

Clean Air Strategic Alliance



ANNUAL REPORT 2019

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Acronyms

AAC Alberta Airsheds Council

CAAQS Canadian Ambient Air Quality Standards

AAQO Ambient Air Quality Objectives

CASA Clean Air Strategic Alliance

AQHI Air Quality Health Index

EFR Electricity Framework Review

AEP Alberta Environment and Parks

GoA Government of Alberta

AWC Alberta Water Council

GRC Governance Review Committee

ROVER Roadside Optical Vehicle Emissions Reporter

Commonly Used Chemical Compounds

NO_x Nitrogen Oxides

SO₂ Sulphur Dioxide

PM_{2.5} Fine particulate matter

H₂S Hydrogen Sulphide

O₃ Ozone

TRS Total Reduced Sulphur

NO₂ Nitrogen Dioxide

VOCs Volatile Organic Compounds

About CASA

The Clean Air Strategic Alliance was established in March 1994 as a new way to manage air quality in Alberta.

CASA supports three air quality management goals:

1. Protect the environment by preventing short- and long-term adverse effects on people, animals, and the ecosystem.
2. Optimize economic efficiency.
3. Promote pollution prevention and continuous improvement.

Vision

The air will have no adverse odour, taste, or visual impact and have no measurable short- or long-term adverse effects on people, animals, or the environment.

Mission

CASA is a multi-stakeholder alliance composed of representatives selected by industry, government, and non-government organizations to provide strategies to assess and improve air quality for Albertans, using a collaborative consensus process.

Mandate

1. Implement the Comprehensive Air Quality Management System for Alberta,
2. Conduct strategic air quality planning for Alberta through shared responsibility and use of a consensus-building, collaborative approach, and
3. Prioritize concerns with respect to air quality in Alberta and develop specific actions or action plans and activities to resolve those concerns.

Responsibility for specific air quality planning is shared among stakeholders. Regulatory implementation, licensing, compliance, control, and enforcement remain with existing government agencies.

The Government of Alberta (GoA) provides core funding to CASA. Financial information for fiscal year 2019 is available on the CASA website.



Previous annual reports included an evaluation of CASA's performance measures. At the time of publishing, CASA was updating its strategic plan and associated performance measures, and so are not reported against in 2019.

2019 CASA Highlights

25-Year Anniversary Celebration

CASA celebrated its 25-year anniversary with an evening event on December 12, 2019 at the Edmonton Federal Building. Many current and former Board members, project team members, staff, and partners gathered to celebrate CASA's many accomplishments since its inception in 1994. The evening was generously supported by Heartland Generation and Canadian Fuels Association, with space being provided by the GoA.

CASA President Bev Yee delivered remarks from the Honourable Jason Nixon, Minister of Environment and Parks, while Vice presidents Leigh Allard and Jim Hackett recounted 15 More Years of CASA Success, which built on CASA's 10 Successes in 10 Years at the tenth anniversary celebration. The group was honoured to have Chief Leonard Standing On The Road of the Montana First Nation attend the celebration and speak to attendees.

Through 25 years, CASA continues to dedicate itself to be a leader in multi-stakeholder organizations. Our recommendations, advice, and tools continue to have a lasting impact on the management of air quality in Alberta and beyond.

Governance Review Committee

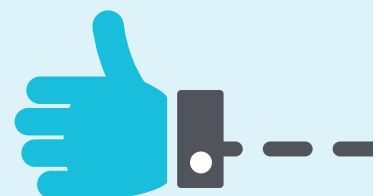
Following the strategic planning sessions in 2018, the Governance Review Committee (GRC) was established and began meeting in 2019 to fulfill the strategic priority of undertaking a governance review. The committee's terms of reference were approved by the CASA Board in December. The GRC will prepare a Current State Analysis Report and draft a Board of Directors Charter, while providing educational and feedback sessions to the Board during the process. The team is expected to submit these deliverables by the end of 2020.

