

# Annual Report 2007





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## 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

To recommend strategies to assess and improve air quality in Alberta, using a consensus process.

## ABOUT CASA

The Clean Air Strategic Alliance (CASA) is a multi-stakeholder partnership, composed of representatives selected by industry, government and non-government organizations. Stakeholders are committed to developing and applying a comprehensive air quality management system for all Albertans.

All CASA groups and teams, including the board of directors, make decisions and recommendations by consensus. Recommendations are likely to be more innovative and long lasting than those reached through adversarial processes.

## Mandate

CASA was established by Ministerial Order as an advisory committee under the *Environmental Protection and Enhancement Act* and the *Department of Energy Act* to undertake and report on:

1. The operation of the Comprehensive Air Quality Management System (CAMS).
2. The conduct of strategic air quality planning for Alberta through shared responsibility and the utilization of a consensus building collaborative approach. Planning shall include:
  - i. clear identification of issues;
  - ii. prioritization of specific problems;
3. The prioritization of problems with respect to air quality in Alberta and specific actions or action plans and activities to resolve such problems. The action plans will prescribe guidelines for the initiatives to be undertaken, the economic and environmental consequences, and what outcomes are expected from each initiative.
  - iii. allocation and coordination of resources;
  - iv. development of action plans; and
  - v. evaluation of results.

Decisions on matters of policy and action of CASA will be based on consensus. Where consensus policy and action matters are not achieved, yet some action is deemed necessary, specific alternatives will be provided to the Ministers for decision. The alternatives will reflect the extent of consensus and areas of agreement, the specific issues about which there is no consensus, and the reasoning behind the differing views.

Progress reports will measure and compare the actual benefits and results to projected outcomes, responsibility, accountability and performance of the initiatives; and any reports submitted will be jointly presented to the Ministers of Environment and Energy, and other Ministers as appropriate.

## CASA supports the following 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.

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## HIGHLIGHTS

### Revised vision

A multi-stakeholder board committee revised the CASA vision to read: *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.*

### New challenge - Clean Air Strategy for Alberta

The CASA board accepted a statement of opportunity from Alberta Environment to create a Clean Air Strategy for Alberta. A working group created terms of reference for a project team, which has been meeting since September to gather information and develop the team's approach to this exciting challenge.

### Electricity framework review

The CASA board approved a statement of opportunity brought forward by Alberta Environment for a five year review of Best Available Technology Economically Achievable and other related elements as recommended in the *Emissions Management Framework for the Alberta Electricity Sector*, the CASA Electricity Project Team Report to Stakeholders (November 2003).

### Renewable and alternative energy

The Renewable and Alternative Energy Project Team presented its final report and recommended that the Government of Alberta develop and implement a policy framework to increase the supply of and demand for renewable and alternative electrical energy in Alberta.

### Coordination workshop

A successful Coordination Workshop to facilitate inter-team communication was held for sixty-six stakeholders in Red Deer. The communications committee subsequently recommended ways to increase coordination and communication between teams beyond the workshop.

### Performance measures review and stakeholder satisfaction survey

The board approved several new indicators and measures after a comprehensive two year review. The stakeholder satisfaction survey was expanded and revealed that, although our stakeholders are very satisfied in most areas, there is room for improvement.

### Performance evaluation

The bylaws require a review of the organization's performance every three years. In 2007, the board tasked a multi-stakeholder committee with finding the answer to this question, "How effective is CASA in supporting the Government of Alberta in strategic air quality planning?"

## Thank you to past board members

CASA gratefully acknowledges the contribution of board members, indicated below, who stepped down in 2007.

**Rick Boucher**

Métis Nation of Alberta

**Bob Cameron**

South Peace Environmental Association

**Gerald Cunningham**

Métis Settlements General Council

**Mike Kelly**

Transalta Corporation

**John Knapp**

Alberta Environment

**Ron Laing**

Lehigh Inland Cement Limited

**Wayne McKendrick**

Alberta Health and Wellness

**Jim Vollmershausen**

Environment Canada

**Eugene Wauters**

Alberta Association of Municipal Districts and Counties

## MESSAGE FROM THE PRESIDENT



Peter Watson

This was a pivotal year for CASA as we took on our greatest challenge yet – development of a Clean Air Strategy for Alberta. Creating CASA was a recommendation of the *1991 Clean Air Strategy*, so it is only fitting that CASA lead the development of the new strategy. The strategy is expected to set the future direction for air quality in Alberta, giving consideration to existing CASA frameworks and other related strategies in Alberta.

In 2007, the clean air strategy set us on the road to the future, while CASA's performance evaluation and measurement systems took a good look at how far we have come. CASA has always viewed evaluation as a key element of success, to measure progress towards the CASA vision for clean air, but also to assess the organization itself. Since day one, CASA's bylaws have required that our performance as an organization is evaluated every three years. In 1997, 2001, 2004 and now 2007, the board established multi-stakeholder committees to oversee or undertake an evaluation. In 2007, the performance evaluation committee dedicated over 500 hours to interviewing government officials and writing a report while seeking to answer the question of how effectively CASA supports the Government of Alberta in strategic air quality planning. As a proponent of utilizing *the CASA Way* in other multi-stakeholder processes, I am confident that this committee will have some interesting findings to share with the board and others.

Stakeholders from government, non-government and industry sectors, continue to show a high level of commitment to working within the CASA process. I see a trend emerging where stakeholders agree to come together again to advance their work using a multi-stakeholder process. An example is the electricity framework review. This is evidence that stakeholders see value in the CASA approach, and the strength of a consensus agreement. Other organizations in Alberta, such as the Alberta Water Council, are modeling their approach after the CASA process, bringing more awareness to the benefits of the process in other avenues.

In 2007, the CASA vision was updated to address new perspectives on what CASA should be achieving. It was agreed by consensus that *the air will have no adverse odour, taste or visual impact and have no measurable short- or long-term adverse effect on people animals or the environment*. Together, we will work towards achieving this vision.

A handwritten signature in black ink, appearing to read 'Peter Watson', located at the end of the message.

# BOARD OF DIRECTORS As of December 31, 2007

Sector: Industry	Representative	Alternate
Member Category		
Agriculture	Len Vogelaar Alberta Beef Producers	Humphrey Banack Wild Rose Agricultural Producers
Alternate energy	Theresa Howland Alternate energy producers	David Baker Alternate energy producers
Chemical manufacturers	Réjeanne Cool Canadian Chemical Producers Association	Al Schulz Canadian Chemical Producers Association
Forestry	Brian Gilliland Alberta Forest Products Association	Keith Murray Alberta Forest Products Association
Mining	Peter Darbyshire Mining industry	
Oil and gas (large producers)	Dave Byler, (CASA vice-president) Canadian Association of Petroleum Producers	Bill Clapperton Canadian Association of Petroleum Producers
Oil and gas (small producers)	Vacant	
Petroleum products	Cindy Christopher Canadian Petroleum Products Institute	Ted Stoner Canadian Petroleum Products Institute
Utilities	Alex McFadden Utilities	
<b>Sector: Government</b>		
Federal	Tim Goos Environment Canada	
Provincial	Peter Watson, (CASA president) Alberta Environment	Bev Yee Alberta Environment
Provincial	Sandra Locke Alberta Energy	Jerry MacPherson Alberta Energy
Provincial	Margaret King Alberta Health and Wellness	Alex Mackenzie Alberta Health and Wellness
Local (urban)	Len Bracko Alberta Urban Municipalities Association	
Local (rural)	Carolyn Kolebaba Alberta Association of Municipal Districts & Counties	
Aboriginal (First Nations)	Trevor Swampy Samson Cree Nation	
Aboriginal (Métis)	Allan Wells Métis Settlements General Council	
<b>Sector: Non-government organizations</b>		
Consumers/transportation issues	Vacant	Timothy Lambert Canadian Public Health Association
Health issues	Tony Hudson The Lung Association - Alberta and NWT	Linda Duncan Lake Wabamun Enhancement & Protective Association
Pollution issues	Chris Severson-Baker Pembina Institute	Ian Peace Residents for Accountability in Power Protection Development
Pollution issues	Myles Kitagawa Toxics Watch Society of Alberta	Nashina Shariff Toxics Watch Society of Alberta
Wilderness issues	Martha Kostuch (CASA vice-president) Prairie Acid Rain Coalition and Bert Riggall Environmental Foundation	

## MESSAGE FROM THE EXECUTIVE DIRECTOR



Kerra Chomlak

2007 brought some new challenges and some change for the Clean Air Strategic Alliance. Several new teams formed, including one to develop the Clean Air Strategy for Alberta, and one to conduct the five-year review of the emissions management framework for the Alberta electricity sector. The start-up of both of these teams required a significant commitment of time and resources from stakeholders and staff.

The renewable and alternative energy team finalized their work in 2007, with a consensus report and recommendations accepted by the CASA board. In June, the communications committee hosted a coordination workshop in Red Deer, with 66 stakeholders in attendance. As a result of this workshop, CASA teams have made a more concentrated effort to stay up-to-date on other teams' work.

The CASA secretariat managed to maintain a high level of service to the board and teams during a period of change in 2007. In January, Jillian Flett joined the secretariat as acting executive director, and led the team through the key milestones mentioned above. Jillian's commitment to CASA in 2007 is appreciated, and we thank her for her continued dedication to the organization.

It was with pride that I accepted the position of executive director in October 2007. I highly value the multi-stakeholder, consensus approach to decision making, and am personally interested in achieving clean air for Alberta. Having worked for the secretariat since 2000, I have a great deal of respect for the process, and for the

contributions of stakeholders, which are essential to our success. My goals for CASA are to have effective, efficient, and engaging meetings, and to maintain *the CASA Way*, ensuring open dialogue and building trust amongst stakeholders. I am eager to continue to build on the successes of my predecessors, and to work with you all towards our vision of clean air.

In 2007, as with other years, stakeholders participating at the team, board and executive levels have demonstrated a superior level of personal commitment to CASA. It is the contributions of time and energy of our stakeholders that made CASA successful again in 2007. On behalf of the CASA secretariat, thank you to all of you for your continued participation, and I look forward to working with all of you in 2008.

*KChomlak*

### Secretariat

#### Executive director

Jillian Flett (to October 15)  
Kerra Chomlak (from October 15)

#### Senior project manager

Kerra Chomlak (to October 15)  
Matthew Dance (to July 31)

#### Science advisor

Marianne English (to February 28)

#### Project managers

Brian Free (from January 15)  
Kevin McLeod (to July 13)  
Jennifer Allan (from September 10)

#### Office manager

Lori Melanson

#### Communications manager

Sharon Hawrelak

#### Administrative assistants

Kathy Semchuk  
Alison Jenness

Thank you to Kim Sanderson, Christine Macken, Carmen Rieder and Christa Cruthers for applying their skills as consultants to various CASA teams this year.

## THE PEOPLE

Stakeholders are the key to our success. Each of the names in the board, committee and team membership lists throughout this report represent a phenomenal commitment of time, expertise and resources as well as a commitment to *the CASA Way* and air quality in Alberta.

A lot of effort is also applied from those behind the scenes who support those who sit at the board or project team table. CASA is very grateful for the substantial and valuable contributions of time and expertise from those individuals who support their stakeholder representatives.

## THE ORGANIZATIONS

Over 100 organizations have offered financial and in-kind support to CASA. This support ensures the continuing success of CASA.

