Report to the Community 2023

TABLE OF CONTENTS

WCAS is on Treaty 6 and Treaty 8 territories—the traditional and ancestral territories of many First Nations, including the Cree, Dene, Blackfoot, Saulteaux and Nakota Sioux, as well as home to the Métis Nation of Alberta. We honour the many First Nations, Métis, and Inuit who have lived on this land since time immemorial, by being thoughtful about the air we breathe, and how we can work to ensure it is healthy and lifegiving for our earth, the current generation, and for many generations to come.

EXECUTIVE MESSAGE

As we reflect on another year of progress and collaboration, we are pleased to share the achievements and ongoing work of the West Central Airshed Society (WCAS). In Alberta's ever-evolving environmental landscape, WCAS remains steadfast in our commitment to providing valuable air quality data and resources to our communities and partners throughout west central Alberta.

Since our inception as Alberta's first Airshed organization in 1995, our mission has remained clear: to empower communities with accurate and accessible air quality data. Our journey began with a shared aspiration for improved air quality information, driven by the collective desire for healthier environments. Today, that same motivation continues to guide our work, shaping our strategies and initiatives.

At the heart of our efforts lies our extensive network of continuous monitoring stations, operated at the highest professional standards. In 2023, we were pleased to add a second permanent monitoring station to our Airshed in Hinton. These stations, complemented by smaller monitoring sites using sensors, ensure we maintain an accurate and comprehensive understanding of regional and local air quality dynamics. It is worth emphasizing that WCAS proudly serves as the sole official source of air quality data that is used for calculating the Air Quality Health Index (AQHI), reporting against the Canadian Ambient Air Quality Standards, and a host of other uses for our region. This designation underscores our role as a trusted authority, essential for informed decision-making and regulatory compliance.

The AQHI stands as a vital tool in our collective efforts to safeguard public health and well-being. As stewards of this essential information, WCAS remains committed to supporting our communities in interpreting and utilizing our data effectively. Through targeted outreach and educational initiatives, we empower individuals and organizations to make informed choices for their health and safety.

Our unique position as the primary data source underscores the importance of our partnership with government agencies, reinforcing the shared responsibility for environmental stewardship. By fostering dialogue and cooperation amongst our varied stakeholders, we strengthen our collective capacity to address air quality challenges and drive positive change.

As we look ahead, WCAS remains dedicated to advancing our mission and serving the needs of our communities. Together, we will continue to pursue innovative solutions, foster meaningful partnerships, and empower individuals to create healthier environments for generations to come.

Thank you for your support and commitment to our shared vision.

Melissa Nelson
President

Gary Redmond
Executive Director

YOUR AIRSHED

WHAT WE DO

WCAS was the first of Alberta's ten Airsheds, who together serve as the air monitoring partnership for Albertans. We operate a broad network of air monitoring sites using a variety of technologies, including permanent and portable continuous monitoring stations. WCAS serves as the designated provider of air quality data in the west central region. While maintaining independence, WCAS has been entrusted by the Government of Alberta with the responsibility of monitoring our air and ensuring all stakeholders have access to, and understand, this important information.

Multi-Stakeholder Collaboration
While our members have various mandates and interests regarding air quality, WCAS offers important partnerships and synergies where collaboration, engagement, and coalitions on topics of mutual interest can occur.

Credible Voice in the Region
WCAS is an important voice for its members by increasing awareness of regional air quality, bringing attention to air quality issues, and offering solutions and opportunities to improve air quality.

Expertise & Information
WCAS provides air quality data and other information to its members and the public.

Responsive
WCAS is a member-focused organization that is also responsive to all public inquiries.

STRATEGIC PLAN 2023

The WCAS Strategic Plan is updated annually and describes who we are as an organization, and what we seek to achieve over the next year. The current plan includes the following goals:

GOAL #1 – Air quality data, representative of the airshed and compliant with Alberta's Air Monitoring Directive, is collected and available to all stakeholders.

GOAL #2 – Increase general awareness of regional air quality.

GOAL #3 – Facilitate multi-stakeholder approaches to addressing local air quality issues.

GOAL #4 – WCAS has the necessary organizational capacity to meet its objectives.

Each goal is supported by a variety of specific tactics that are incorporated into annual business plans to advance our longer-term strategic plan and organizational mission.

AIRSHED MONITORING

GOVERNMENT OF ALBERTA (Alberta Environment and Protected Areas)

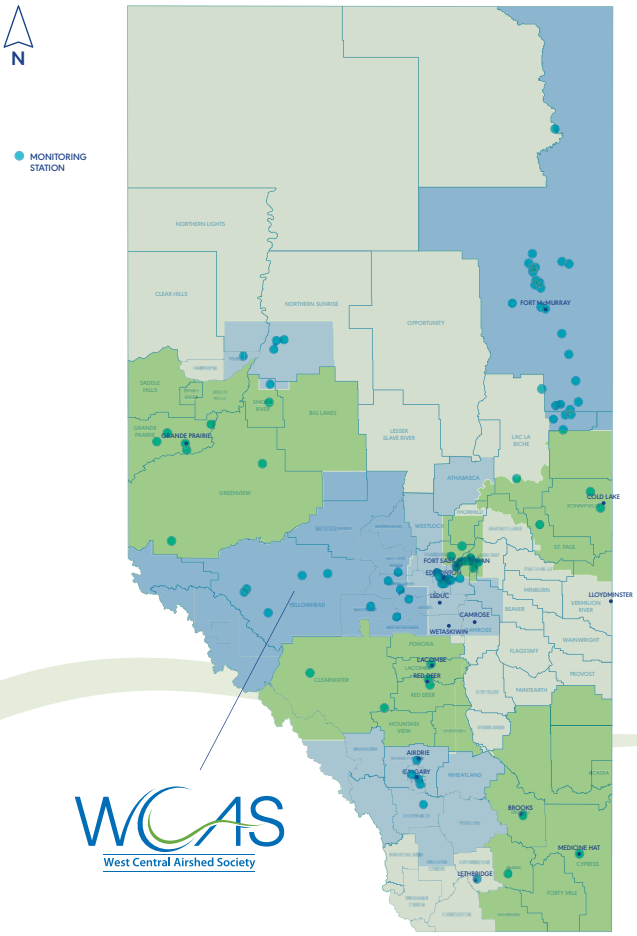
Alberta Environment and Protected Areas (AEPA) is a key partner of WCAS, acknowledging our role in air quality monitoring and reporting in our region. We diligently monitor, collect, analyze, and report on ambient air quality in compliance with regulatory standards and permissions. AEPA strategically collaborates with WCAS, leveraging our expertise and extensive data to ensure full adherence to regulatory protocols. Our data serves as the source for calculating the Air Quality Health Index (AQHI) and the Alberta Government's national reporting on Canadian Ambient Air Quality Standards (CAAQs).