Ambient Air Quality Objectives

In 2016, CASA established the Ambient Air Quality Objectives Project Team (AAQO Project Team) to inform AEP's development of Canadian Ambient Air Quality Standards (CAAQS). This includes using CASA's multi-stakeholder table to develop standards PM_{2.5}, ozone, NO₂ and SO₂, and TRS and H₂S. CAAQS have been development for long-term air zone management and are reported on annually. Standards are being developed based on a thorough review of scientific information, adverse health and ecosystem effects specific to the substance, and current technological and economic factors.

Interest-Based Conflict Resolution Training

CASA, along with the Alberta Water Council (AWC) held a two-day Interest-Based Conflict-Resolution Training Workshop in October. The workshop was led by a team of professionals from ADR Institute of Alberta, and registration was open to partners of CASA and the AWC. The workshop filled up quickly and was well received by participants. Due to the success, CASA and the AWC will investigate hosting another workshop in 2020 with a focus on interest based negotiation.



President's Message

It was with great pleasure that I assumed the role of CASA president this year. CASA is a prime example of a “made in Alberta” success story that has been recognized provincially, nationally, and internationally, and I have been a longstanding supporter of the collaborative, multi-stakeholder approach that CASA pioneered and continues to champion.

Bringing diverse interests together in search of creative solutions to difficult problems has been CASA's strength. CASA participants provided consensus advice on a flaring and venting framework that led to substantially reduced emissions from those important sources in our province. Emissions from Alberta's electricity generation sector also fell in response to the Electricity Management Framework. CASA's advice to government, industry, and other stakeholders has covered a wide range of topics from vehicle emissions and odour management, to the still-timely issue of particulate matter and ozone.

Partnerships have been a foundational piece of CASA's success, and the board, teams, and staff have all been active contributors. Their dedication and commitment and that of the

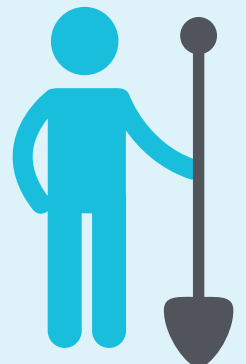


many organizations our members represent have not wavered over the quarter century CASA has endured.

As we face the environmental, social, and economic challenges of a new decade, we will need a strong team approach to achieve our goals and maintain CASA's effectiveness. I look forward to collaborating and tapping into the enthusiasm, experience, and insight of CASA as, together, we tackle important air quality issues in Alberta.

A handwritten signature in blue ink, appearing to read "Bev Yee".

Bev Yee
President



Executive Director's Message

CASA had the opportunity in 2019 to reflect on our work over the last 25 years and consider what sort of organizational structure and purpose would best carry us forward to the future. Building on the discussions and insight that arose from a strategic planning session in late 2018, the Board established a Governance Review Committee to make recommendations about future governance model practices, structures, and processes of CASA. At the same time, work continued to develop the multi-year strategic plan, which is expected to be ready in early 2020.

Project teams continue to be where much of CASA's hard work gets done. This year, the three active teams—ROVER III, EFR, and AAQO—continued their work, but all experienced short-term delays due to factors beyond their control.

In the spirit of building and enhancing partnerships and informing a wider audience about the importance of air quality issues, the Board decided to scope a symposium to raise awareness and understanding of air quality in Alberta and the Canadian Ambient Air Quality Standards (CAAQS)

As part of its own effort to remain informed about current and emerging air issues, the Board heard presentations this year on a diversity of topics from industry, non-government, and other organizations. We expanded our outreach using various communications tools, including developing a video about CASA. Reflecting our commitment to consensus-based decision



Photo credit: Chelsey Belec

making, we co-hosted an interest-based negotiation session with the AWC.

The GoA showed its confidence in CASA by providing multi-year funding until 2023. As was the case with many other organizations, CASA experienced budget cuts in 2019 but was able to address these reductions without negatively affecting our ongoing work.

This year, CASA celebrated a quarter century of multi-stakeholder collaboration on air quality issues. This highlight was recognized at an event to which previous CASA Board members and others were invited. We are tremendously grateful to all those who laid the foundation for our organization and to those who currently devote considerable time and effort in support of CASA.