Agrium	Canadian Public Health Association	Nexen Inc.
Alberta Agriculture and Rural Development	Capital Health	Northern Lights Health Region
Alberta Airsheds Council	Chinook Health Region	NOVA Chemicals Corporation
Alberta Association of Municipal Districts and Counties	City of Calgary	Palliser Airshed Society
Alberta Beef Producers	City of Edmonton	Parkland Airshed Management Zone
Alberta Cattlefeeders Association	Climate Change Central	Peace AirShed Zone Association
Alberta Electric System Operator	ConocoPhillips Canada	Pembina Agricultural Protection Association
Alberta Employment, Immigration and Industry	Cumulative Environmental Management Association	Pembina Institute
Alberta Energy	David Thompson Health Region	Petro Canada
Alberta Energy Resources Conservation Board	DF Technical Services	Ponoka Fish and Game
Alberta Environment	Dow Chemical Canada Ltd.	Prairie Acid Rain Coalition
Alberta Federation of Labour	EnCana Corporation	Pristine Power Inc.
Alberta Forest Products Association	ENMAX Energy Corporation	Residents for Accountability in Power Industry Development
Alberta Health and Wellness	Environment Canada	Rocky Mountain House Community Health Centre
Alberta Home Builders Association	EPCOR	Samson Cree Nation
Alberta Infrastructure and Transportation	Fort Air Partnership	Shell Canada Limited
Alberta Milk	Friends of an Unpolluted Lifestyle	Small Explorers and Producers Association of Canada
Alberta Motor Transportation Association	Government of British Columbia, Oil and Gas Commission	Society for Environmentally Responsible Livestock Operations
Alberta Pork	Graymont Limited	South Peace Environmental Association
Alberta Poultry Producers	Green Alberta Sustainable Product Assessment Inc.	Southern Alberta Environmental Group
Alberta Sustainable Resource Development	Health Canada	Stantec
Alberta Urban Municipalities Association	Howell-Mayhew Engineering Inc.	Suncor Energy Inc.
Alberta Utilities Commission	Husky Oil Limited	Syncrude Canada Ltd.
Alberta Water Council	Imperial Oil Resources	The Alberta Roadbuilders and Heavy Construction Association
ATCO Gas	Intensive Livestock Working Group	The Lung Association - Alberta and NWT
ATCO Power	Lafarge Canada Inc.	Toxics Watch Society of Alberta
Bert Riggall Environmental Foundation	Lake Wabamun Enhancement and Protection Association	TransAlta Corporation
Building Owners and Managers Association of Edmonton	Lakeland Industry and Community Association	TransCanada
Bullfrog Power Inc.	Lehigh Inland Cement Limited	TransCanada Transmission
Calgary Health Region	MEGlobal Canada Inc.	Vision Quest Windelectric Inc.
Calgary Motor Dealers Association	Métis Nation of Alberta	West Central Airshed Society
Canada Mortgage and Housing Corporation	Métis Settlements General Council	Weyerhaeuser Company Ltd.
Canadian Association of Petroleum Producers	Mewassin Community Action Council	Wild Rose Agricultural Producers
Canadian Chemical Producers Association	MGV Energy Inc.	Wood Buffalo Environmental Association
Canadian Home Builders Association	Natural Resources Canada	
Canadian Natural Resources Limited	Natural Resources Conservation Board	
Canadian Petroleum Products Institute		

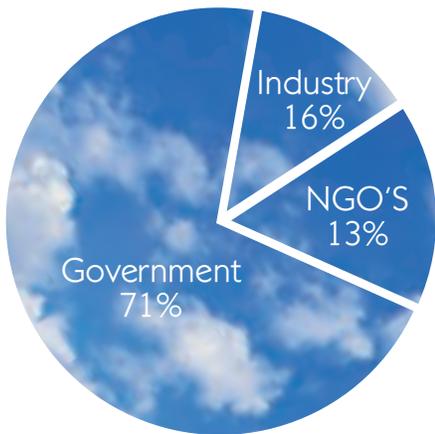
# FUNDING

The core operations of CASA are supported by financial contributions from Alberta Environment, Alberta Energy, Alberta Agriculture and Rural Development and Alberta Health and Wellness. Industry, government and non-government organizations provide additional funding and in-kind support for CASA teams.

CASA has tried to put an actual dollar figure on the support and assistance provided by each sector. The figures are compiled by examining time and travel costs, as well as cash and in-kind contributions and almost certainly under-record and under-estimate the actual value of stakeholder contributions. These figures are offered in the spirit of acknowledging and recognizing participant involvement.

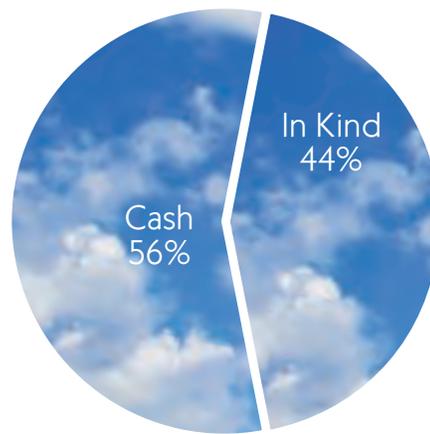
## Cash and in-kind contributions to CASA teams

Cash and in-kind contributions by sector:



Industry:	\$ 235,400
Government:	\$ 1,029,625
Non-government organizations:	\$ 184,975
<b>Combined:</b>	<b>\$ 1,450,000</b>

Total cash and in-kind contributions:



In-kind:	\$ 644,031
Cash:	\$ 805,969
<b>Combined:</b>	<b>\$ 1,450,000</b>

# SUMMARIZED FINANCIAL STATEMENTS

of the Clean Air Strategic Alliance Association, December 31, 2007.

The complete audited financial statements are available at [www.casahome.org](http://www.casahome.org) or by contacting CASA directly.



Hawkings Epp Dumont LLP  
Chartered Accountants

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E-mail: [hed@hed-edm.com](mailto:hed@hed-edm.com)

## AUDITORS' REPORT ON SUMMARIZED FINANCIAL STATEMENTS

To the Members of  
The Clean Air Strategic Alliance Association  
Edmonton, Alberta

The accompanying statement of financial position and the statement of operations and changes in fund balances are derived from the complete financial statements of The Clean Air Strategic Alliance Association (the "Association") as at December 31, 2007 and for the year then ended on which we expressed an opinion without reservation in our audit report dated January 30, 2008. The fair summarization of the complete financial statements is the responsibility of management. Our responsibility, in accordance with the applicable Assurance Guideline of The Canadian Institute of Chartered Accountants, is to report on the summarized financial statements.

In our opinion, the accompanying financial statements fairly summarize, in all material respects, the related complete financial statements in accordance with the criteria described in the Guideline referred to above.

These summarized financial statements do not contain all the disclosures required by Canadian generally accepted accounting principles. Readers are cautioned that these statements may not be appropriate for their purposes. For more information on the Association's financial position, results of operations and changes in financial position, reference should be made to the related complete financial statements.

Edmonton, Alberta  
January 30, 2008

Chartered Accountants  
Hawkings Epp Dumont LLP

# STATEMENT OF FINANCIAL POSITION

As at December 31, 2007

	2007			2006
	Core	External Projects	Total	Total
<b>Current Assets</b>				
Cash and cash equivalents	\$ 398,443	\$ 183,367	\$ 581,810	\$ 1,029,971
Accounts receivable	140,000	56,000	196,000	21,564
Accrued interest receivable	629	133	762	1,268
Interfund receivable (payable)	409	(409)	-	-
Prepaid expenses	5,804	-	5,804	5,015
	545,285	239,091	784,376	1,057,818
Property and Equipment	5,892	-	5,892	2,464
	<b>\$ 551,177</b>	<b>\$ 239,091</b>	<b>\$ 790,268</b>	\$ 1,060,282
<b>LIABILITIES AND FUND BALANCES</b>				
<b>Current Liabilities</b>				
Accounts payable and accrued liabilities	\$ 47,919	\$ -	\$ 47,919	\$ 96,456
Deferred contributions	162,076	239,091	401,167	646,948
	209,995	239,091	449,086	743,404
<b>Fund Balances</b>				
Internally restricted	240,000	-	240,000	240,000
Unrestricted				
Invested in property and equipment	5,892	-	5,892	2,464
Available for operations	95,290	-	95,290	74,414
	<b>341,182</b>	<b>-</b>	<b>341,182</b>	316,878
	<b>\$ 551,177</b>	<b>\$ 239,091</b>	<b>\$ 790,268</b>	\$ 1,060,282

# STATEMENT OF OPERATIONS AND CHANGES IN FUND BALANCES

For the Year ended December 31, 2007

	2007			2006
	Core	External Projects	Total	Total
<b>Revenue</b>				
Grants	640,557	165,412	805,969	1,096,283
Interest	24,304	8,479	32,783	32,613
	664,861	173,891	838,752	1,128,896
<b>Expenses</b>				
Projects	231,248	-	231,248	358,955
General and administrative	217,832	-	217,832	231,770
External Projects	-	173,891	173,891	286,402
Communications	126,807	-	126,807	131,778
Board Support	64,670	-	64,670	96,394
Statement of concern	-	-	-	927
	640,557	173,891	814,448	1,106,226
<b>Excess of Revenue over Expenses</b>	<b>24,304</b>	<b>-</b>	<b>24,304</b>	<b>22,670</b>
<b>Fund Balance, Beginning of Year</b>	<b>316,878</b>	<b>-</b>	<b>316,878</b>	<b>294,208</b>
<b>Fund Balance, End of Year</b>	<b>\$ 341,182</b>	<b>\$ -</b>	<b>\$ 341,182</b>	<b>\$ 316,878</b>

# EVALUATING AND MEASURING CASA PERFORMANCE

## Performance evaluation

In the belief that “what gets measured gets done,” CASA has a strong system for measuring and evaluating its performance. When CASA was established in 1994, an article was included in the bylaws to ensure that overall organizational performance is evaluated on a regular basis. Article 16 of the CASA bylaws requires that, *“The performance of the Society will be evaluated upon the expiration of three years from the date of its incorporation, or the date of its last performance evaluation, by the Members of the Society.”*

The most recent performance evaluation was conducted during 2007 by a multi-stakeholder committee of the board. The committee’s task was to answer the question, “How effective is CASA in supporting the Government of Alberta in strategic air quality planning?” The committee will report their findings to the CASA board in early 2008.

## Priority setting

Every three years, the CASA board engages in a priority setting process on the importance of existing and emerging air quality issues. The most recent process was commenced in 2005 and completed in 2006. Five new prospective issues of concern were presented and discussed by the board. The next priority setting process is expected in 2008.

## Performance measures

A review of performance measures in 2005 and 2006 resulted in two new measures and several updated indicators in 2007. The new indicators examine air quality in areas of CASA action. Note that the first performance measure evaluates Alberta’s progress toward CASA’s vision of clean air and does not necessarily measure progress made by CASA itself. The second performance measure is primarily a reflection of the work done by the airshed zones and the scientific community. The remaining performance measures focus more directly on progress made by CASA.



The performance measures and corresponding indicators are:

Performance Measure	Indicator(s)
1a Improved air quality indicators in areas of CASA action	<ul style="list-style-type: none"> <li>• Annual average ambient concentrations of: NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>2.5</sub>, O<sub>3</sub>, benzene, wet acid deposition</li> <li>• Annual peak concentrations of: NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>2.5</sub>, O<sub>3</sub>, and benzene</li> <li>• Percent hourly exceedances of: NO<sub>2</sub>, SO<sub>2</sub> and H<sub>2</sub>S</li> </ul>
1b New Change in emissions of substances of concern in areas of CASA action	<ul style="list-style-type: none"> <li>• Annual total emissions from power generation for NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>2.5</sub>, and mercury, and solution gas flaring and venting</li> </ul>
1c New Energy use as an indirect measure of air quality in areas of CASA action	<ul style="list-style-type: none"> <li>• Electrical power capacity based on renewable and alternative energy sources</li> </ul>
2 Capability to measure air quality effects on humans and the ecosystem	<ul style="list-style-type: none"> <li>• Ambient monitoring</li> <li>• Ecological effects monitoring</li> <li>• Human health monitoring</li> </ul>
3 Number of recommendations through Comprehensive Air Quality Management System implemented	<ul style="list-style-type: none"> <li>• Percentage of substantive recommendations from four years ago that have been implemented. (thus, from 2003)</li> </ul>
4 Degree of CASA members, partners and clients' satisfaction with the CASA approach	<p>Satisfaction with CASA's:</p> <ul style="list-style-type: none"> <li>• Overall approach</li> <li>• Openness and transparency</li> <li>• Implementation of recommendations</li> <li>• Resources for teams</li> <li>• Achievements</li> <li>• Support to airshed zones</li> <li>• Communication between teams</li> </ul>
5 Degree of recognition of CASA as a major vehicle for delivering improved air quality management for Alberta	<ul style="list-style-type: none"> <li>• Return visitors to website</li> <li>• Number of news stories about CASA</li> <li>• Quality of news stories about CASA</li> </ul>

## 2007 performance measures results

### 1. Measures of air quality

CASA's mandate includes the evaluation of air quality in Alberta through a collaborative process. To assess progress, two sets of indicators were defined:

- One set is based on concentrations of selected substances in the air: nitrogen dioxide (NO<sub>2</sub>), sulphur dioxide (SO<sub>2</sub>), fine particles of 2.5 microns in diameter or less (PM<sub>2.5</sub>), ozone (O<sub>3</sub>), benzene and wet acid deposition.
- The other set is based on exceedances of the Alberta ambient air quality one-hour guideline of three substances: sulphur dioxide, hydrogen sulphide and nitrogen dioxide.