Additionally, AEPA annually allocates a grant to WCAS, bolstering our communications, engagement, outreach, and education initiatives. This financial support empowers WCAS to connect with community members and educate them on utilizing air quality data to make informed decisions that positively impact their health and well- being.

ALBERTA AIRSHEDS COUNCIL (AAC)

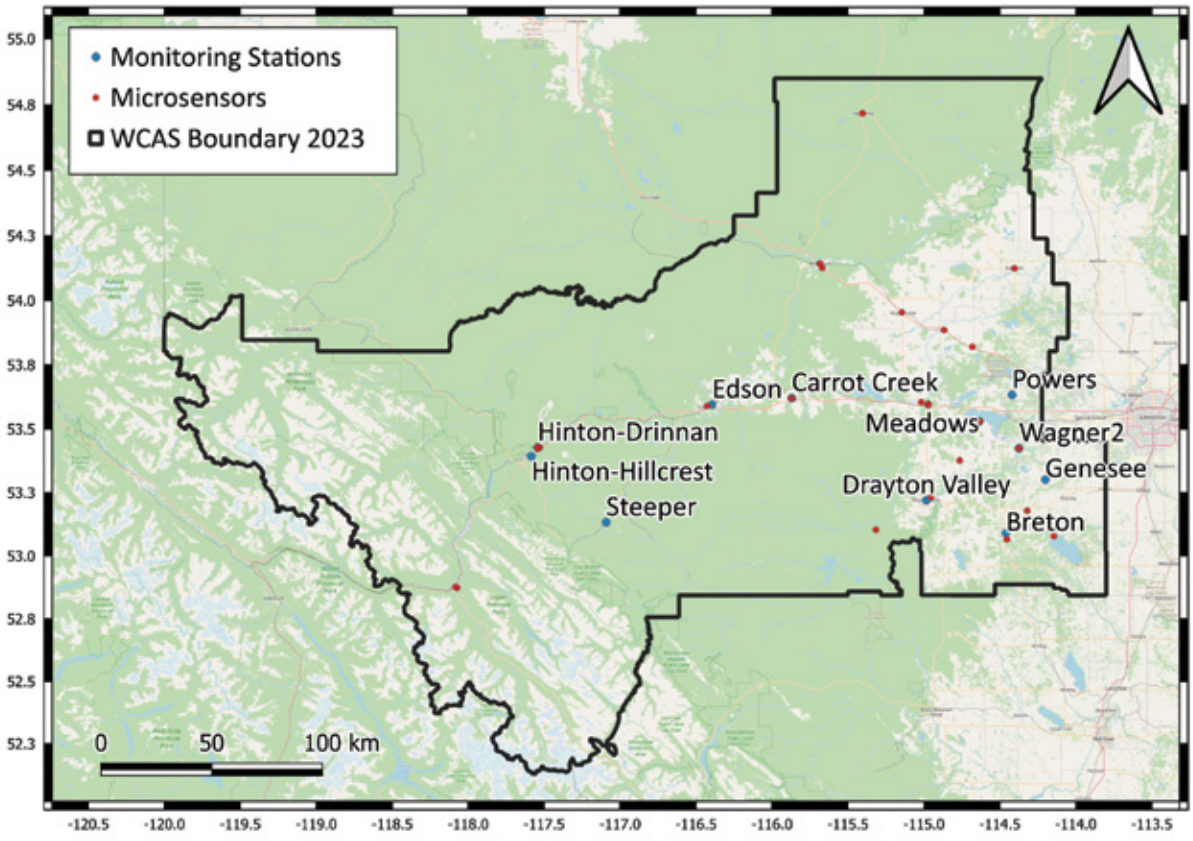
WCAS is a member of Alberta Airsheds Council (AAC), a partnership of Alberta's Airsheds providing leadership in support of healthy air quality for Albertans and the environment. Initiated in 2006, AAC includes membership from all ten Airsheds in Alberta and was formed to represent the collective interests of this collaborative group.

AAC provides a forum for Airsheds to work and learn together, to continue to advance effective and efficient air monitoring, reporting and outreach, and to address regional matters. Each year, the AAC produces an annual report on the state of the air quality in the Province of Alberta. The annual report, including air quality data collected by WCAS, can be found at albertaairshedscouncil.ca.



WCAS MONITORING NETWORK

In 2023, our monitoring network included 11 continuous monitoring stations and 1 portable monitoring station that met or exceeded the Alberta Government's Air Monitoring Directive (AMD) for the collection and analysis of air data. Additionally, WCAS expanded our microsensor network to include 24 community-hosted sites.



HINTON HILLCREST STATION

WCAS installed a second permanent Air Quality Health Index (AQHI) station in the Town of Hinton. This station replaced the portable Hinton Hillcrest Station that had been operating in the community since September 2022. WCAS partnered with Canadian Women in Design (CWID) to transform the industrial-looking monitoring station into a captivating focal point by wrapping the station in eye-catching artwork. The new station now displays the original art of Hinton-born illustrator Mariah Barnaby-Norris and continues to provide reliable AQHI data for the area.

HOW AIR QUALITY MONITORING WORKS

Continuous Air Monitoring Stations use complex equipment to monitor real-time air quality by continuously measuring and analyzing pollutants in the air.

1 Air Pollution Sources

Pollution is emitted into the air from a variety of human-made and natural sources.

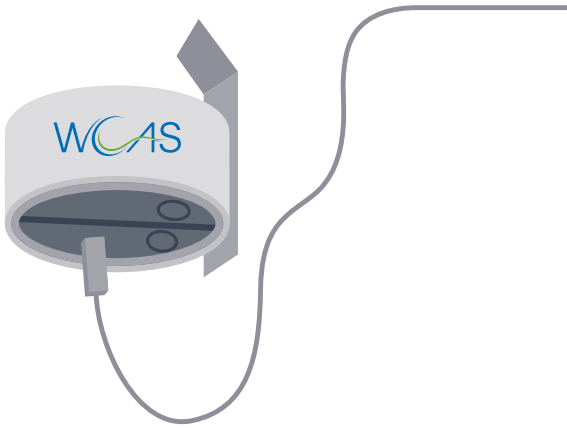
2 Continuous Monitoring Stations

Measure air pollutants, including fine particulate matter ($PM_{2.5}$), nitrogen oxides (NO_x), sulfur dioxide (SO_2), ozone (O_3), carbon monoxide (CO), hydrogen sulphide (H_2S), methane (CH_4), non-methane hydrocarbons (NMHC), and total hydrocarbons (THC). They also measure air temperature, relative humidity, and wind speed and direction.

3 Public Information

The real-time data is streamed on WCAS' website (**wcas.ca**). Data collected also informs the Air Quality Health Index, available through the WeatherCAN mobile app.