Andre Asselin
Executive Director



Secretariat

(as of December 31, 2019)

Andre Asselin

Executive Director

Anuja Ramgoolam

Operations Manager

Cara McInnis

Communications Adviser

Christa Edwards

Board and Office Administrator

Katie Duffett

Project Manager

Kim Sanderson

Writing and Editing Support (Contracted)

Lauren Hall

Project Manager

Matt Dance

Project Manager (Contracted)

Sunny Yeung

Accountant (Contracted)

Marie-Claire St-Jacques was a Project Manager with CASA until March 2019.

Board of Directors

The following were members of the CASA Board of Directors as of December 31, 2019. CASA is very grateful for the ongoing commitment and support of these individuals and the organizations they represent.

Stakeholder Group	Sector	Director	Alternate Director
Industry	Petroleum Products	Alison Miller	Rob Hoffman
	Mining	Rob Beleutz	Dan Thillman
	Oil and Gas - Large Producers		Don McCrimmon
	Forestry	Keith Murray	Dan Moore
	Alternate Energy	David Lawlor	
	Chemical Manufacturers	James Baldwin	Greg Moffatt
	Agriculture	Rich Smith	Humphrey Banack
	Utilities	Jim Hackett (Vice President)	Ahmed Idriss
	Oil and Gas - Small Producers		
NGO	NGO Health	Leigh Allard	
	NGO Rural	Ann Baran	Randy Angle
	NGO Industrial	Ruth Yanor	Benjamin Israel
	NGO Urban	Bill Calder (Vice President)	David Spink
	Consumer Transportation		
Indigenous	First Nations	Holly Johnson Rattlesnake	
	Métis	Mary Onukem	
Government	Federal		Martin Van Olst
	Provincial Government - Environment	Bev Yee (President)	Tom Davis
	Local Government - Rural	Kathy Rooyakkers	
	Local Government - Urban		

CASA thanks the following directors and alternates, who stepped down in 2019, for their contributions:

Brian Ahearn

Petroleum Products

Claude Chamberland

Oil and Gas, Large Producers

Rick Blackwood

Provincial Government, Environment and Parks

Scott Wilson

NGO Consumer Transportation

Wayne Ungstad

NGO Rural

Project Teams and Committees

Ambient Air Quality Objectives Project Team

At its December 2016 meeting, the CASA Board approved a statement of opportunity from AEP for the formation of an AAQO Project Team. The priorities for this work are in response to the development of CAAQS for PM_{2.5}, ozone, NO₂, SO₂, TRS, and H₂S.

AAQOs are used in several ways, including assessing compliance near major industrial air emission sources and to report on the state of Alberta's atmospheric environment. These values are also applied in various assessments to model and predict the impact on air quality and human and environmental health (e.g., Environmental Impact Assessments, Human Health Risk Assessments).

The project team has recommended revised AAQOs for PM_{2.5} and ozone and provided advice for a TRS/H₂S guideline. These recommendations were approved by the Board and transmitted to AEP.

In 2019 the project team continued work on the NO₂ and SO₂ AAQOs and plans to provide them to the Board in 2020. In addition to the AAQO recommendations, the team will provide advice on methods to prioritize substances for the next AAQO review project.

Electricity Framework Review Project Team

The EFR project team was initiated in July 2018 to conduct the third five-year review of the Emissions Management Framework for Alberta's Electricity Sector. Through this review, the team's goal is to ensure that the Framework reflects current circumstances. The project is being completed in two phases, with the initial phase completed in December 2018. Phase 2 was initiated in February 2019.

The project team's initial task was to recommend a NO_x emission standard for natural gas-fired turbines. They were not able to reach consensus on this task, but in 2018 they developed an interim report that summarized the work completed by the team and the perspectives of the stakeholders involved. The Board approved the interim report and it was transmitted to AEP as advice to use in their decision making.

The second phase includes discussions on emissions standards for biogas, biomass, and reciprocating engine electricity generation; AEP's emissions trading system; and a literature review on environmental and health effects of substances produced through electricity generation, among other tasks. This work will continue into late 2020 when the project team will provide recommendations on the remaining project tasks to the Board.