Analysis began with data from 1994 because that was the year CASA was formed. Please note that this performance measure is calculated every three years, with the next calculation due in 2010.

#### a) Air Quality Indicators in Areas of CASA Action

##### Concentrations of selected substances

Annual average ambient concentrations and the annual peak concentrations across Alberta are the two indicators chosen for this set. The specific substances, as shown in Figures 1 and 2, were selected because:

- They are substances of concern in Alberta.
- They affect air quality in Alberta.
- They are associated with issues addressed by one or more CASA project teams.
- Data on each substance is readily available in electronic form.

The changes in the average concentrations of these substances from 1994 to 2006 are summarized in Figure 1.

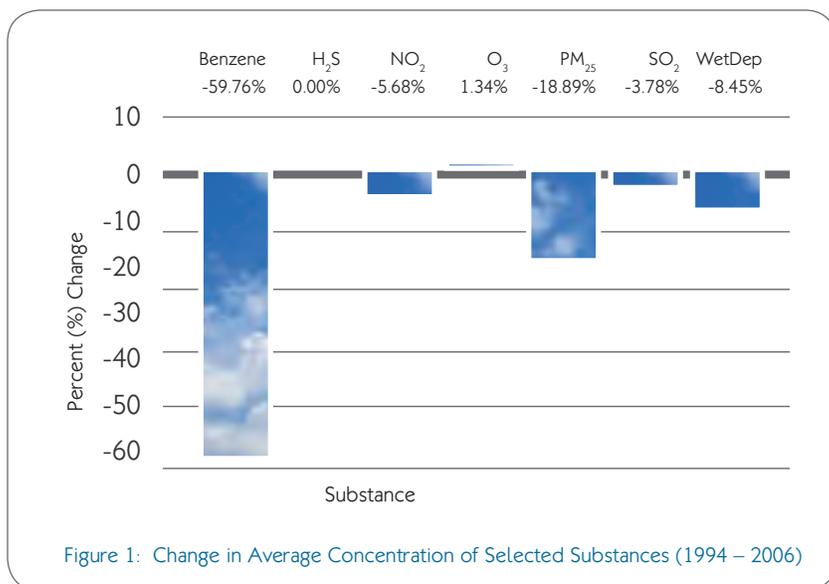


Figure 1: Change in Average Concentration of Selected Substances (1994 – 2006)

The annual peak concentrations of these substances were also calculated and the changes from 1994 to 2006 are summarized in Figure 2.

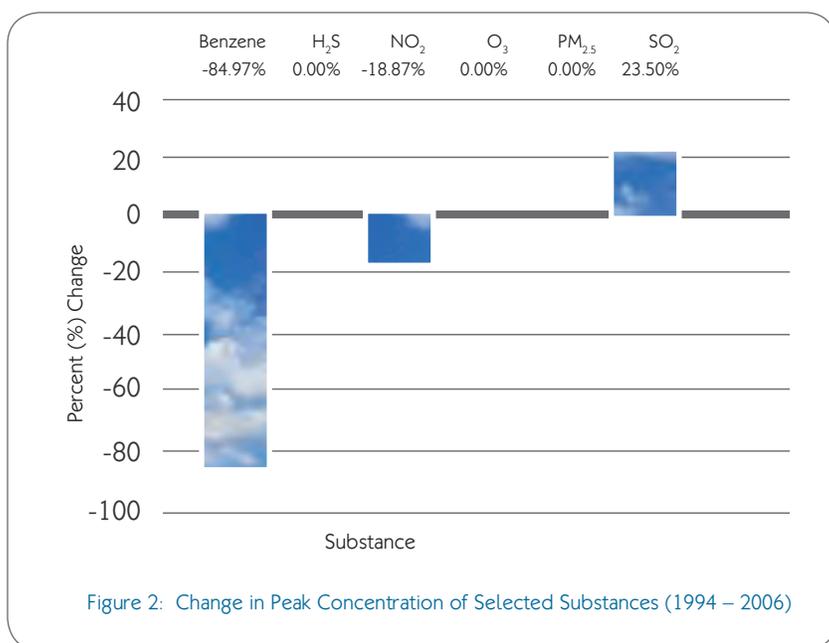


Figure 2: Change in Peak Concentration of Selected Substances (1994 – 2006)

**Exceedances of selected substances**

Exceedances of the Alberta ambient one hour guideline across Alberta for sulphur dioxide, hydrogen sulphide and nitrogen dioxide are shown in Figure 3. Of the three, the objective for hydrogen sulphide was the most frequently exceeded, with particularly high numbers of exceedances in 1994 and in 2000. Compliance with this objective has been improving. The objective for nitrogen dioxide was exceeded just 5 times over the 12 years of available data. This led to close to 100 percent compliance in each year. For sulphur dioxide, the ambient air quality objective was exceeded most often between 1994 to 1995.

**b) Change in emissions of substances of concern in areas of CASA action**

Total annual emissions from power generation in Alberta and the change in solution gas vented and flared were used as indicators for this performance measure. The results for these indicators show that:

- Sulphur oxides and nitrogen oxides did not change significantly from 1990 to 2005 (see figure 3).
- PM<sub>2.5</sub> decreased significantly from 1990 to 2005.
- Mercury increased significantly from 2000 to 2005.

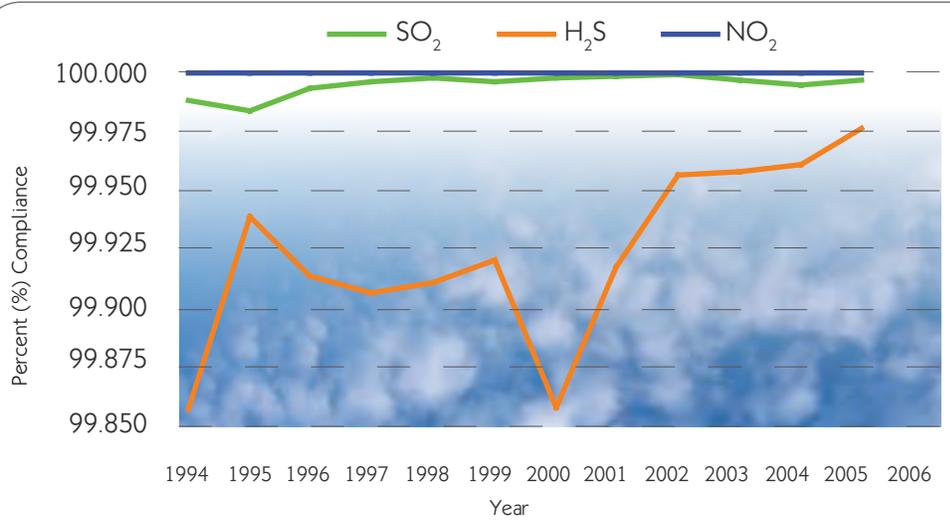


Figure 3: Percent Compliance with Ambient Air Quality Objectives

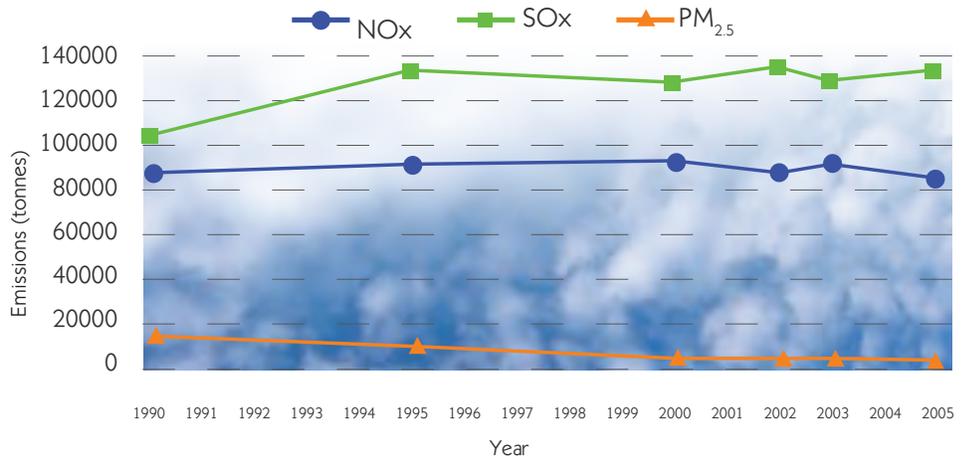


Figure 4: Annual Emissions of Criteria Air Contaminants from the Electricity Generation Sector

Mercury emissions were not reported until 2000. Between 2000 and 2005, calculated emissions increased from 725 kg to 876 kg, which indicates a statistically significant upward trend. The major reason for this change is improvements and refinements in the emission calculation methods. The only exception is an increase in mercury emissions in 2005 when a new electricity generating unit came on line.

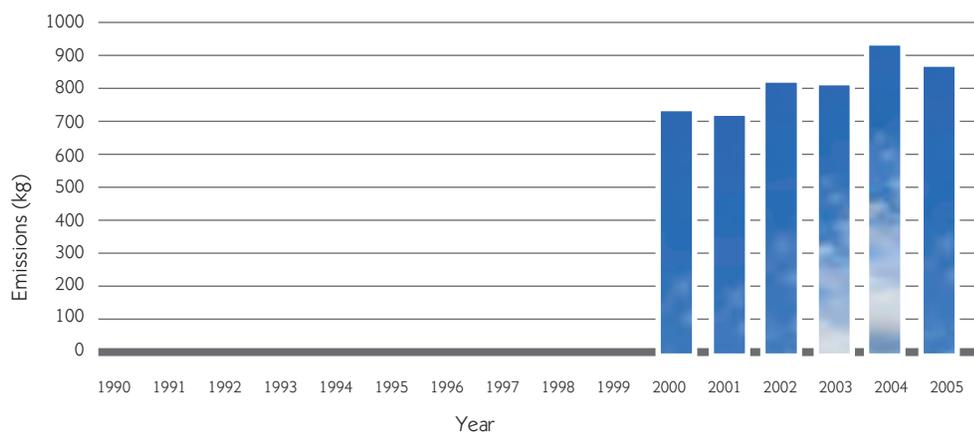


Figure 5: Annual Mercury Emissions from Power Generation

For the oil and gas sector:

- Solution gas flaring and venting decreased significantly from 2000 to 2006.

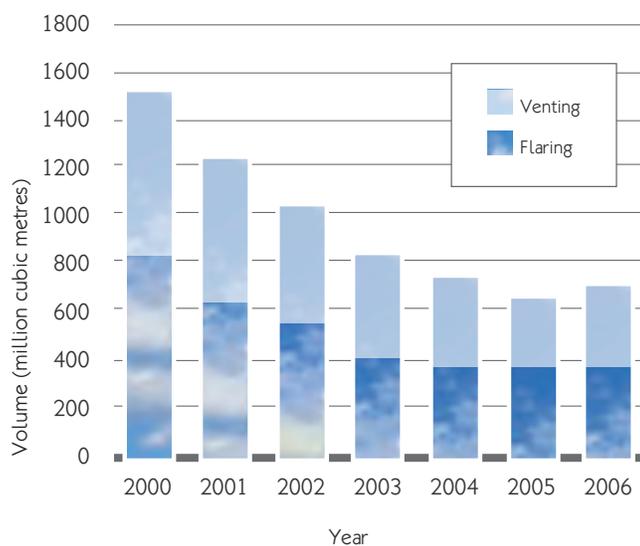


Figure 6: Solution Gas Flaring and Venting

### c) Energy use as an indirect measure of air quality in areas of CASA action

The generation of energy in Alberta from renewable and alternative energy sources is the indicator used for Performance Measure 1c. Between 2001 and 2006, the proportion of total energy production from renewable sources rose from 4.8 to 7.4 percent (see figure 7).