Particulate Microsensors are a popular air quality monitoring solution that provide real-time and localized air quality data. They are known for their affordability, ease of use, and crowd-sourced data collection approach. These microsensors are small, portable devices that use laser particle counters to measure the concentration of fine particulate matter ($PM_{2.5}$) in the air. These particles (less than 2.5 micrometers in diameter – a fraction of the width of a strand of human hair), can be trapped in the airways and lungs and cause adverse health effects. $PM_{2.5}$ is also the primary component of wildfire smoke.



WHAT WE MONITOR AND WHY

PARAMETERS WE MONITOR

Healthy communities need clean air. Air quality is a marker of how clean the air is. This is determined by the rate that pollutants are emitted into the atmosphere and how effectively the atmosphere can disperse those pollutants.

Dispersion is affected by:

- Wind (speed and direction)
- Temperature (at various heights)
- Turbulence
- Local topography (e.g., valleys and hills)

WCAS monitors **eight air quality parameters** in our Airshed region.

SO_2 – Sulphur dioxide is generated both naturally and anthropogenically (human-made), including the processing and combustion of fossil fuels containing sulphur. It is a colourless gas with a pungent odour (like a lit match) and can be detected by taste and odour at concentrations as low as 300 ppb. Sulphur dioxide reacts in the atmosphere to form sulphuric acid and acidic aerosols, which contribute to acid rain. Sulphur dioxide combines with other atmospheric gases to produce smog, which may reduce visibility.

Brief exposure to high concentrations of sulphur dioxide and its products can produce human health effects, irritating the upper respiratory tract and aggravating existing cardiac and respiratory disease. Long-term exposure may increase the risk of developing chronic respiratory disease. People with asthma may have increased symptoms such as chest tightness and difficulty breathing.

O_3 – Ground-level ozone is not emitted directly into the air but is created by chemical reactions between oxides of nitrogen (NO_x) and volatile organic compounds (VOCs). This happens when pollutants emitted by cars, power plants, industrial boilers, refineries, chemical plants, and other sources chemically react in the presence of sunlight. It can be a major component of smog during the summer, especially during hot sunny weather, and is generally low in the winter. Ozone can be transported long distances and can be responsible for large regional air pollution episodes.

People most at risk from exposure to higher levels of O_3 include those with asthma, children, older adults, and those who are active outdoors, especially outdoor workers. Children are at greatest risk because their lungs are still developing. High levels of O_3 can cause the muscles in the airways to constrict, trapping air inside the tiny air sacs within the lungs (alveoli). This can lead to wheezing, shortness of breath and can be serious in people with lung diseases such as asthma.

NO_x – Nitrogen oxides, mostly in the form of nitric oxide (NO) and nitrogen dioxide (NO_2), are produced by high temperature combustion of fossil fuels. Nitrogen oxide is the predominant pollutant emitted by combustion sources, but it is rapidly changed to nitrogen dioxide in the atmosphere. NO_x contributes to acid rain and plays a major role in atmospheric photochemical reactions and ground level ozone formation and destruction. Oil and gas activities and transportation account for approximately 85% of the nitrogen emissions in Alberta; however, any combustion source will emit nitrogen dioxide (e.g. power plants, furnaces, space heaters). Some natural sources include volcanoes, lightning, biological decay, and oceans.

NO_2 – has been linked to respiratory disease. Short-term exposure to NO_2 can cause airway inflammation. Individuals with pre-existing conditions such as asthma, chronic obstructive pulmonary disorder (COPD), and chronic bronchitis can be more sensitive to exposure.

PM – Ambient particulate matter consists of a mixture of particles of varying size and chemical composition. Particles that are less than 10 micrometers in diameter (PM_{10}) can include windblown soil, road dust, and particles from industrial activities. Fine particles which are less than 2.5 micrometers in diameter ($PM_{2.5}$) can reduce visibility and contribute to acidification of soils. $PM_{2.5}$ particles are formed from gases released to the atmosphere by combustion processes such as from motor vehicles, power plants, gas processing plants, compressor stations, household heating, and wildfires. Particulate matter can also be comprised of biological material such as mold, bacteria, and pollen fragments.

Fine particles are small enough to enter the lungs and can be a human health concern. $PM_{2.5}$ has been linked to many health issues. Long-term exposure has been associated with increased lung and heart problems and even premature death.

CO – Carbon monoxide is a colourless, odourless gas emitted into the atmosphere primarily from incomplete combustion of carbon-based fuels such as gasoline, oil, and wood. Natural and human sources of carbon monoxide include burning of vegetation such as forest fires and wildfires, and emissions from vehicles. Breathing carbon monoxide decreases the amount of oxygen carried by the blood stream and can have serious health effects.

THC – Hydrocarbons are divided into two broad categories: non-reactive and reactive hydrocarbons. The major non-reactive hydrocarbon in the atmosphere is methane, which is a naturally occurring colourless, odourless gas recognized as a major contributor to the greenhouse effect. Reactive hydrocarbons consist of many volatile organic compounds, some of which react with oxides of nitrogen in the atmosphere to form ozone. They generally occur at much lower concentrations than methane. Trees and plants are major natural emitters of reactive hydrocarbons and large amounts of methane are produced naturally through the decay of vegetation. Other significant sources include motor vehicles, petroleum refineries, petrochemical plants, chemical solvents, and combustion from burning coal, gas, and wood.

Health effects from long-term or chronic exposure to petroleum hydrocarbons are known to cause decreased immune function, breathing problems, severe kidney and liver damage.

TRS – Total reduced sulphur includes hydrogen sulphide (H_2S), mercaptans, dimethyl sulphide, dimethyl disulphide, and other sulphur compounds. Sources include fugitive emissions from petroleum refineries, tank farms for unrefined petroleum products, natural gas plants, petrochemical plants, oil sands facilities, sewage treatment facilities, pulp and paper operations that use the kraft pulp process, and animal feed lots.

Health concerns related to exposure to TRS can include respiratory symptoms, decreased pulmonary function test results, and increases in pulmonary disease.

MET – All of the continuous monitoring stations measure meteorological parameters including:

- Wind speed and direction
- Temperature
- Relative humidity

AIR QUALITY STANDARDS

WCAS' ambient air quality data is compared to several established air quality thresholds, triggers, and limits including Alberta's Ambient Air Quality Objectives and Guidelines, the Canadian Ambient Air Quality Standards, and the World Health Organization Air Quality Guidelines.

Alberta Ambient Air Quality Standards

Alberta's Ambient Air Quality Objectives (AAAQOs) and Ambient Air Quality Guidelines (AAAQGs) were developed under the Alberta Environmental Protection and Enhancement Act (EPEA) to protect Alberta's air quality. AAAQOs help assess industry compliance and evaluate facility performance, and AAAQGs are a general performance indicator used to help with Airshed planning and management. Both are established for a variety of averaging periods depending on the characteristics of the pollutant.