ROVER III Project Team

In 2017, CASA launched its third ROVER project to assess in-use vehicle emissions using remote sensing technology. Based on the 2014 Air Pollutant Emissions Inventory, the on-road transportation sector is a large emission source of NO_x as well as being a source of volatile organic compounds and primary PM_{2.5}.

In 2018 the project team identified study sites where it expects to see a high proportion of heavy-duty vehicles, include Edmonton, Calgary, Red Deer, Grande Prairie, and Fort McMurray. Diesel engine exhaust emitted by these vehicles has been shown to have negative effects on human respiratory health. The field season originally planned for 2019 was delayed to ensure the availability of the best technology to capture the desired types of emissions.

The study sites were finalized in 2019, and the team began working on obtaining the municipal and provincial permits necessary to conduct the field work. Data collection is scheduled to begin in May 2020, with the project completed by December 2020.

Governance Review Committee

In December 2018 the CASA Board approved the establishment of the Ad Hoc GRC following the completion of the strategic planning session on October 31 and November 1, 2018. From this session four strategic priorities emerged, one of which was a governance review.

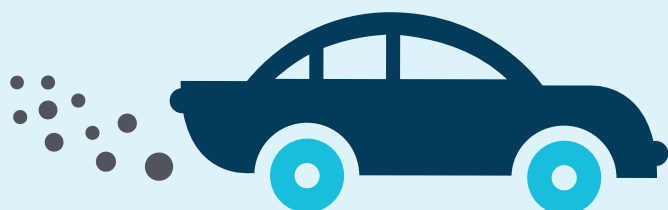
The goal of the GRC is to complete this strategic priority. The committee will review the design of the CASA governance model, including governing strategy, structure, roles, processes, competencies, and culture. The work of the GRC aims to maximize the value, contributions, and effectiveness of the Board and staff towards achieving the organization's vision and mission.

Terms of Reference were approved by the Board at the December 2019 meeting, and outlined several products that the GRC will be responsible for delivering. These include a Current State Analysis Report, a Board of Directors Charter, and educational feedback sessions to enable the Board of directors to provide opportunities for input and to acquaint all Board members with findings and progress.

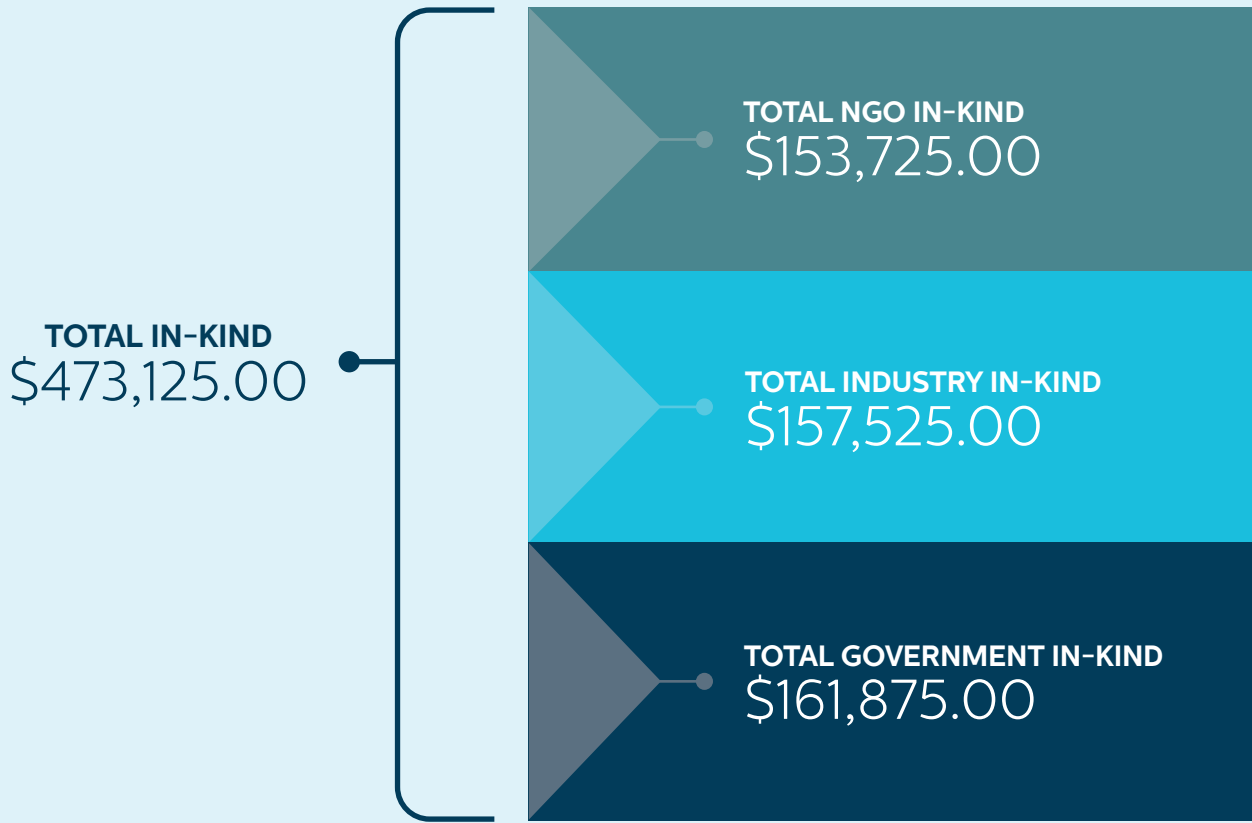
These deliverables are expected to be presented for Board consideration by December 2020.

