reschedule strenuous activities outdoors. Children and the elderly should also take it easy.	Consider reducing or rescheduling strenuous activities outdoors if you are experiencing symptoms such as coughing and throat irritation.
Very High Risk	10+	Avoid strenuous activities outdoors. Children and the elderly should also avoid outdoor physical exertion.	Reduce or reschedule strenuous activities outdoors, especially if you experience symptoms such as coughing and throat irritation.

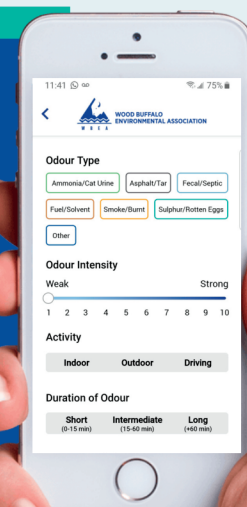
TELL US WHAT YOU SMELL!

Participate in the Community Odour Monitoring Program (COMP) and help the WBEA research odours in the communities of the RMWB.

1 Download the COMP app from your app store or go to wbea.org/apps

2 When you smell an odour in the air, submit an observation in the app

3 Check out the COMP website for more information:
comp.wbea.org



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