Parameter	1-hour Average	8-hour Average	24-hour Average	30-day Average	Annual Average
AAAQO					
Sulphur Dioxide (SO_2)	172 ppb	-	48 ppb	11 ppb	8 ppb
Nitrogen Dioxide (NO_2)	159 ppb	-	-	-	24 ppb
Hydrogen Sulphide (H_2S)	10 ppb	-	3 ppb	-	-
Particulate Matter 2.5 ($PM_{2.5}$)	-	-	29 µg/m^3	-	-
Carbon Monoxide (CO)	13 ppm	5 ppm	-	-	-
Ozone (O_3)	76 ppb	-	-	-	-
AAAQG					
$PM_{2.5}$	80 µg/m^3	-	-	-	-

Canadian Ambient Air Quality Standards

Canadian Ambient Air Quality Standards (CAAQS) are national air quality standards designed to protect human health and the environment. CAAQS inform the development of management plans and appropriate management actions required to improve air quality. CAAQS, which are based on three years of data, are targeted to assess air quality issues that can be controlled locally through management actions (such as emissions reductions). The Government of Alberta provides additional information about CAAQS on their website (alberta.ca/canadian-ambient-air-quality-standards).

MONITORING PLAN

To ensure monitoring resources are deployed strategically throughout the Airshed, and to effectively provide air quality data for the entire region, WCAS regularly reviews and updates our monitoring network. Relevant information is analyzed, including a 2020 external report commissioned by WCAS, Alberta Environment and Protected Areas' Five-Year Monitoring Plan, and the latest data available on air emissions, population, transportation, and other factors.

As always, we balance these inputs with logistics and accessible funding to arrive at a new WCAS Monitoring Plan, which is reviewed and updated annually to ensure WCAS remains nimble within a quickly changing environment.

Some of the highlights of the Monitoring Plan for 2023 include:

- Setup of the new, permanent station at the Hillcrest Reservoir site that will remain vital in the representation of air quality in the Town of Hinton
- Ongoing exploration of a suitable station location in the Town of Whitecourt, which is a population centre in WCAS
- Deployment of air quality microsensors in communities without monitoring stations
- Purchase of an Aeroqual sensor for testing and potential future use to collect NO_2, O_3, and $PM_{2.5}$ data using this small sensor
- Improvements at some sites to upgrade access and safety
- Ongoing evaluation and assessment of the transition from coal- to natural gas-fired power plants within our Airshed monitoring network

AIR QUALITY RESULTS 2023

Air quality data highlights from the monitoring network in 2023, and a review of the 2023 data in relation to changes from 2022 for specific parameters, are outlined below:

Sulphur Dioxide (SO_2)

- SO_2 collected from 11 stations throughout the network recorded 95,611 hours of data with no readings above of the AAAQO one-hour limit (172 ppb), with the highest recorded hour measured at 48 ppb and highest recorded 24-hour average at 9.6 ppb.
- Annual averages ranged from 0.1 ppb to 0.5 ppb, which is slightly less than 2021 and 2022 which ranged from 0.1 to 0.7 ppb.

Ozone (O_3)

- O_3 collected from eight stations throughout the network recorded 69,650 hours of data with a total of 108 readings above the AAAQO one-hour limit (76 ppb), with the highest recorded hour measured at 94 ppb and highest recorded 24-hour average at 64 ppb.
- O_3 was impacted by the large number of wildfires in 2023 which resulted in the significant increase of readings above the AAAQO limits.
- Differences noted from 2021 and 2022 when the annual ranges were 23.4 to 36.1 ppb and 23.4 to 35.8 ppb respectively, then to 2023 where the annual averages ranged from 23.4 to 38.1 ppb.

Nitrogen Dioxide (NO_2)

- NO_2 collected from 11 stations throughout the network recorded 95,898 hours of data with no readings above the AAAQO one-hour limit (159 ppb), with the highest recorded hour measured at 58 ppb and highest recorded 24-hour average at 28 ppb.
- NO_2 readings were below the AAAQO annual average of 24 ppb, with maximum annual average at 8.4 ppb.
- Annual averages in 2021 and 2022, ranged from 0.9 to 7.9 ppb in 2021 and 1.0 to 8.0 ppb in 2022, in 2023 the annual averages were similar with ranges from 1.0 to 8.4 ppb.

Particulate Matter ($PM_{2.5}$)

- $PM_{2.5}$ collected from seven stations in the network recorded 60,891 hours of data with a total of 1,252 readings above the AAAQG one-hour limit (80 µg/m^3), with the highest recorded hour measured at 1,136 µg/m^3.
- There was also a total of 205 readings above the AAAQO 24-hour limit (29 µg/m^3), with the highest recorded 24-hour measured at 408 µg/m^3.
- In 2022 there were a total of 54 hourly and 23 daily readings above limits, in 2021 there were a total of 181 hourly and 74 daily readings above limits.
- Similar in previous years, the vast majority of elevated $PM_{2.5}$ concentrations were during wildfire events (42 of 54 1-hour events).

Carbon Monoxide (CO)

- CO collected from one station in the network recorded 8,552 hours of data with no readings above the AAAQO one-hour limit (13 ppm) and two readings above the eight-hour AAAQO limit (5 ppm). Elevated readings of CO were directly influenced by the wildfire smoke impacts in 2023.
- The average annual CO concentration has remained at 0.2 ppm for the years 2021 to 2023.

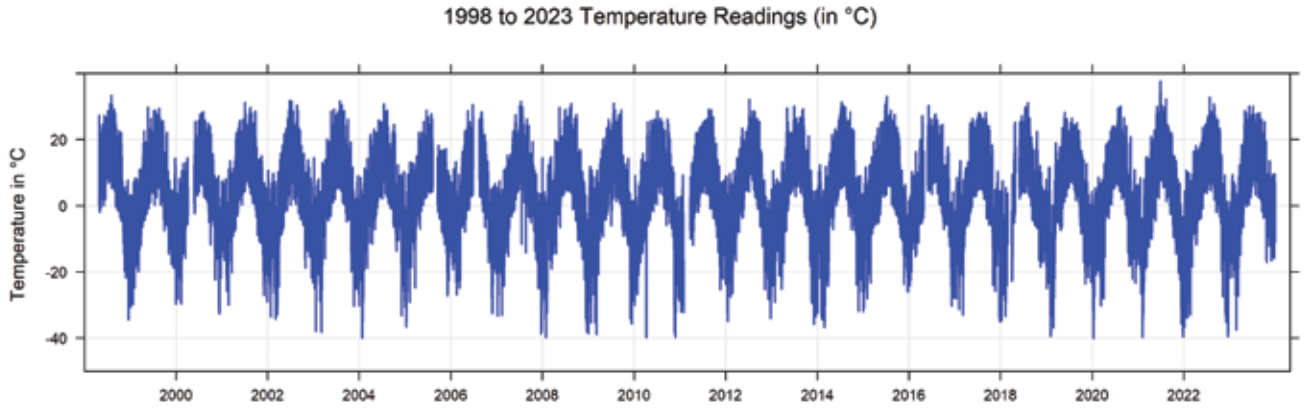
Hydrogen Sulphide (H_2S) and Total Reduced Sulphur (TRS)