Cash and In-Kind Contributions

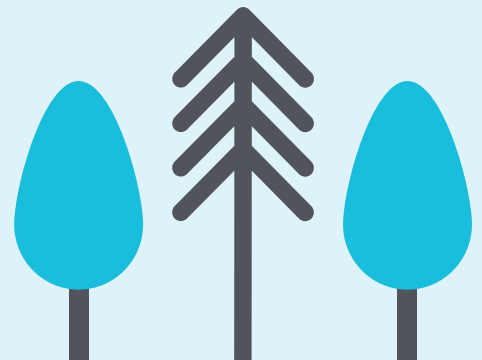
Cash and in-kind support are crucial factors in CASA's effectiveness and ability to undertake its work. Core funding is provided by the GoA and is not included in the contributions shown below. Government, industry, and non-government organizations all provided in-kind support. CASA has tried to assign a dollar value to this support by examining time and travel costs and other contributions but is confident that the true value of these contributions is both under-recorded and underestimated. The GoA generously provided office space as an in-kind contribution in 2019.



2019 In-Kind Contributions



CASA would like to thank Heartland Generation and Canadian Fuels Association for generously sponsoring the 25 year anniversary event.



Alberta Airshed Zones and the Alberta Airsheds Council

The Alberta Airsheds Council (AAC) is a partnership of Alberta's 10 Airsheds to support healthy air quality. Collaboration within and among Airsheds enables increased program alignment, cost efficiencies, and improved air quality monitoring and reporting. Airsheds operate regional networks responsible for monitoring, assessing, and educating Albertans on outdoor air quality. An important part of Alberta's Clean Air Strategy, Alberta Airsheds now operate more than 70 continuous air quality monitoring stations plus hundreds of passive monitors in compliance with provincial and federal standards, including Alberta's Air Monitoring Directive.

Air quality data and programs rely on the multi-stakeholder, consensus-based governance of each Airshed. Hundreds of stakeholders including municipalities, industry, Indigenous communities, federal and provincial governments, community members, and environmental groups contribute to the success of Airsheds. The contribution represents many areas of expertise and thousands of volunteer hours. Airsheds work hard to maintain long-standing trusted relationships in their communities.

In 2019, Airsheds continued to focus on the following key roles:

- **Air quality monitoring and reporting.** Airsheds are the backbone of Alberta's ambient air monitoring network and provide data to report the Air Quality Health Index (AQHI) in over 30 communities. Monitoring areas continued to grow in 2019 with the expansion of Airshed boundaries for West Central Airshed Society, Peace Airshed Zone Association, and the Peace River Area Monitoring Program Committee.