## 2. Capability to measure air quality effects on humans and the ecosystem

Three indicators represent capability to measure air quality effects and are calculated every three years. In order to define air quality effects, a measure of air quality and a measure of effects are needed, resulting in three types of monitoring indicators.

### Ambient Air Quality Monitoring

Fifty-four per cent of the monitoring stations and/or parameters from the 1995 plan were in place as of September 2007. This indicator is based on the original Alberta Ambient Monitoring Strategy and the 1997 implementation plan for the strategy, which presented the "ideal" ambient monitoring system for Alberta and at that time, about one-third of the proposed 377 monitoring sites and instruments were in place.

### Ecological Effects Monitoring

The indicator value is 33 percent or two out of six regions monitored, which is unchanged from the previous year. Alberta has six natural regions with distinct assemblages of flora and fauna. They include: the Canadian Shield, Boreal Forest, Rocky Mountains, Foothills, Parkland, and Grasslands natural regions. The ecological effects monitoring performance indicator examines the ability to assess air quality effects on local ecosystems. It is based on the number of ecological monitoring sites with co-located air monitoring. Vegetation is collected at these sites and the tissue is analyzed for pollutants present in the air.

Ecological monitoring with co-located air quality monitoring occurs in two of Alberta's natural regions. These programs are conducted by the Wood Buffalo Environmental Association (WBEA) and West Central Airshed Society (WCAS) airsheds. These sites are not sampled annually, but on a three- to six year schedule.

### Human Health Effects Monitoring

This indicator increased from 40 percent in 2004 to 60 percent in 2007. This rating acknowledges the increase in monitoring since 2004, but it is not clear that "ongoing, routine" monitoring is in place. As of 2007, Alberta Health and Wellness' Community Exposure and Health Effect Assessment Program (CEHEAP) has been completed in Fort McMurray, Grande Prairie, Fort Saskatchewan and the Lake Wabamun area and is currently underway in the Sundre area. These community exposure and health effects assessment programs collect indoor, outdoor, ambient and personal air quality exposure data. The Human Exposure Monitoring Program (HEMP), conducted by the Wood Buffalo Environmental Association, is an ongoing program in the Fort McMurray region to assess human exposure and air quality.

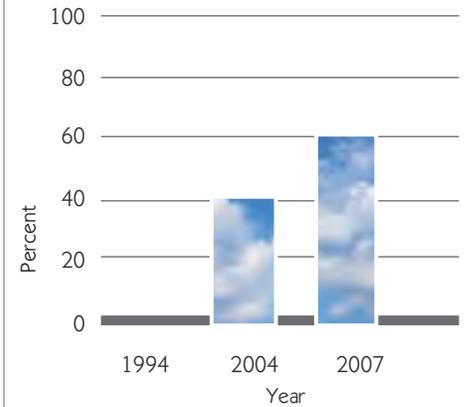


Figure 8: Human Health Monitoring Indicator

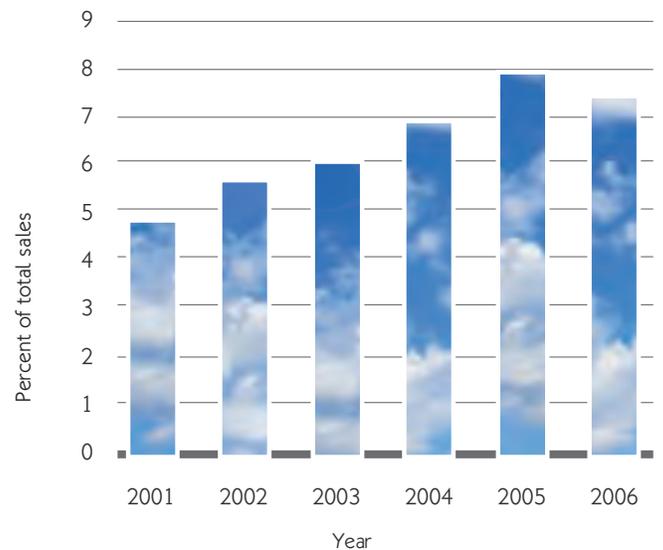
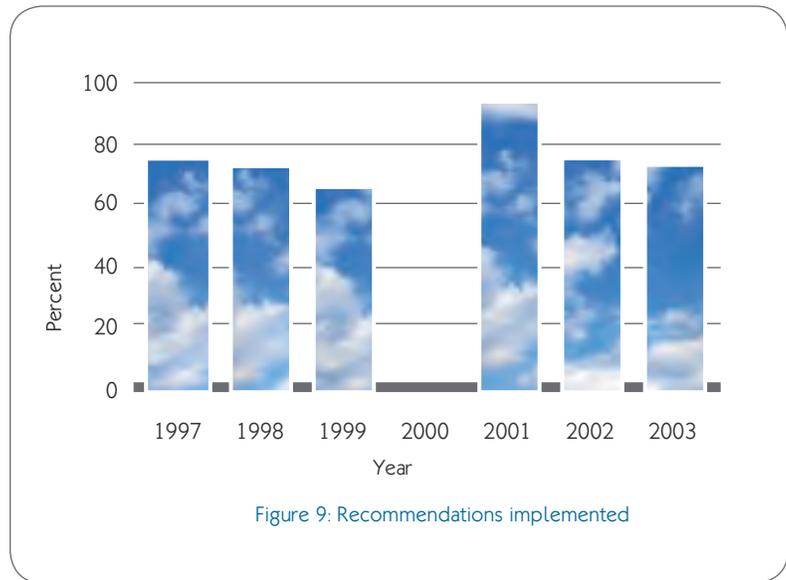


Figure 7: Renewable and Alternative Energy Share of Total Electricity Sales

### 3. Recommendations implemented

CASA teams make recommendations for consideration by the CASA board of directors. The intent of this indicator is to measure the degree to which recommendations that can lead directly to improved air quality (that is, substantive recommendations) have been implemented within three years of their approval by the CASA board. This indicator is a snapshot taken three years after the recommendations were approved, and complex actions may take more than three years to be fully implemented. Recommendations accepted by the board that are administrative or operational are not included in this indicator.

There were 79 substantive recommendations approved by the CASA board in 2003. The percentage of substantive recommendations from 2003 implemented by 2007 is 73 percent. Please note that no substantive recommendations were made in 2000.



### 4. Stakeholder satisfaction

To determine the degree of satisfaction of CASA stakeholders, a Stakeholder Satisfaction Survey was conducted in October of 2007. The results from seven questions in the survey are used to calculate the indicators for this performance measure. Previous stakeholder satisfaction surveys from 1995, 2001 and 2004 used one question as a performance indicator but due to the updated rating scale used in 2007, a direct comparison was not possible. The next stakeholder satisfaction survey is due in 2010.

In the following table, a summary of the rating for each indicator is expressed in the percentage of stakeholders who indicated they were either satisfied or very satisfied with various aspects of CASA's performance. By definition, a "substantive" recommendation is one that can lead directly to improved air quality.

Degree of stakeholder satisfaction with...	Percent Satisfied
a. <i>The CASA Way</i> of addressing air quality issues.	71
b. The openness and transparency with which CASA conducts its business.	89
c. The implementation of substantive recommendations.	40
d. Teams having the resources needed to meet objectives.	55
e. CASA's achievements, in general.	57
f. CASA's support to airshed zones.	49
g. Communications between CASA teams.	35

## 5. Degree of recognition

To measure how well Albertans recognize the CASA organization and its accomplishments, one indicator based on CASA website usage and two indicators based on media coverage are calculated each year.

### Website indicator

After a peak due to the new website launch in late 2006, repeat website visitor numbers stabilized as expected in 2007.

### News stories indicators

There are two news stories indicators in the degree of recognition performance measure. The first indicator measures the number of news stories about CASA reported by the Alberta news media (print, television, radio, magazines, etc.) each year. The number of news stories is proportional to newsworthy activity by CASA. The highest number of stories was achieved in 2006, due to interest in the ROVER vehicle emissions study.

The second indicator measures the quality of that news coverage calculated using the Media Relations Rating Points (MRP)<sup>™</sup> system developed by the Canadian Public Relations Society. Quality of news coverage is evaluated by measuring several attributes of each news story, for example, reach (number of the newspaper's readers) and presence of CASA messages in the article. CASA achieved a score of 67 percent for 2007 and as it was the initial year for this indicator, a comparison graph was not available.

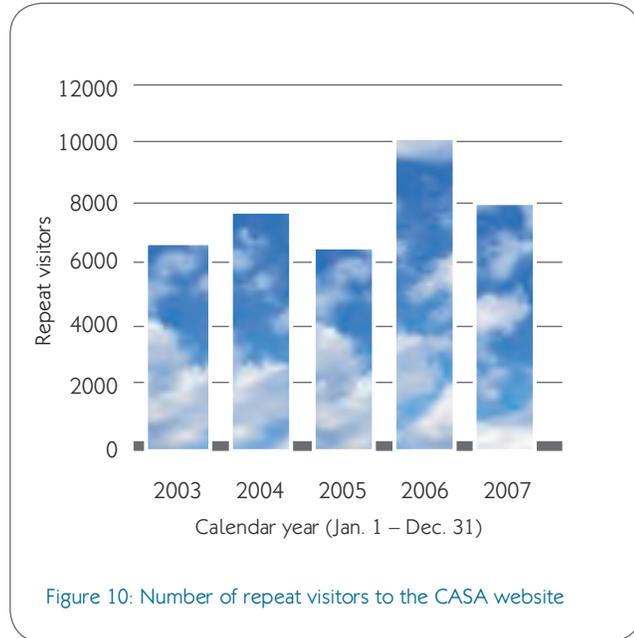


Figure 10: Number of repeat visitors to the CASA website

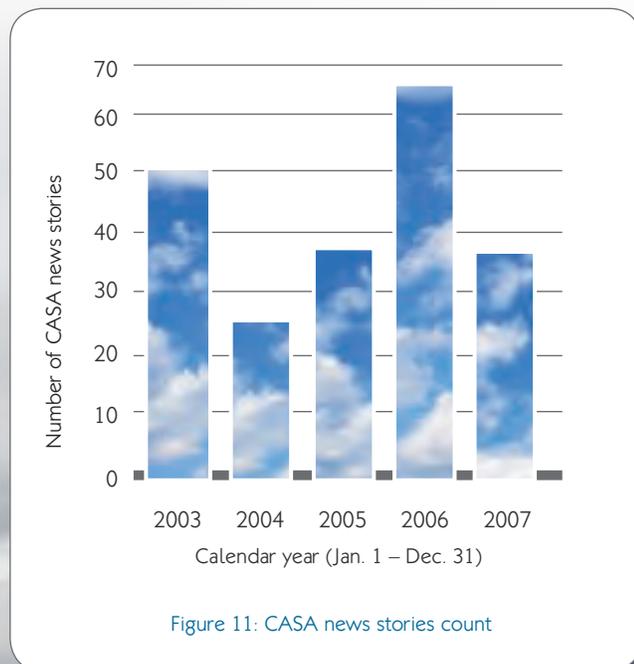


Figure 11: CASA news stories count

## CASA TEAMS

The work of CASA is achieved largely through the participation of teams of individuals representing stakeholders who share an interest in a specific issue. Most issues are brought to the CASA board in the form of a statement of opportunity. When the board agrees that CASA should take on an issue, a working group is formed to draft terms of reference for a project team. Once the board approves those terms of reference, a project team is formed. The project team is accountable to the board while individual participants are accountable to their stakeholder organizations. As appropriate, recommendations from a project team may lead to the formation of another team to oversee implementation. The CASA board also forms committees to achieve specific organizational goals.