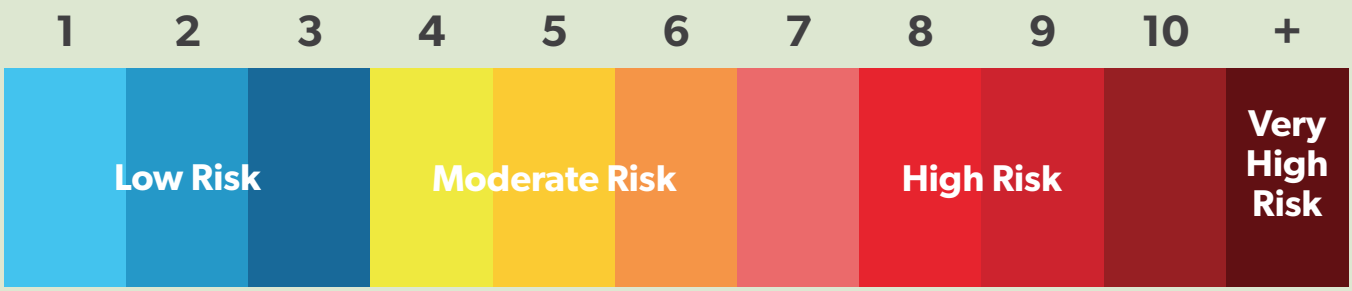
- H_2S collected from one station in the network recorded 8,753 hours of data with nine readings above the AAAQO one-hour limit (10 ppb) and one reading above the 24-hour AAAQO limit (3 ppb).
- Annual averages for H_2S dropped by half to 0.4 ppb, compared to previous years of 2021 to 2022 when annual average was 0.8 and 0.9 ppb.
- TRS collected from two stations in the network recorded 17,283 hours of data with 38 readings above the H_2S one-hour limit and nine readings above the 24-hour H_2S limit.
- Annual averages for TRS dropped by half to 0.45 ppb, compared to previous years of 2021 to 2022 when annual average was 1.1 to 1.0 ppb.

Weather

- In 2023, the warmest hourly period was recorded at 36.7°C and coldest hourly period at -37.5°C.
- Temperatures were above 20°C for 10,307 hours, and below -20°C for 971 hours of the data collected.
- In 2023, the warmest hourly period was recorded at Breton Station and the coldest at Steeper Station

WCAS Weather Chart





AIR QUALITY HEALTH INDEX (AQHI)

WHAT IS AQHI?

Air Quality Health Index (AQHI) is a health protection tool designed to help the public make decisions to protect their health by limiting short-term exposure to air pollution and adjusting their activity levels during increased levels of air pollution.

AQHI uses readings from three air pollutants to calculate a single numerical value to evaluate the health risk associated with air pollution.

The pollutants used in the calculation are particulate matter ($PM_{2.5}$), nitrogen dioxide (NO_2) and ground-level ozone (O_3); all compounds that can cause respiratory effects. The higher the AQHI value, the greater the potential health risks associated with air quality.

Did you know?

WCAS serves as the official source of air quality data used to calculate the AQHI for our region?

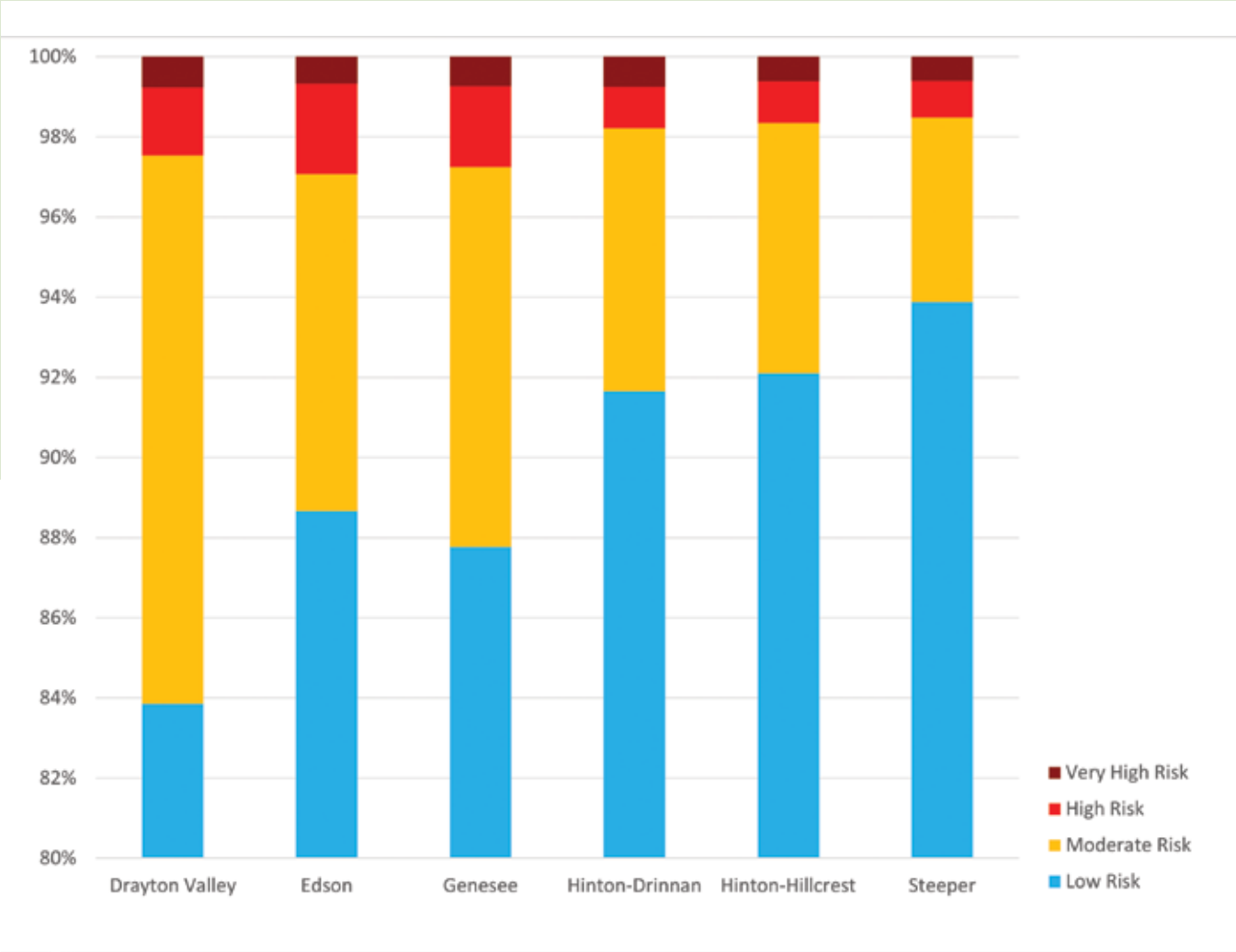
		Health Messages	
Air Quality Health Index	**Health Risk**	**At Risk Population**	**General Population**
1 – 3	**Low Risk**	Enjoy your usual outdoor activities.	Ideal air quality for outdoor activities.
4 – 6	**Moderate Risk**	Consider reducing or rescheduling strenuous activities outdoors if you are experiencing symptoms.	No need to modify your usual outdoor activities unless you experience symptoms such as coughing and throat irritation.
7 – 10	**High Risk**	Reduce or reschedule strenuous activities outdoors. Children and the elderly should also take it easy.	Consider reducing or rescheduling strenuous activities outdoors if you experience symptoms such as coughing and throat irritation.
Above 10	**Very High Risk**	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.