- **Provincial policy development and regional planning.** Airshed representatives actively contribute to CASA-led initiatives. In collaboration with AEP and other stakeholders, Airsheds remain focused on understanding and addressing fine particulate matter and ozone exceedances and are preparing for efforts that will focus on anticipated additional exceedances of the CAAQS.
- **Education and outreach.** Through the AAC, Airsheds have developed engaging educational videos and other materials on key topics including *How does wildfire smoke affect my health?* and *What is an Airshed?* At open houses, trade shows, service club meetings, municipal Council meetings, schools, and on social media, Airsheds connect with stakeholders to raise awareness about air quality matters and educate on taking action to improve air quality. A large variety of educational materials are available at albertaairshedsCouncil.ca and all stakeholders are invited to use and share the materials. Air quality forums and workshops hosted by Alberta Capital Airshed and Calgary Region Airshed Zone provided valuable learning for a broad range of stakeholders on the topics of Wildfire Smoke: Impact on Human Health and Community Adaptation and Resiliency; and Building Healthier Communities Together.



Airshed highlights from 2019:

Alberta Capital Airshed (ACA) continued to grow its monitoring reach, primarily through sensor and passive sites, which helps address some of the gaps in air quality knowledge. The ACA also expanded its outreach programs including hosting the 2nd annual Clean Air Forum, school education, coordination of Clean Air Day activities, expansion of social media presence, and a host of community-based activities.

Fort Air Partnership (FAP) completed a [Data Trending and Comparison Report](#) in 2019 that provides important information about how annual averages of five key substances that affect local air quality have changed over time in the FAP Airshed. Substances included in the report include fine particulate matter, sulphur dioxide, nitrogen dioxide, carbon monoxide, and ozone, and comparisons were made provincially, nationally, and internationally. FAP continued its portable air monitoring station project in 2019, concluding a 10-month project in the town of Bon Accord ([Bon Accord Portable Station Monitoring Project Summary Report](#)) and is initiating a new project in the village of Chipman that will continue until May 2020.

The **Parkland Airshed Management Zone (PAMZ)** continued to work with AEP on the implementation of a PM_{2.5} Response Plan as well as representing its stakeholders' interests on AEP's CAAQS Advisory Group for the region. During the summer months PAMZ returned to the Town of Bentley to conduct follow-up air quality monitoring of emissions from a local hog-farming operation. The results indicate that air quality has improved with the reduction in manure associated with the facility's change in operations from a farrow to finish operation to a farrow to wean facility.

In 2019, **Peace Airshed Zone Association (PAZA)** formalized its boundary expansion to encompass the entire MD of Greenview, including the Towns of Fox Creek and Grande Cache. To better understand the growth and development in PAZA's region, a network assessment was completed to determine appropriate monitoring levels and locations. PAZA's portable continuous monitoring station is currently located south of the Town of Wembley to capture background information as new developments plan and begin operations. PAZA continues to engage with area schools to educate and inform students on the importance of air quality and personal action. The annual Walk Through the Forest event, in conjunction with local forestry stakeholders, hosted 1000+ students as well as teachers and parents.

In Fall 2019, the **Peace River Area Monitoring Program (PRAMP)** Committee deployed its first AQHI station near Cadotte Lake on Woodland Cree First Nation land. The AQHI is one learning element in classroom sessions delivered by PRAMP's new Education and Outreach Coordinator, along with information about the importance of healthy air quality for honeybees. The Peace River area is the honey capital of Canada and PRAMP's connections with local apiaries have added a unique element to its education and outreach program.

West Central Airshed Society (WCAS) completed a network assessment to determine how its broad network of monitoring sites, many of which have been in place for over 20 years, meets the needs of the current environment (population, emissions sources, etc.). WCAS' Drayton Valley station was upgraded and formally re-opened to provide AQHI readings for the local community. WCAS also expanded its area and initiated several outreach activities to increase knowledge of air quality.