## BOARD COMMITTEES

### Executive

The executive committee of the board is composed of four positions: president, two vice-presidents, and secretary-treasurer. Members from each sector (government, industry and non-government organizations) are represented on the committee.

The executive committee oversees finances and the operation of the secretariat. It also sets the agenda and presides at board meetings, and monitors board effectiveness and adherence to policies and procedures. The committee provides impartial leadership, liaises with government ministers, advocates on behalf of CASA and represents CASA.

The members of the executive committee are:

<b>Peter Watson</b> , president	Representing the government sector
<b>Martha Kostuch</b> , vice-president	Representing the non-government organization sector
<b>Dave Byler</b> , vice-president	Representing the industry sector
<b>Kerra Chomlak</b> , secretary-treasurer	Executive director of CASA

## Communications

The goal of the communications committee is to provide direction and advice to strategic internal and external communications initiatives, plans and priorities in support of the organization's mission and vision. The committee also administers performance measure five—degree of recognition of CASA.

### Report for 2007

The committee tracked implementation of the strategic communications plan. The committee also assumed ongoing responsibility for the Air Quality Education and Outreach Clearinghouse, an online resource of contacts for air quality education and outreach programs and resources in Alberta.

The communications committee organized a coordination workshop held on June 20, 2007 in Red Deer. This workshop provided valuable information to board and project team members and others on where their team fits into CASA. It promoted communication and integration between the board, project teams and committees.

#### Members:

<b>Tony Hudson</b>	The Lung Association, Alberta and NWT (co-chair)
<b>Gord Mounce</b>	Canadian Association of Petroleum Producers (co-chair)
<b>Michael Edge</b>	Alberta Energy
<b>Parker Hogan</b>	Alberta Forest Products Association
<b>Lynn McNeil</b>	Canadian Natural Resources Ltd.
<b>Ian Peace</b>	Residents for Accountability in Power Industry Development
<b>Brian Waddell</b>	Alberta Environment

The board approved several recommendations of the committee to improve inter-team communication, including improving coordination by the secretariat, improving the CASA update at meetings and providing opportunities for teams to identify and discuss areas of common interest.

The committee drafted a policy on public acknowledgement of participation in CASA by stakeholders, which was approved by the board in September. The committee also worked with the performance measures committee to draft and administer performance measure three: the stakeholder satisfaction survey.

## Performance evaluation

A multi-stakeholder committee was established by the board to fulfill the requirement in CASA's bylaws to conduct a review of the organization's performance every three years. In 2007, the committee interviewed government officials and surveyed CASA stakeholders with a view to answering the question, "How effective is CASA in supporting the Government of Alberta in strategic air quality planning?" The committee will report their findings to the CASA board in early 2008.

#### Members:

<b>Mike G. Boyd</b>	Alberta Energy (chair)
<b>Myles Kitagawa</b>	Toxics Watch Society of Alberta
<b>John Squarek</b>	Canadian Association of Petroleum Producers

## Performance measures

The performance measures committee reports to the CASA board on performance and manages the stewardship processes for CASA's performance measures.

### Report for 2007

The committee completed a review of existing performance measures and indicators for relevance to the CASA vision, mandate and goals and consistency with CASA's principles and criteria for performance indicators. The committee drafted and obtained board approval for additional performance measures and indicators as well as refinements to some of the current indicators.

In 2007, additional calculations were required for several performance indicators which are reported every three years and for the new indicators. The results for all of the performance indicators are available from CASA and an overview appears in the *Evaluating and Measuring CASA Performance* section of this annual report.

#### Members:

<b>Bob Myrick</b>	Alberta Environment
<b>Mary Griffiths</b>	Pembina Institute
<b>Ted Stoner</b>	Canadian Petroleum Products Institute

## Procedural guidelines

In September 2007, the CASA board approved the terms of reference for a committee to review and assess the CASA procedural guidelines to reflect current and best practices. The committee developed a first comprehensive draft of the revised procedural guidelines and expects to complete its work in 2008.

### Members:

<b>Tim Goos</b>	Environment Canada, Prairie and Northern Region
<b>Mike Kelly</b>	TransAlta Corporation
<b>Timothy Lambert</b>	Canadian Public Health Association
<b>Alex McFadden</b>	TransAlta Corporation

## CASA vision

As a result of a stakeholder request, a committee of the board was formed to review and revise the CASA vision. The board approved their recommendation revised vision, which reads: *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.* The committee completed its work and disbanded.

### Members:

<b>Mike Kelly</b>	TransAlta Corporation
<b>Carolyn Kolebaba</b>	Alberta Association of Municipal Districts and Counties
<b>Timothy Lambert</b>	Canadian Public Health Association
<b>Len Vogelaar</b>	Alberta Beef Producers

## Enhanced collaboration with the Alberta Water Council

In 2007, the CASA board established a committee to explore opportunities for enhanced collaboration with the Alberta Water Council by:

- Identifying opportunities for leveraging resources, increasing efficiency, avoiding duplicate efforts, and building on each others' successes.
- Educating and raising awareness regarding the activities of both the Water Council and CASA.
- Demonstrating a commitment to the important linkage between air, land and water at the strategic level.

### Members:

<b>Bob Cameron</b>	South Peace Environmental Association (co-chair)
<b>Kerra Chomlak</b>	Clean Air Strategic Alliance
<b>Réjeanne Cool</b>	MEGlobal Canada Inc (co-chair)
<b>Gord Edwards</b>	Alberta Water Council
<b>Carolyn Kolebaba</b>	Alberta Association of Municipal Districts and Counties
<b>Terry Sly</b>	Alberta Water Council

# PROJECT TEAMS

## Ambient monitoring strategic planning

The ambient monitoring strategic planning project team is reviewing and updating the *Strategic Plan for Air Quality Monitoring in Alberta*. The team's goal is that Alberta will possess a dynamic, effective and efficient framework that provides the foundation for the development of a world-class ambient air quality monitoring system.

### Report for 2007

The team has been meeting since June 2004 and expects to complete its work in 2008. Highlights of the work accomplished are:

- Reviewed the *1995 Strategic Plan for Air Quality Monitoring in Alberta and the 1997 Alberta Ambient Monitoring Implementation Design Team Report* to the CASA board.
- Conducted a jurisdictional review of ambient air quality monitoring networks from around the world.
- Created an ambient air quality monitoring best practices document for Alberta.
- Drafted a new strategic plan for the monitoring of Alberta's ambient air.
- Held a successful workshop in 2006 for stakeholders to provide input into the draft plan.
- Organized a stakeholder workshop to be held in March 2008 to seek input into the draft plan.

### Members:

<b>Kim Eastlick</b>	Energy Resources Conservation Board
<b>Myles Kitagawa</b>	Toxics Watch Society of Alberta
<b>Findlay MacDermid</b>	Residents for Accountability in Power Industry Development
<b>David McCoy</b>	Husky Oil
<b>Bettina Mueller</b>	Alberta Environment
<b>Keith Murray</b>	Alberta Forest Products Association
<b>Bob Myrick</b>	Alberta Environment (co-chair)
<b>Ken Omotani</b>	TransAlta Corporation
<b>Mike Pawlicki</b>	Lafarge Canada Inc.
<b>Ian Peace</b>	Residents for Accountability in Power Industry Development
<b>Roxanne Pettipas</b>	ConocoPhillips Canada (co-chair)
<b>Chris Severson-Baker</b>	Pembina Institute
<b>David Spink</b>	Prairie Acid Rain Coalition
<b>Merry Turtiak</b>	Alberta Health and Wellness
<b>James Vaughan</b>	Energy Resources Conservation Board
<b>Kevin Warren</b>	Parkland Airshed Management Zone
<b>Brian Wiens</b>	Environment Canada
<b>Mike Zemanek</b>	Alberta Health and Wellness

## Clean air strategy

In 2007, the CASA board approved a statement of opportunity, brought forward by Alberta Environment, to develop a Clean Air Strategy for Alberta. The strategy would provide a strategic framework for existing and future clean air initiatives and serve as the foundation of the Government of Alberta's long term strategy for clean air. A working group developed terms of reference for a project team to recommend a clean air strategy. The project team has been meeting at least monthly to gather information in preparation for developing the strategy. A sub-group was formed to oversee consultation with the public and stakeholders during development of the strategy.

### Members:

<b>Len Bracko</b>	Alberta Urban Municipalities Association
<b>Michael Brown</b>	Energy Resources Conservation Board
<b>Christine Byrne</b>	Imperial Oil Resources
<b>Debra Code</b>	ENMAX Corp.
<b>Peter Dzikowski</b>	Alberta Infrastructure and Transportation
<b>Gerry Ertel</b>	Canadian Petroleum Products Institute / Shell Canada Ltd.
<b>Long Fu</b>	Alberta Environment
<b>Tim Goos</b>	Environment Canada, Prairie and Northern Region
<b>Theresa Howland</b>	Bullfrog Power Inc.
<b>Tony Hudson</b>	The Lung Association - Alberta and NWT
<b>Steve Kennett</b>	Pembina Institute (co-chair)
<b>Myles Kitagawa</b>	Toxics Watch Society of Alberta
<b>Carolyn Kolebaba</b>	Alberta Association of Municipal Districts and Counties
<b>Martha Kostuch</b>	Prairie Acid Rain Coalition
<b>David Lawlor</b>	ENMAX Corp.
<b>Alexander MacKenzie</b>	Alberta Health and Wellness
<b>Al Mok</b>	Suncor Energy Inc. (co-chair)
<b>Bettina Mueller</b>	Alberta Environment (co-chair)
<b>Ken Omotani</b>	TransAlta Corporation
<b>Colin Pate</b>	Alberta Energy
<b>Krista Phillips</b>	Canadian Association of Petroleum Producers
<b>Anita Sartori</b>	Canadian Natural Resources Limited
<b>Jason Schulz</b>	TransCanada
<b>Al Schulz</b>	Canadian Chemical Producers Association
<b>Barbara Shackel-Hardman</b>	Alberta Agriculture and Rural Development
<b>Nashina Shariff</b>	Toxics Watch Society of Alberta
<b>Kristofer Siriunas</b>	Alberta Energy and Utilities Board
<b>Susan Valentine</b>	Alberta Association of Municipal Districts and Counties
<b>Srikanth Venugopal</b>	TransCanada Transmission
<b>Mike Zemanek</b>	Alberta Health and Wellness

### Additional Sub-group member:

<b>Aynsley Toews</b>	Alberta Environment
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## Confined feeding operations

The confined feeding operations project team will develop a strategic plan to improve the management of air emissions from existing and future confined feeding operations in Alberta and to improve relationships between stakeholders.

### Report for 2007

In 2007, the team accomplished considerable progress towards their goals as the four sub-groups (effects, emissions inventory, jurisdictional review and management mechanisms) completed their work and presented their reports as information to the team. The team worked hard at a series of two day meetings to draft their final report for presentation to the CASA board in 2008.