AQHI RATINGS 2023

Within our Airshed there are six continuous monitoring stations designated as "AQHI" stations that collect $PM_{2.5}$, NO_2, and O_3 data. These stations include Drayton Valley, Edson, Genesee, Hinton Drinnan, Hinton Hillcrest, and Steeper. A total of 50,431 hours of AQHI data was collected from these six stations throughout 2023 to calculate both current and forecasted hourly AQHI values in the West Central Region. Averaging for the region, 90% of this data had an AQHI <3 or was considered "low health risk".
In comparison to the previous year (2022) when there was 38 hours of AQHI data recorded at "high" or "very high" health risk, in 2023 the number of hours was 1,107. The increase in AQHI was attributable primarily to high smoke events, specifically wildfires throughout May to September 2023.

All monitoring stations in Alberta saw AQHI ratings in the low-risk range for 73% to 94% of the 2023 year, with a provincial average AQHI reading of 2.7 (based on 345,509 hours of data).

WCAS AQHI 2023 Results



Did you know?

During smoke events caused by wildfires, $PM_{2.5}$ becomes the predominant pollutant for the AQHI calculation. Individuals with common respiratory conditions such as asthma and chronic obstructive pulmonary disease are particularly susceptible to wildfire smoke.

WILDFIRE SMOKE AND AQHI

Wildfire smoke is an important air quality issue. The number and size of wildfires in North America have been increasing over the past few decades. Wildfire smoke is made up of gases and particles that can be harmful to health. Inhaling smoke is more damaging to people who have respiratory issues, and for children, pregnant women, and older adults. Reduce exposure to harmful smoke by staying informed about air quality using the AQHI. Visit wcas.ca to access information related to wildfires, fire smoke, and AQHI in your region.

HOW TO FIND THE AQHI

Current and forecasted AQHI values for WCAS stations are available at wcas.ca. AQHI is also readily accessible through the free Environment Canada WeatherCAN app, where you can set alerts for specified AQHI values and be notified of "Special Air Quality Statements" in your region.

EDUCATION & OUTREACH

WORKING WITH COMMUNITIES

Community Monitoring

WCAS continues to seek out host sites and grow its network of low-cost particulate matter microsensors, which are particularly helpful during times of wildfire smoke. By recruiting hosts, WCAS can engage with local communities who otherwise do not have access to air quality data. These community hosts include small municipalities, schools, and concerned members of the public.

The data can be very helpful to the community. Importantly, it also engages people in the collection of data that directly impacts their lives. The program is a partnership between Environment and Climate Change Canada, which provides some of the microsensors, and WCAS, which works with local communities to install and operate.

Notably in 2023, WCAS collaborated with the Evergreens Foundation to install particulate microsensors at Senior Lodges located throughout the Airshed, including Jasper, Hinton, Edson, and Evansburg. Following two evacuations due to wildfire events during the year, these organizations recognized the value of onsite air quality monitoring for particulate matter for their residents.

At the end of 2023, our air quality monitoring network included 24 host locations in the following areas:

- Barrhead
- Breton
- Carrot Creek
- Cherhill
- East End Fire Station (Onoway area)
- Edson
- Entwistle
- Evansburg
- Hinton
- Jasper
- Lodgepole
- Mayerthorpe
- Meadows (Sundance area)
- Pigeon Lake
- Sangudo
- Tomahawk
- Wagner (Keephills area)
- Warburg
- Whitecourt

WCAS invites individuals and municipalities interested in hosting a particulate microsensor to contact us at info@wcas.ca. This data is shared on our Live Air Data map at wcas.ca.

Chambers of Commerce

WCAS is proud to work with stakeholders throughout the region, including businesses that are invested in the well-being of their community. WCAS values our membership in the following Chambers of Commerce: Drayton Valley, Edson, Evansburg & Entwistle, Hinton, Jasper, Swan Hills, and Whitecourt. WCAS attends various Chamber meetings and events to provide information and to promote and expand the visibility of WCAS monitoring in these areas. Of note, Whitecourt Chamber of Commerce is also a host-site for an air quality monitoring microsensor in the valley.

Synergy Groups

Synergy groups are community-based, multi-stakeholder groups that work collaboratively to address the pressures of resource development in ways that support social, environmental, and economic well-being for their communities. WCAS participates in the two synergy groups active in the area: Yellowhead Synergy Group in Edson and area, and the Pembina Synergy Group in Drayton Valley and area.

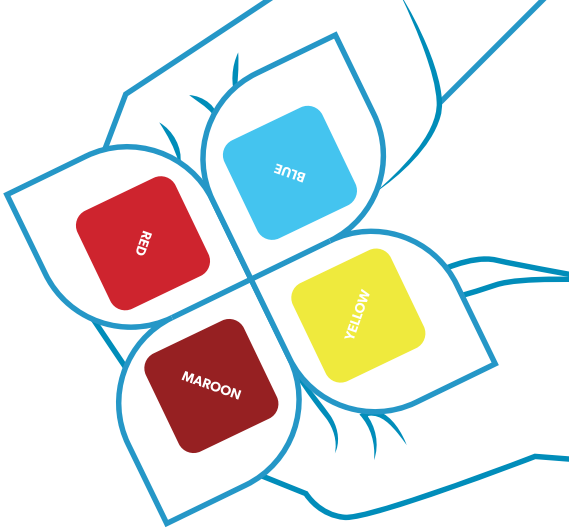
In 2023, WCAS partnered with Yellowhead Synergy Group to host an information night in Edson providing a networking opportunity to over 30 guests, including WCAS Members, Board Directors, municipalities, and industry in the area.

YELLOWHEAD SYNERGY GROUP

Pembina Area Synergy

Indigenous Awareness

WCAS recognizes the need for greater awareness of Indigenous Peoples within our region. By incorporating learnings from the Truth and Reconciliation Commission and external expertise, we are learning about First Nations and Métis. We respectfully appreciate the unique elements of Indigenous communities and value opportunities to engage on issues related to air quality.



EVENTS

WCAS appreciates the many opportunities to participate in local events and interactive sessions to share air quality information with our community.