In 2019, the **Wood Buffalo Environmental Association (WBEA)** reviewed 15 years of data from its Terrestrial Environmental Effects Monitoring program which resulted in the publication of nine scientific papers that explored the effects of air emissions and deposition in the region. The WBEA also continued with its Community Odour Monitoring Program (COMP), which compares user-submitted information about odours to the data collected at WBEA air monitoring stations. The WBEA launched a COMP website (www.comp.wbea.org) that allows users to view all the odours observations submitted through the app and learn about odours and air quality.

The **Calgary Region Airshed Zone (CRAZ)** Air Quality Management Planning Committee completed a review and produced an Achievement Report of the Particulate Matter and Ozone Plan. The committee finalized and updated the plan to include the new standards set by CAAQS. The plan will now be called the Air Quality Management Plan. CRAZ's Portable Air Monitoring Lab (PAML) is currently on a four-year deployment schedule. Every six months the PAML is relocated to one of four different locations being used to gather air data and provide the municipalities with an AQHI. Until April 2020 the PAML will be in the Town of Canmore.

LICA's (Lakeland Industry & Community Association) "Air Quality DNA Data Visualization" was updated to include over a decade of air monitoring data. The DNA visualization is a novel approach to help Albertans understand air quality in an approachable and engaging way. LICA also installed air quality displays in community centers in Cold Lake and Bonnyville. These displays include a unique AQHI lantern and posters with information to promote clean air. With the Portable Air Monitoring System (PAMS) located near Charlotte Lake, Phase 2 of a project to quantify odours in and around the Town of Bonnyville continued in 2019; LICA has been able to identify odour-causing compounds, their concentrations, and sources. The PAMS will be relocated to a new community in early 2020.

Palliser Airshed Society (PAS) completed the long-range plan for our airpointer™ portable monitor. The airpointer™ which is currently at the Medicine Hat Trap Club will be moved to Taber in spring 2020 and then to Brooks in fall 2021. There have been administrative changes as well with Ken Pearl retiring as Executive Director in January; Susan McIntosh from AEP retired from the Board of directors in September. PAS looks forward to increasing our education and outreach initiatives in 2020 as well as launching a new website.