#### Members:

<b>Atta Atia</b>	Alberta Agriculture and Rural Development
<b>Humphrey Banack</b>	Wild Rose Agricultural Producers
<b>Ann Baran</b>	Southern Alberta Environmental Group (co-chair)
<b>Bob Barss</b>	Alberta Association of Municipal Districts and Counties
<b>Doug Beddome</b>	Natural Resources Conservation Board
<b>Laura Blair</b>	Alberta Environment
<b>Kris Chawla</b>	Alberta Agriculture and Rural Development
<b>Ike Edeogu</b>	Alberta Agriculture and Rural Development
<b>Maureen Elko</b>	Chinook Health Region
<b>Ahmed Idriss</b>	Alberta Environment
<b>Bruce Inch</b>	Government of Canada
<b>Martha Kostuch</b>	Prairie Acid Rain Coalition
<b>Doris Ludlage</b>	Alberta Poultry Producers
<b>Stuart McKie</b>	Alberta Pork
<b>Jim McKinley</b>	Natural Resources Conservation Board
<b>Usha Mulukutla</b>	Calgary Health Region
<b>Rients Palsma</b>	Alberta Milk (co-chair)
<b>Denis Sauvageau</b>	Friends of an Unpolluted Lifestyle
<b>Carrie Selin</b>	Alberta Milk
<b>Barbara Shackel-Hardman</b>	Alberta Agriculture and Rural Development (co-chair)
<b>Rich Smith</b>	Alberta Beef Producers
<b>Stuart Thiesson</b>	Alberta Beef Producers
<b>Karina Thomas</b>	Alberta Health and Wellness
<b>Jim Turner</b>	Natural Resources Conservation Board
<b>Len Vogelaar</b>	Alberta Beef Producers
<b>Ross Warner</b>	Society for Environmentally Responsible Livestock Operations
<b>Kevin Warren</b>	Parkland Airshed Management Zone
<b>Eugene Wauters</b>	Alberta Association of Municipal Districts and Counties
<b>Brian Wiens</b>	Environment Canada
<b>Brenda Woo</b>	Health Canada
<b>Mike Zemanek</b>	Alberta Health and Wellness

## Electricity framework review

At the March 2007 board meeting, the CASA board approved a statement of opportunity brought forward by Alberta Environment to begin a five year review of the *Emissions Management Framework for the Alberta Electricity Sector* as outlined in the Electricity Project Team Report to Stakeholders (November 2003). The framework recommends that government undertake a multi-stakeholder review of *best available technology economically achievable* and other related elements within the framework during 2008. This includes a number of specific tasks set out in the recommendations, including what has already been done to implement the framework recommendations. A working group developed terms of reference, approved by the board, to create a project team to conduct the review. The team's work is underway and several sub-groups are working to gather information and examine possible solutions for the team.

### Members:

Randy Dobko	Alberta Environment
Linda Duncan	Lake Wabamun Enhancement and Protection Association (co-chair)
Tim Goos	Environment Canada, Prairie and Northern Region
Jim Hackett	ATCO Power Canada Ltd. (co-chair)
Debra Hopkins	Alberta Health and Wellness
Rick Hyndman	Canadian Association of Petroleum Producers
Ahmed Idriss	Alberta Environment (co-chair)
Hasan Imran	ConocoPhillips Canada
Les Johnston	EPCOR Energy Services
Chris Joy	ENMAX Energy Corp.
Mark Kavanagh	Alberta Utilities Commission
Carolyn Kolebaba	Alberta Association of Municipal Districts and Counties
Bevan Laing	Alberta Energy
Tom Marr-Laing	Pembina Institute
Ken Omotani	TransAlta Corporation
Jeff Sansom	EPCOR
Al Schulz	Canadian Chemical Producers Association
Nashina Shariff	Toxics Watch Society of Alberta
David Spink	Prairie Acid Rain Coalition
Randy Stubbings	ENMAX Corp.
Joan Tingley	ATCO Power Canada Ltd.
Harry Tyrrell	Mewassin Community Action Council
Wayne Ungstad	Ponoka Fish and Game
Srikanth Venugopal	TransCanada Transmission
Ruth Yanor	Mewassin Community Action Council

### Additional sub-group members:

Timothy Lambert	Canadian Public Health Association (Health and Environmental Effects)
Jagtar Sandhu	Health Canada, Alberta Region (Health and Environmental Effects)
Aynsley Toews	Alberta Environment (Consultation)

## Electrical efficiency and conservation

This team was created to implement the energy efficiency and conservation recommendations (65-68) found in the 2003 report of the electricity project team, with the aim of increasing electricity efficiency and expanding conservation efforts within the province. This work includes identifying the resources required to implement the various programs recommended.

### Report for 2007

The electrical efficiency and conservation project team presented its final report and five recommendations, which were accepted by the board in late 2006. The report focused on the need and suggested elements for an overarching energy efficiency and conservation framework in Alberta. A report on energy efficiency and conservation in the residential sector was presented to the team in early 2007 and the team was later disbanded. It is anticipated that the team's recommendations will be incorporated into Alberta Energy's energy strategy for Alberta, expected in 2008.

#### Members:

**Denise Chang-Yen**

EPCOR (co-chair)

**Raynald Charest**

Natural Resources Canada

**Frans Diepenstraten**

Stantec

**Simon Knight**

Climate Change Central

**Robyn Kuhn**

Alberta Environment

**Bevan Laing**

Alberta Energy

**Brian Mitchell**

Mewassin Community Action Council

**Jesse Row**

Pembina Institute (co-chair)

**Brian Waddell**

Alberta Environment (co-chair)

**Kathy Watson**

Canadian Home Builders Association

## Indoor air quality

The project team will develop a strategic plan to address indoor air quality issues in Alberta.

### Report for 2007

The team held a retreat in July to identify issues and determine future directions for the team. The team heard a presentation on *Current Technologies in Indoor Air Quality Measurement*. Team members also reviewed common and unique issues and responsibilities. Four potential directions for the team to pursue were identified:

- Create a decision tree to provide a clear understanding of different organizations and which standards apply in particular scenarios.
- Organize a science symposium on indoor air quality issues.
- Determine the potential role of the team with respect to indoor air quality standards.
- Transfer knowledge and information between CASA stakeholders.

A sub-group of the committee has started organizing a science symposium on indoor air quality to be held in 2009.

### Members:

<b>Grant Ainsley</b>	Alberta Home Builders Association
<b>Meaghan Allen</b>	Northern Lights Health Region
<b>Dean Befus</b>	The Lung Association/University of Alberta
<b>Stephani Carter</b>	Green Alberta Sustainable Product Assessment Inc.
<b>Roy Clough</b>	Alberta Employment, Immigration and Industry
<b>Jason Foster</b>	Alberta Federation of Labour
<b>Dennis French</b>	DF Technical Services (co-chair)
<b>David Lee</b>	Northern Lights Health Region
<b>Anand Mishra</b>	Canada Mortgage and Housing Corporation
<b>Asish Mohapatra</b>	Calgary Health Region (co-chair)
<b>Ian Peace</b>	Residents for Accountability in Power Industry Development
<b>Diane Radnoff</b>	Alberta Employment, Immigration and Industry
<b>Ludmilla Rodriguez</b>	Capital Health
<b>Janine Ross</b>	Alberta Environment
<b>Roger Steele</b>	Building Owner and Managers Association of Edmonton
<b>Merry Turtiak</b>	Alberta Health and Wellness
<b>Brenda Woo</b>	Health Canada
<b>Mike Zemanek</b>	Alberta Health and Wellness

## Renewable and alternative energy

The goal of the renewable and alternative energy project team was to work within the CASA process to increase the supply and demand of renewable and alternative electrical energy in Alberta.

### Report for 2007

In 2005, the team was asked to work with the Government of Alberta to develop a policy framework to encourage the development of renewable and alternative electrical energy in Alberta. The team developed a “fresh start” terms of reference and made considerable progress towards the development of the policy framework. The team presented their final report to the board and disbanded in 2007.

Major recommendations included:

- That the Government of Alberta develop and implement a policy framework to increase the supply of and demand for renewable and alternative electrical energy in Alberta.
- That the Government of Alberta consult with stakeholders and consider their concerns in developing a Renewable and Alternative Electrical Energy Policy Framework for Alberta.

It is anticipated that the proposed framework will be included in Alberta Energy’s energy strategy for Alberta expected in 2008.

### Members:

<b>Darren Aldous</b>	Alberta Urban Municipalities Association
<b>David Axford</b>	Nexen Inc.
<b>Carol-Ann Brown</b>	Climate Change Central
<b>Denise Chang-Yen</b>	EPCOR (co-chair)
<b>Julia Ciccaglione</b>	Pristine Power
<b>Peter Darbyshire</b>	Graymont
<b>Keith Denman</b>	Alberta Environment
<b>Rob Falconer</b>	ENMAX Corp.
<b>Brian Gilliland</b>	Weyerhaeuser
<b>Karen Haugen-Kozyra</b>	Alberta Agriculture and Rural Development
<b>Gordon Howell</b>	Howell-Mayhew Engineering
<b>Theresa Howland</b>	Vision Quest Windelectric/Bullfrog Power Inc.
<b>Carolyn Kolebaba</b>	Alberta Association of Municipal Districts and Counties
<b>Martha Kostuch</b>	Prairie Acid Rain Coalition
<b>Michael Langfeldt</b>	ORTEC
<b>Bevan Laing</b>	Alberta Energy (co-chair)
<b>Frank Letchford</b>	Environment Canada
<b>Sat Lota</b>	Energy and Utilities Board
<b>Brian Mitchell</b>	Mewassin Community Action Council
<b>Al Morin</b>	Dow Canada
<b>Keith Murray</b>	Alberta Forest Products Association
<b>Jeff Nish</b>	Alberta Electric System Operator
<b>Courtney Oishi</b>	Climate Change Central
<b>Ian Peace</b>	Residents for Accountability in Power Industry Development
<b>Kelsey Prevost</b>	Southern Alberta Group for the Environment
<b>Jason Proche</b>	Alberta Sustainable Resource Development
<b>Andy Ridge</b>	Alberta Environment
<b>Mark Roedel</b>	Suncor Energy Inc.
<b>Jesse Row</b>	Pembina Institute (co-chair)
<b>Rich Smith</b>	Alberta Beef Producers
<b>Andre Tremblay</b>	Alberta Association of Municipal Districts and Counties
<b>Eugene Wauters</b>	Alberta Association of Municipal Districts and Counties
<b>Leslie Welsh</b>	Environment Canada
<b>Shannon Wever</b>	TransCanada

## Science symposium on nitrogen

The Science Symposium on Nitrogen organizing committee's goal was to organize a symposium to address issues related to the science of nitrogen emissions and their environmental effects, and to examine risks and management approaches for these issues in Alberta. On September 27 - 29, 2006 the CASA Science Symposium on Nitrogen drew over 200 participants to the Chateau Lake Louise to hear about the science and management of nitrogen emissions. Experts from Canada, Europe and the United States shared their knowledge and expertise on the science and management of nitrogen emissions. The symposium was well-received and the organizing committee presented their report and recommendations to the CASA board in 2007, including a recommendation that stakeholders consider the information provided at the symposium in future strategies relating to nitrogen management. Conference proceedings are available on the CASA website and on CD by request.

### Members:

**Ron Axelson**

Alberta Cattlefeeders Association

**Lawrence Cheng**

Alberta Environment (co-chair)

**Kristina Friesen**

Environment Canada

**Len Kryzanowski**

Alberta Agriculture and Rural Development

**Kevin McCullum**

Palliser Airshed Society

**Bettina Mueller**

Clean Air Strategic Alliance/Alberta Environment

**Mike Queenan**

Residents for Accountability in Power Industry Development

**Ron Pauls**

Syncrude/Cumulative Environmental Management Association

**David Spink**

Cumulative Environmental Management Association (co-chair)

**Karina Thomas**

Alberta Health and Wellness

## IMPLEMENTATION

CASA made significant progress in 2007 towards monitoring implementation of CASA recommendations. The degree to which recommendations are implemented has been tracked via the CASA performance measures, specifically performance measure 3 - recommendations implemented, for the past six years. Both CASA and external implementation teams report progress on implementation at CASA board meetings on a rotation schedule.

An implementation matrix which tracks recommendations previously approved by the board is updated quarterly at each board meeting and posted to the CASA website. Project teams also integrate implementation and monitoring into their terms of reference, work plan and recommendations.

The following CASA implementation teams exist to monitor and/or provide guidance to implementation or complete subsequent work on an ongoing air quality issue.

### Ambient monitoring operations steering

The ambient monitoring operations steering committee provides overall direction, tracks progress and makes budgetary decisions regarding the implementation of the provincial ambient air quality monitoring network. In Alberta, air quality is monitored by a comprehensive network of stations operated by Alberta Environment, air quality management zones, Environment Canada and industry stations. The committee has membership representing government, industry, non-governmental organizations and airsheds.