- Drayton Valley Airport Breakfast
- Pigeon Lake Watershed Association "Love the Lake" event
- Hinton Wellness Fair
- Hinton FCSS 22nd Annual Registration & Information Fair
- Norquest College environmental monitoring student presentation
- Harry Collinge High School grade nine presentation
- Hinton Municipal Library Climate Action & Air Quality week

EDUCATIONAL RESOURCES

In 2023, WCAS developed four information cards to promote air quality monitoring awareness on the Air Quality Health Index, Education & Outreach - Working with Communities, Continuous Monitoring Stations, and Microsensor Technology.

We also developed a fun "particle catcher" for young people to play with friends, family, and classmates while learning about the Air Quality Health Index and how air quality impacts health.

Visit our Resources page at wcas.ca to download these free resources and to browse our video and resource library.

In partnership with the Alberta Capital Airshed, WCAS co-hosted the Air Quality Considerations: Reducing Needless Idling webinar. WCAS promotes and provides access to relevant webinar offerings hosted by Alberta Capital Airshed to our community members including:

- Connecting Air Quality Across Canada
- Air Quality Education for K-12 Schools

All webinar playbacks are available at wcas.ca under "Resources".

COMMUNICATIONS and OUTREACH

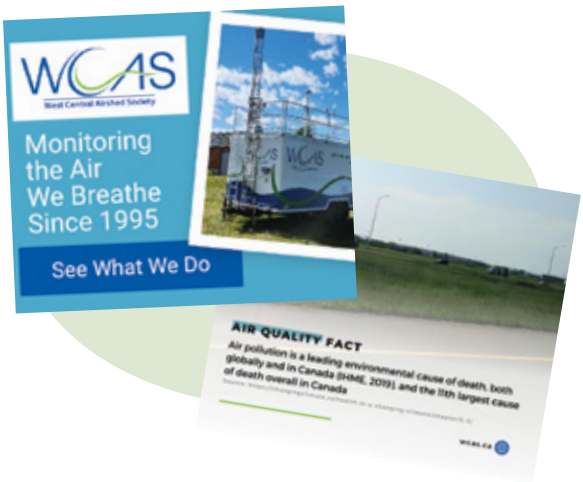
WCAS **e-newsletters** are distributed monthly to over 200 WCAS members and other stakeholders. These updates keep our audiences informed on WCAS, recognize those that contribute to our work, bring attention to important topics, and delve into air quality matters to help community members understand air quality data and how it relates to them.

WCAS' **social media** presence includes X @AirshedWest, Facebook @WestCentralAirshedSociety, and LinkedIn @west-central-airshed-society. Follow us for local air quality, advisories, special events, campaigns, and other highlights within our region and across Alberta.

WCAS continues to collaborate with other Alberta Airsheds and the Alberta Airsheds Council (AAC) to create and share impactful social media and educational content.

In 2023, WCAS engaged a media service for two outreach campaigns related to air quality and the AQHI within our Airshed.

On the Air Waves Radio advertisement ran from April to the end of October 2023 on radio channels throughout WCAS boundaries, including: CFHI Boom 104.9 Hinton, CFXW Boom 96.7 Whitecourt & Fox Creek, CFXE Real Country Radio Jasper, Hinton, Edson, and Grande Cache. It was well-received and is scheduled to air again in 2024 during wildfire season.



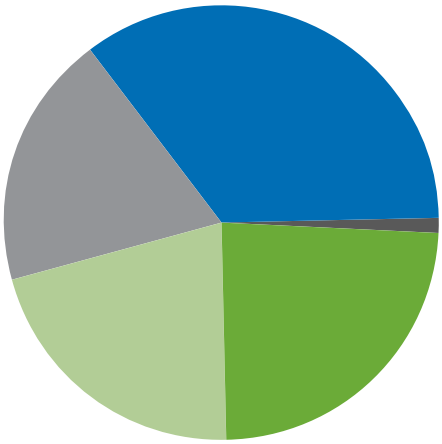
A **Digital Advertising Campaign** ran from September 2023 – February 2024 promoting WCAS and AQHI via strategically-placed digital screens across over 200 vendors located throughout the Airshed.

Clean Air Day took place on June 7, 2023. Through social media, WCAS spread the word about the importance of clean air and encouraged people to create a ripple effect of awareness to encourage others to act towards cleaner air and a healthier future.

REVENUE AND EXPENSES

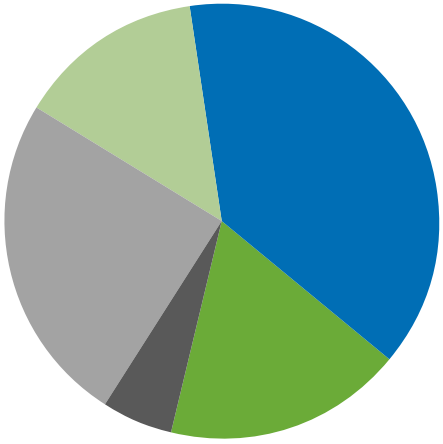
As a not-for-profit organization, West Central Airshed Society is funded by our members and partners. Our members include the various air quality stakeholder sectors, including industry whose membership fees are based on air emissions. Our partners include Alberta Environment and Protected Areas who provide WCAS an annual grant to support our communications, engagement, and education programs.

Revenue



- **Emitter Fees** 35%
- **Monitoring Agreements** 24%
- **Bio Monitoring Program** 21%
- **AEPA Grant** 19%
- **Municipal Membership Fees** 1%

Expenses



- **Monitoring Operations** 42%
- **Communication & Engagement** 27%
- **Data Management** 15%
- **Bio Monitoring Program** 10%
- **Administration** 6%

WCAS STAKEHOLDERS

Thank you to our diverse community of stakeholders whose support makes our work possible. A special note of appreciation goes to our dedicated members and volunteers, whose contributions are invaluable to our mission's success.

2023 Members

Alberta Forest Products Association
Alberta Newsprint Company
Aspenleaf Energy
ATCO Energy Solutions
Axiom Oil & Gas
Baytex Energy Ltd.
Big Horn Mining (formerly Coalspur)
Bonavista Energy Corp.
Bonterra Energy
Brazeau County
Canlin Energy Corp.
Capital Power
Cenovus Energy
CNRL (Canadian Natural Resources Ltd.)
Crescent Point Energy Corp.
Hawthorne Energy (formerly Tangle Creek Energy Ltd.)
Journey Energy
Keyera Corp.
Kineticor / Cascade Power Project Limited Partnership
Lac Ste. Anne County
Long Run Exploration Ltd.
Loyal Energy Operating Ltd.
Mondi Group
Municipality of Jasper
Obsidian Energy
Peyto (formerly Repsol)
Prairie Mines & Royalty / Westmoreland
Ricochet Oil Corp. (Arc Resources previously owned)
Sinopec Canada
Spartan Delta Corp
Teck Resources Ltd.
Tidewater Midstream Ltd.
Town of Drayton Valley
Town of Edson
Town of Hinton
TransAlta
Vermilion Energy
Weyerhaeuser
Woodlands County
Yellowhead County