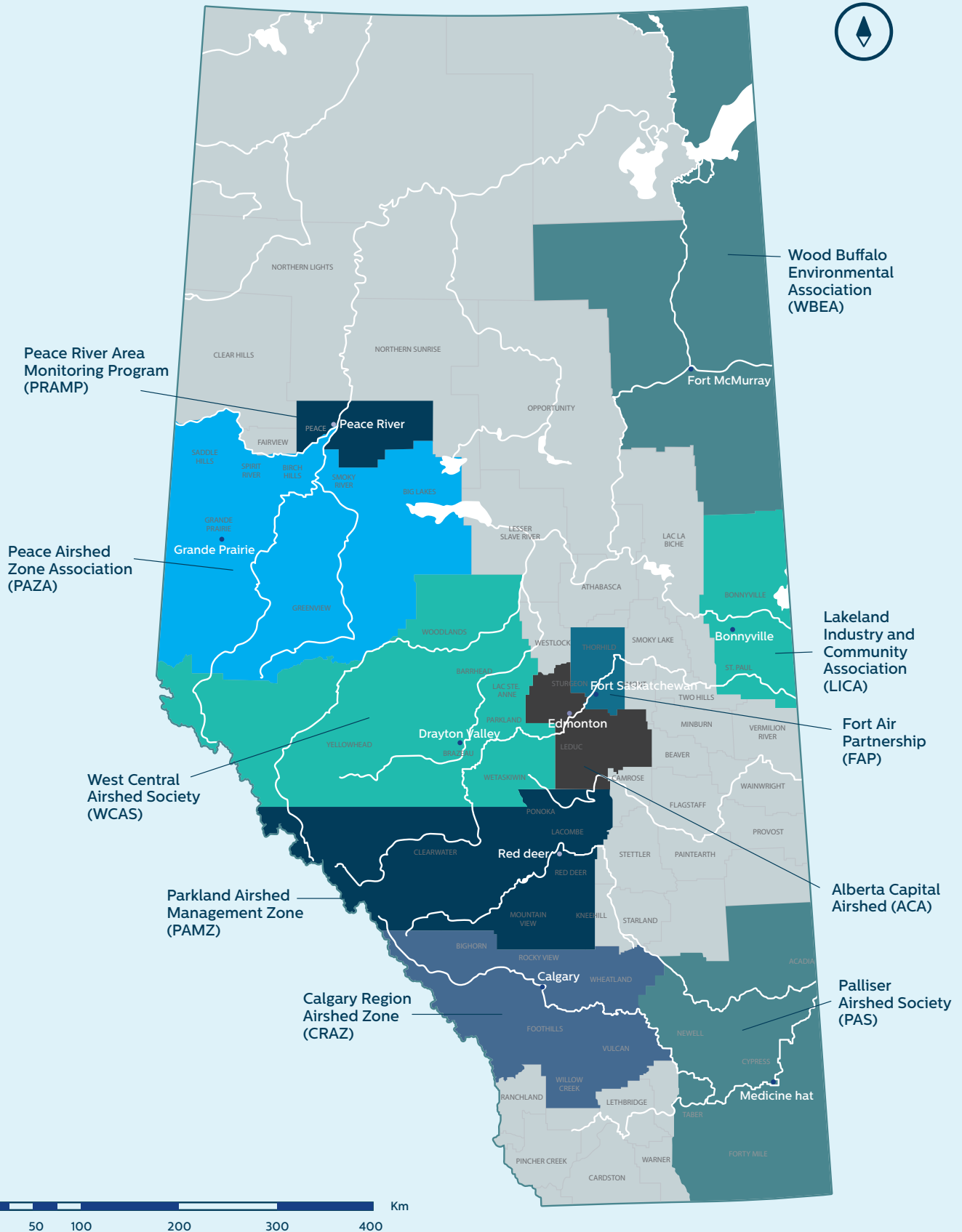
For more information, visit:

www.albertairshedsCouncil.ca



Alberta Airsheds

(October 2019)



CASA Participating Organizations

CASA could not be successful without the help of the many organizations that support participants on the Board and project teams. CASA is very grateful to these organizations for providing financial and in-kind contributions of time and expertise.

Alberta Agriculture and Forestry	Capital Power Corporation	Mewassin Community Council
Alberta Airsheds Council	Chamberland Consulting Ltd.	NextEra Energy Canada
Alberta Beef Producers	Chemistry Industry Association of Canada	North West Redwater Partnership
Alberta Canola Producers	City of Calgary	North West Refinery
Alberta Capital Airshed	City of Edmonton	Notinto Sipyi Conservation Authority
Alberta Energy	City of Grande Prairie	NOVA Chemicals Corporation
Alberta Energy Regulator	City of Red Deer	Palliser Airshed Zone
Alberta Environment and Parks	Dow Chemicals	Parkland Fuel Corporation
Alberta Environmental Network	ENMAX	Pembina Institute
Alberta Federation of Agriculture	Environment and Climate Change Canada	Prairie Acid Rain Coalition
Alberta Forest Products Association	Fort Air Partnership	R. Angle Consulting
Alberta Health	Government of Alberta	Repsol
Alberta Health Services	Graymont Western Canada Inc.	Rural Municipalities of Alberta
Alberta Motor Association	Health Canada	Samson Cree Nation
Alberta Motor Transport Association	Heartland Generation	Southern Alberta Group for the Environment
Alberta Newsprint Company	Imperial Oil Ltd.	Suncor Energy
Alberta Transportation	Innstor	Syncrude
Alberta Pacific Forest Industries Inc.	Inter Pipeline	The Lung Association Alberta and NWT
ATCO Power Canada Ltd.	International Council on Clean Transportation	TC Energy
Calgary Region Airshed Zone	Maxim Power Corp.	TransAlta
Canadian Association of Petroleum Producers	MEG Energy	West Central Airshed Society
Canadian Fuels Association	Methanex Corporation	Weyerhaeuser Company Ltd.





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