The committee meets twice a year to review progress in implementing the *1995 Strategic Plan for Ambient Air Monitoring* and the 1997 implementation plan and to provide a forum to share information between the committee members on new initiatives with regards to air monitoring and associated programs. The committee also reviews the operation of the CASA Data Warehouse.

#### Members:

**Michael Bisaga**

Lakeland Industry and Community Association and Peace AirShed Zone Association

**Glynis Carling**

Imperial Oil Resources

**Tom Dickson**

Alberta Environment (chair)

**Shane Lamden**

NOVA Chemicals Corporation

**Keith Murray**

Alberta Forest Products Association

**Bob Myrick**

Alberta Environment

**Janine Ross**

Alberta Environment

**Bob Scotten**

West Central Airshed Society

**John Squarek**

Canadian Association of Petroleum Producers

**Merry Turtiak**

Alberta Health and Wellness

**Kevin Warren**

Parkland Airshed Management Zone

**Brian Wiens**

Environment Canada

**Mike Zemanek**

Alberta Health and Wellness

## Flaring and venting

The team's purpose is to assess the performance of the Alberta solution gas flaring and venting management framework and address a broad range of flaring and gas venting issues in Alberta.

### Report for 2007

The flaring and venting project team met late in 2007 to discuss progress on implementation of the framework. The Alberta Energy and Utilities Board's Directive 60, which addressed the 44 recommendations from all three CASA flaring and Venting team reports, came into effect in 2007. The team will reconvene in 2008 to evaluate progress in reducing flaring and venting, review previous recommendations and assess flaring and venting research.

#### Members:

<b>Michael Brown</b>	Energy Resources Conservation Board (co-chair)
<b>Terri Carroll</b>	Small Explorers and Producers Association of Canada
<b>Jeff Cormier</b>	Department of Energy
<b>Randy Dobko</b>	Alberta Environment
<b>Shannon Hiebert</b>	Husky Energy
<b>Andrew Higgins</b>	Canadian Natural Resources Limited (co-chair)
<b>Martha Kostuch</b>	Prairie Acid Rain Coalition
<b>Danielle Moffat</b>	Alberta Energy
<b>Ian Peace</b>	Residents for Accountability in Power Industry Development
<b>Krista Phillips</b>	Canadian Association of Petroleum Producers
<b>Barry Ranger</b>	Small Explorers and Producers Association of Canada
<b>Doreen Rempel</b>	MGV Energy Inc.
<b>Thom Sedun</b>	Government of BC, Oil and Gas Commission
<b>Chris Severson-Baker</b>	Pembina Institute (co-chair)
<b>Jolene Shannon</b>	Pembina Agricultural Protection Association
<b>Ralph Smith</b>	Wildrose Agricultural Producers
<b>Jim Spangelo</b>	Energy Resources Conservation Board
<b>John Squarek</b>	Canadian Association of Petroleum Producers
<b>Rudy Sundermann</b>	EnCana Corporation
<b>Karina Thomas</b>	Alberta Health and Wellness
<b>James Vaughan</b>	Energy Resources Conservation Board
<b>Len Vogelaar</b>	Alberta Beef Producers
<b>Mike Zemanek</b>	Alberta Health and Wellness

## Human and animal health

This team reviews and develops implementation plans for the recommendations from the human health project team and animal health project team. It also identifies emerging issues in the area of air emissions and their effects on human and animal health.

### Report for 2007

The board received the final report and recommendations of the human and animal health team but the government sector members requested additional time to work on resolving two outstanding items in the implementation of the Comprehensive Human Health Monitoring System. The team plans to report back to the CASA board in 2008.

#### Members:

Randy Angle	Alberta Environment
Jim Benum	Energy Resources Conservation Board
Simon Cobban	Intensive Livestock Working Group
Kim Eastlick	Energy Resources Conservation Board
Bryan Haggarty	Health Canada, Alberta/Northwest Territories Region
Judy Huntley	Bert Riggall Environmental Foundation
Ila Johnston	Parkland Airshed Management Zone
Joe Kendall	Alberta Agriculture and Rural Development
Martha Kostuch	Prairie Acid Rain Coalition
Laura McLeod	David Thompson Health Region
Lonnie Melnychyn	Petro Canada
Greg Ritz	Rocky Mountain House Community Health Centre
Gary Sargent	Canadian Association of Petroleum Producers
Al Schulz	Canadian Chemical Producers Association
John Squarek	Canadian Association of Petroleum Producers
Merry Turtiak	Alberta Health and Wellness
Brenda Woo	Health Canada
Ruth Yanor	Mewassin Community Action Council (chair)

## Particulate matter and ozone implementation

The Particulate Matter (PM) and Ozone Management Framework was approved by the CASA board in 2003. Implementation of the framework was undertaken by various parties and the PM and ozone implementation team monitors implementation.

### Report for 2007

Rising ozone levels in three urban areas in Alberta triggered the management plan level of the framework. Ozone levels did not exceed Canada Wide Standards – the management plan level is intended to keep clean areas clean, reduce levels and prevent exceedances. Stakeholders received notification and airsheds in the census metropolitan areas around Edmonton, Calgary and Red Deer are leading development of management plans to reduce ozone levels.

#### Members:

<b>Alan Brownlee</b>	City of Edmonton
<b>Claude Chamberland</b>	Shell Canada Limited (co-chair)
<b>Andrew Clayton</b>	Alberta Environment
<b>David L. Day</b>	City of Calgary
<b>Long Fu</b>	Alberta Environment
<b>Debra Hopkins</b>	Alberta Health and Wellness
<b>Myles Kitagawa</b>	Toxics Watch Society of Alberta
<b>Martha Kostuch</b>	Prairie Acid Rain Coalition
<b>Shane Lamden</b>	NOVA Chemicals Corporation
<b>Bettina Mueller</b>	Alberta Environment
<b>Keith Murray</b>	Alberta Forest Products Association
<b>Bob Myrick</b>	Alberta Environment (co-chair)
<b>Stan Nowakowski</b>	City of Calgary
<b>Crystal Parrell</b>	Alberta Environment
<b>Mike Pawlicki</b>	Lafarge Canada Inc.
<b>Ian Peace</b>	Residents for Accountability in Power Industry Development (co-chair)
<b>Gina Rau</b>	Graymont Western US Inc.
<b>Kristofer Siriunas</b>	Alberta Energy and Utilities Board
<b>Dave Slubik</b>	EPCOR
<b>John Squarek</b>	Canadian Association of Petroleum Producers
<b>Dennis Stefani</b>	Calgary Health Region
<b>Karina Thomas</b>	Alberta Health and Wellness
<b>Darcy Walberg</b>	Agrium
<b>Kevin Warren</b>	Parkland Airshed Management Zone

## Vehicle emissions

The vehicle emissions team recommends initiatives to reduce vehicle emissions and support the CASA vision of clean air.

### Report for 2007

The board approved the team's report and recommendations on the 2006 ROVER vehicle emissions study. The study's findings clearly support action to accelerate the removal and/or repair of gross emitting vehicles in Alberta. The team also identified four options to address gross emitters (anti-tampering, enhanced scrappage, hot line for visible emitters and an inspection and maintenance program using remote sensing technology). Alberta Environment offered to lead a Government of Alberta team to assess the merits of potential options, determine the means of implementation and report the status to the CASA board by July 2009.

The team repeated the 1998 ROVER vehicle emissions study in the fall of 2006 as remote sensing equipment collected tailpipe emissions data from over 66,000 vehicles in Edmonton, Calgary, Red Deer and Canmore. The 2006 study established an updated inventory of vehicles, their emissions and how things have changed since the original study in 1998. The key findings of the 2006 survey included:

- On-road emissions per vehicle are lower than in the previous 1998 ROVER survey - lower emission rates per vehicle were partly offset by increased numbers of vehicles.
- Five percent of vehicles were identified as gross emitters (emitting at least five times more than when new) for one or more of the pollutants.
- 20 percent of light duty vehicles account for 80 percent of exhaust emissions of the measured pollutants.
- Three quarters of vehicles observed had only one occupant.

Another objective of the study was to raise awareness of Albertans' options in reducing vehicle emissions. Activities to inform Albertans of ways to reduce vehicle emissions are planned for 2008.

### Members:

<b>Alan Brownlee</b>	City of Edmonton (co-chair)
<b>Casey Chan</b>	Alberta Environment
<b>Don Szarko</b>	Alberta Motor Association
<b>Gene Syvenky</b>	The Alberta Roadbuilders and Heavy Construction Association
<b>Gerry Ertel</b>	Canadian Petroleum Products Institute/Shell Limited (co-chair)
<b>Greg Bartlett</b>	ATCO Gas
<b>Jack Thompson</b>	Calgary Motor Dealers Association
<b>John Rilett</b>	Climate Change Central
<b>Lynda Harvey</b>	Natural Resources Canada
<b>Mayne Root</b>	Alberta Motor Transportation Association
<b>Myles Kitagawa</b>	Toxics Watch Society of Alberta
<b>Peter Dzikowski</b>	Alberta Infrastructure and Transportation
<b>Reed Turner</b>	Alberta Agriculture and Rural Development
<b>Rod Thompson</b>	Alberta Infrastructure and Transportation
<b>Ron Schafer</b>	City of Calgary
<b>Scott Wilson</b>	Alberta Motor Association
<b>Stewart Henderson</b>	ATCO Gas

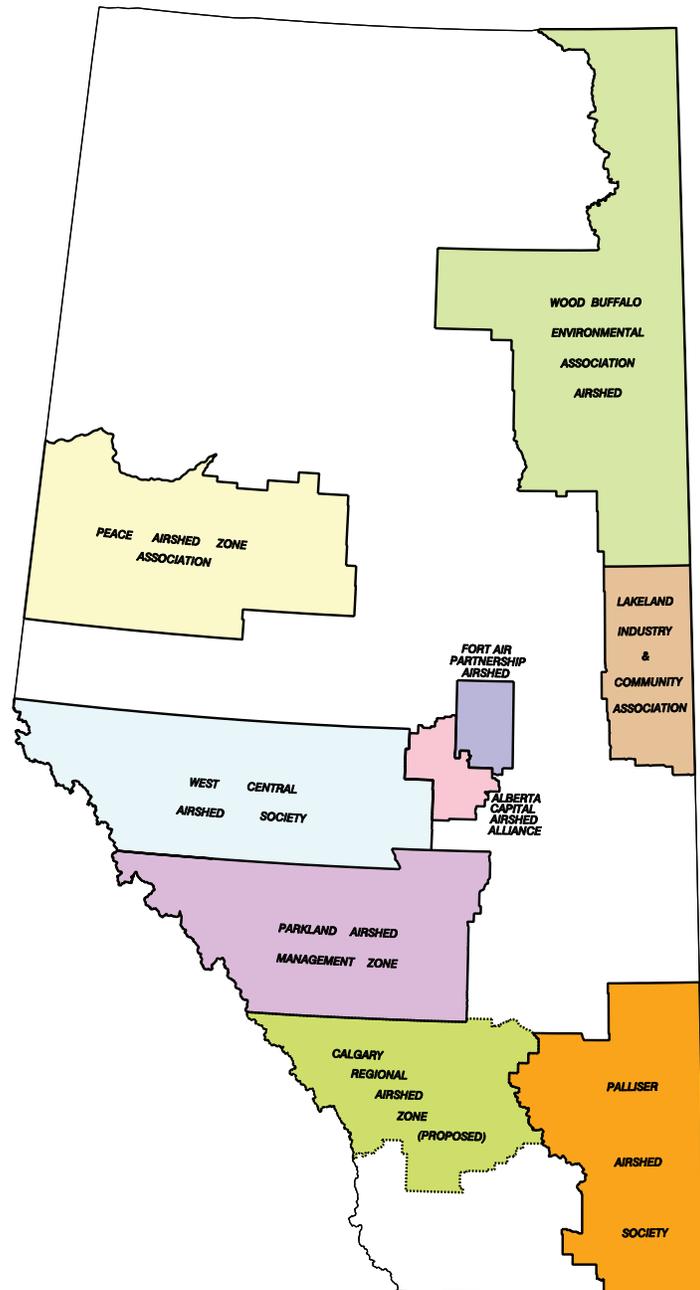
# AIRSHED ZONES

Airshed zones are established by local stakeholders to deal with air quality issues in a specific region. CASA provides the framework within which an airshed zone functions but each operates independently from CASA as a non-profit society. Airshed zones are consensus-based and support the CASA vision.