Board of Directors 2022-23

Melissa Nelson (President), Capital Power Corporation
Curtis Brock (Vice-President), Alberta Environment and Protected Areas
Dan Moore (Secretary/Treasurer), Alberta Newsprint Company
Carter Marr, Weyerhaeuser
Charlie Martin, Landowner - Agriculture
Donna Wiltse, Brazeau County
Jennifer Knievel, West Fraser Hinton Pulp
Maureen Tang, TransAlta Generation Partnership

Board of Directors 2023-24 (AGM June 8)

Melissa Nelson (President), Capital Power Corporation
Donna Wiltse, Brazeau County (Vice-President)
Curtis Brock, Alberta Environment and Protected Areas (Secretary/Treasurer)
Dan Moore, Alberta Newsprint Company / Alberta Forest Products Association
Carter Marr, Weyerhaeuser
Charlie Martin, Landowner – Agriculture
Julie Oxtoby, Repsol
Maureen Tang/Aiman Siddiqi, TransAlta Generation Partnership

Staff

Gary Redmond, Executive Director
Kevin McCullum, Data Manager
Robert Chrobak, Operations Manager
Brenda Barber, Business Manager
Melissa Pockar, Corporate Communications
Leon Burns, Technician
Dean Yustak, Technician
Salina Fairbank, Engagement Coordinator
Yvonne Barker, Engagement Coordinator
Jordan Peterson, Membership Coordinator
Lily Lin, Data Validation Officer

Science and Technology Advisory Committee (STAC)

Alex Drummond, NorQuest College
Darcy Allen, Alberta Agriculture and Forestry, Farmers' Advocate Office
Matthew Parsons, Environment and Climate Change Canada
Prabal Roy, Alberta Environment and Protected Areas
Tiffany Wei, Alberta Energy Regulator

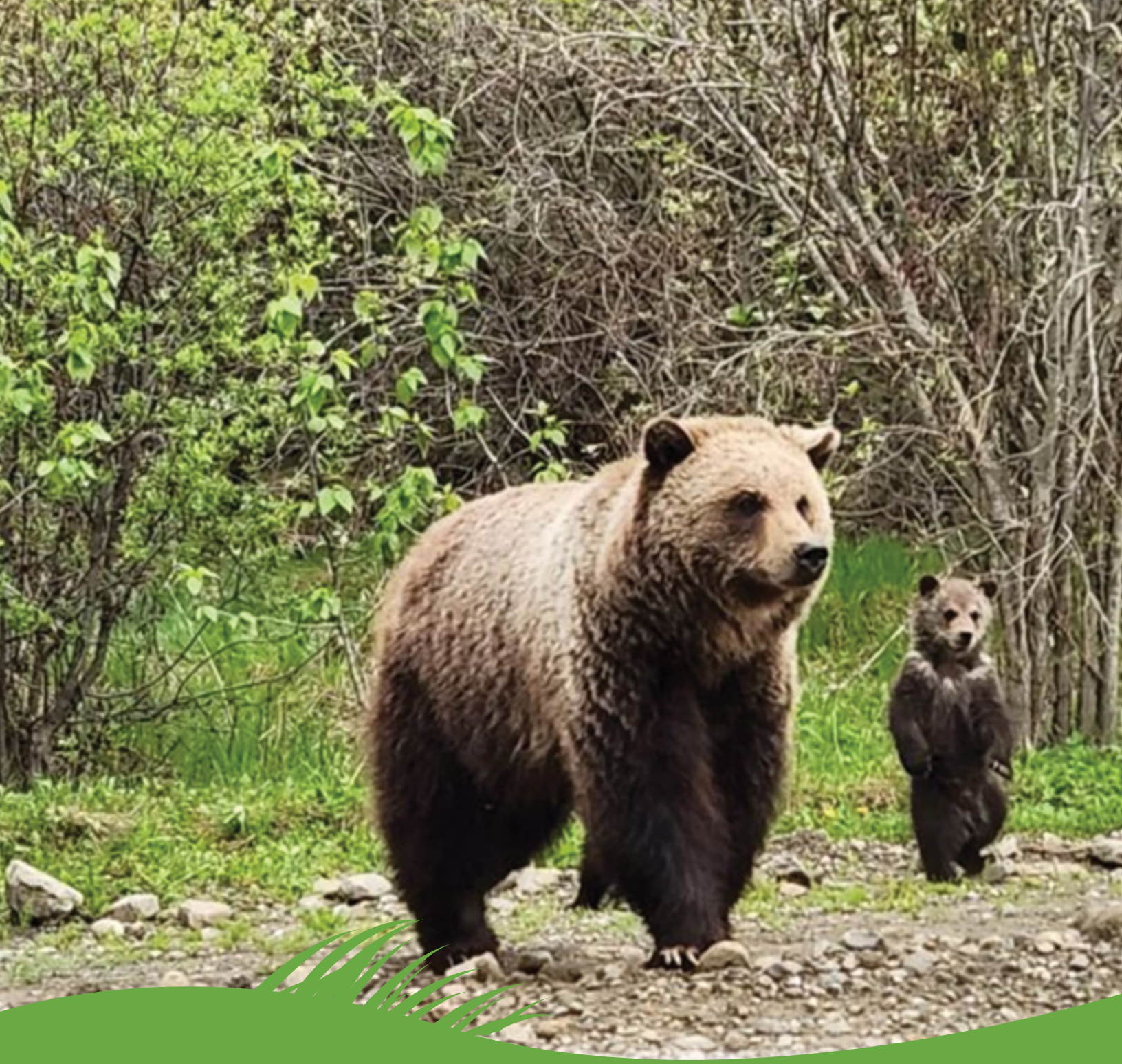
MEMBERSHIP

As the official air quality monitoring organization in West Central Alberta, WCAS is responsible to monitor, analyze, and report on air quality on behalf of the Alberta Government, and to the benefit of all orders of government in our region. We also play important roles supporting our members and engaging with communities to increase their understanding of air quality.

Highlighted benefits of WCAS membership include:

- Fulfillment of regulatory obligations for air quality monitoring and reporting
- Cost effective solutions for meeting environmental responsibilities
- Access to detailed, regional air quality reports
- Liaison with other stakeholders from government, municipalities, communities, academia, and industry sectors
- Participation and support for WCAS' educational outreach programs in schools and communities
- Access to air quality expertise and nearly three decades of regional data

For a listing of member benefits and advantages of participating in WCAS monitoring, download a copy of our Membership Brochure and learn more at wcas.ca



WCAS
West Central Airshed Society

Contact Us

Questions about air quality in our community?
Interested in becoming a WCAS member? Contact us!

wcas.ca
info@wcas.ca
587-499-4900
@AirshedWest
@WestCentralAirshedSociety
@West-Central-Airshed-Society