Passive and/or continuous ambient air quality monitoring is conducted in each airshed zone and is funded by the partners in the airshed zone. To date, seven airsheds have been endorsed by CASA, and their reports appear below. Two new airshed zones are in formation, namely, the Alberta Capital Airshed Alliance (Edmonton and area) and the Calgary Regional Airshed Zone (Calgary and area).

## Alberta Airsheds Council

The Alberta Airsheds Council is comprised of the nine airshed zones in Alberta. In 2007, the Alberta Airsheds Council's focus was the organization and delivery of the second Airshed Zones Conference held October 22-23 in Calgary. Over 200 attendees learned about new and emerging air monitoring methods and technologies and how air quality is being managed by Alberta's airshed zones and other Canadian jurisdictions such as the Vancouver Regional District. In 2008, the council plans to focus its attention on securing representation on the CASA board of directors and begin planning the third airsheds conference scheduled for Edmonton in 2009.



## Reports from CASA airshed zones

Since CASA began in 1994, seven airshed zones have been endorsed by CASA, with work ongoing in the development of at least two others. Despite their differences in mandates, location and structures, all of these zones share many common issues and concerns. The need to establish clear lines of communications between airshed zones, between airshed zones and the public and to create a forum where common challenges to airshed development, growth and operation can be discussed, has long been recognized by all the airshed zones.

### Fort Air Partnership

2007 marked the 10th anniversary of the founding of Fort Air Partnership (FAP). Our work has increased with the expansion of industry in our region; with even more rapid growth and the cumulative effects of development anticipated over the next few years, we are preparing to face the challenges. We are also being challenged by the growing expectations of the public and government. As a result, our mandate is being stretched from an ambient monitoring and reporting role into an air quality management role.

Our monitoring system now includes eight continuous monitoring stations and 46 passive monitoring sites. The new Scotford station was relocated in 2007 as Scotford2, and had an expanded capacity due to the addition of a continuous BTEXS and Styrene analyzer. In July 2007, we installed Alberta Environment's Portable Air Monitoring Laboratory system midway between Edmonton and Fort Saskatchewan to study ozone and its precursors. In the coming year, we plan to add a ninth permanent continuous monitoring station near Bruderheim and another 10 to 20 passive monitoring sites.

FAP continues to generate data from all sources and provide it to the CASA data warehouse, in weekly newspapers and through monthly compliance reports. After some unusual H<sub>2</sub>S exceedance events, FAP was asked to investigate the cause. The investigation is expected to be concluded in early 2008.

Throughout 2007, FAP developed an Emissions Inventory and Regional Air Dispersion Model (RADM) to help us better predict the cumulative effects of pollutants. Results were released in December 2007. The Emissions Inventory is being considered a prototype as Alberta Environment develops a province-wide emissions inventory. The modelling work will be helpful as we plan for the future of the FAP monitoring network.

In addition, Fort Air Partnership agreed to work with other Edmonton census metropolitan area airsheds to direct the development of a particulate matter and ozone management plan.

The development and implementation of a quality assurance plan proceeded during the year, and is one of many ways FAP is working toward remaining a provider of comprehensive, credible air quality information.



## Lakeland Industry and Community Association

In 2007, the Lakeland Industry and Community Association (LICA) continued to operate its network of 25 passive air monitoring stations and one continuous monitoring station in east-central Alberta. A continuous station currently operated by industry, however planned to be added to the regional network, also began transmitting live data to the LICA website. Once fully implemented, the LICA network will have two more permanent continuous stations added to the program.

In 2007, LICA initiated three major projects: the Potential Acidification Impacts Study, the Third Party Network Review and the Community Air Sampling Program.

The Acidification Impacts Study was an exploratory study to assess the current levels of acidic deposition and acidifying substances, and to assess their potential impacts on surface waters, soils, and

vegetation. The objective of the acid deposition study was to *synthesize*, or bring together, all of the work and data on acid deposition that has been done for our area and come up with a regional assessment of the potential effects of acid deposition in the area.

LICA's in-depth third party network review provided the airshed zone with recommendations on how to operate the most effective and representative air monitoring network. The review answered some of the fundamental questions of any environmental monitoring network; are we monitoring the right parameters at the right location for the right duration at the right time?

LICA encouraged and promoted participation by anyone with an interest in regional air quality to get involved in the Summa Canister Air Sampling Program. This program enabled residents in the LICA Airshed to collect air samples when they suspected an incident of concern relating to air quality, generally triggered

by volatile organic compound (VOC) odour events. This program was fully operational during the last quarter of the 2007 and the Airshed is hopeful that it addresses community concerns, provides the public with an opportunity to see how air quality is sampled, and possibly helps direct the implementation of any permanent VOC monitoring programs in the future.

In the late 2008, LICA is planning to commission Alberta Environment's Portable Air Monitoring Laboratory (PAML) in the southern part of the airshed zone. LICA plans on using the PAML to help the Airshed understand what may be causing elevated nitrogen dioxide concentrations as well as seasonally high hydrogen sulphide.

Other major projects for 2008 include developing implementation plans for the many recommendations from the Potential Acidifying Emissions Impacts Study and the Third Party Network Review. For more information, please visit the LICA website at [www.lica.ca](http://www.lica.ca).

## Palliser Airshed Society

In 2007, the Palliser Airshed Society (PAS) completed its expansion plan that included adding a portable monitoring station and increasing its passive network to include a total of twenty stations.

The portable monitoring unit was commissioned in the Brooks area in November, while the completion of the expanded passive network was finalized in September 2007.

The PAS had excellent network performance for 2007 with average operational uptime of the continuous monitoring system of 96 percent. Average concentrations of the parameters recorded in 2007 were well below Alberta Environment objectives for the Medicine Hat Crescent Height Station. Three one-hour averages above the Alberta Environment objectives were observed for hydrogen sulphide at the portable air monitoring station at Brooks. The Air Quality Index readings for 2007 indicated the "Good" level 97 percent of the time.

## Initiatives in 2007

### During 2007, Palliser:

- Provided public access to hourly air quality updates from Crescent Heights air monitoring station through the website at [www.palliserairshed.ca](http://www.palliserairshed.ca).
- Representatives from PAS investigated potential groups and hardware availability to perform a tailpipe emission study.
- PAS presented and participated in the second Airshed Zone Conference held in Calgary.
- PAS continues their support and participation with the Alberta Airsheds Council.
- PAS participated in the annual Environment Week Trade Fair in the City of Medicine Hat.

## Plans for 2008

- Continue to work with stakeholders in the region to address air quality issues.
- Put forward a joint application for Approval Amendments on behalf of stakeholders.
- Relocate the portable Rover station in late spring.
- Develop a comprehensive communication strategy.
- Continue presenting and participating in annual environmental events such as Environment Week and the Southern Alberta Environmental Summit.

## Parkland Airshed Management Zone

2007 proved to be a challenging one for the Parkland Airshed Management Zone (PAMZ).

In March, in view of changes to the scope of the Community Health Assessment Monitoring Program, PAMZ withdrew its participation in the program. The PAMZ Human Health Committee spent the remainder of the year developing a proposal for a Human Health Monitoring Network modelled after the Comprehensive Human Health Monitoring Network developed by the CASA Human Health Project Team. The PAMZ Human Health Monitoring Network could be used to gather information on the health of zone residents for the purpose of detecting issues, trends and associations between air quality and health related variables. In September the proposal was accepted in principle by the PAMZ board.

In March, the PAMZ Technical Working Group (TWG) finalized the Quality Assurance Plan for the PAMZ Air Quality Monitoring (AQM) Network. This plan will help ensure the program continues to provide the high quality data required for the development and evaluation of strategies to address priority zonal air quality issues.

Throughout the year, the PAMZ AQM program continued to address issues of concern to zone residents and fill gaps in its geographic air quality database. Monitoring was conducted continuously at ten temporary and two permanent locations and also through PAMZ's thirty-three station passive monitoring network.

In April, PAMZ continued its development of partnerships with regional stakeholders that provide more ambient air quality information for the region. PAMZ began managing and operating a Particulate Matter Monitoring Program for a lumber mill near Sundre that will help to identify and characterize

any changes in local particulate levels resulting from the mill's operation. In 2007, PAMZ continued to manage and operate an SO<sub>2</sub> monitoring program for the Tay River Advisory Committee and operate a Mercury Wet Deposition sampling program for the Canadian Geological Survey.

In June, a new contractor assumed the operations and maintenance of the PAMZ AQM program. The TWG and PAMZ Executive Director worked closely with the contractor to make the transition. At year's end some issues still remained but overall substantial progress had been achieved.

In July through September, the Raven portable station was located in Nordegg in anticipation of prescribed burns planned for the Kootenay Plains and Upper North Saskatchewan areas, which weather delayed to 2008.

In early August, working in cooperation with the Energy Resources Conservation Board (ERCB), PAMZ was able to use its Peregrine portable station and thermal imaging camera monitoring conducted by the ERCB to pinpoint fugitive hydrocarbon emissions in the Blindman River Valley southeast of Rimbey.

Throughout the year, the PAMZ Ozone Management Committee continued its development of an ozone management plan for the zone and coordinating management activities with those of other airsheds. At year's end, the committee and its data needs sub-group were busy analyzing data collected by PAMZ and others and evaluating air quality management strategies that have proven successful in other areas of the world. The committee sees no difficulty in meeting Alberta Environment's November 2008 deadline for having the plan in place.

PAMZ believes that in many cases the most effective approach to address issues is to provide input into processes that help determine provincial management strategies and policies. For this reason PAMZ is an active participant on a number of CASA project teams and committees. In 2007 PAMZ was represented directly on four teams and committees and PAMZ members served on a number of others.

Good two-way communication and both public and member education remain priorities for PAMZ. The annual public issues identification meeting was held in May at the Lone Pine Community Hall. PAMZ members attended several conferences on behalf of the organization and were instrumental in the planning of the Alberta Airsheds Council's highly successful Zones Conference held in Calgary in October.

In 2007, PAMZ hosted several public presentations on air quality issues of interest to its stakeholders. These included presentations from Environment Canada, University of Calgary, Alberta Environment, Energy Resources Conservation Board and Health Canada. More information on PAMZ is available at [www.pamz.org](http://www.pamz.org).

## Peace Airshed Zone Association

In 2007, the Peace Airshed Zone Association (PASZA) continued its focus on building a solid foundation for its Regional Air Quality Monitoring Program.

As planned, the Rover Continuous Station went into service in September 2007 near Spirit River. This location was originally selected based on the deployment plan for the station to cover areas of the airshed zone that did not have any long-term continuous air quality monitoring in place.

In September, PASZA also deployed a continuous monitoring station south of Girouxville to collect data near a group of Confined Feeding Operations (CFOs). Alberta Environment custom-built the trailer for PASZA's use and outfitted it with instruments that would measure parameters relevant to CFOs such as ammonia, hydrogen sulphide and total reduced sulphur compounds. This additional station brought the total number of stations in the continuous monitoring program to seven.

Over the summer of 2007, PASZA began the implementation of the recommendations in the Boundary Expansion project. This entailed adding 12 passive monitoring stations to the current network in areas north and southwest of the current airshed boundaries. These 12 additional stations brought the total number of stations in the passive monitoring program to 55. In mid-2008, PASZA will assess the data collected by the new stations and determine its plan forward on formal boundary expansion.

In 2008, additional consultation is planned for industry located in the proposed expansion areas. PASZA will hire an Administrator to help with the day-to-day operations of the organization such as bookkeeping, maintaining a library of reports and providing "front-desk" support. In 2008, PASZA will also be carrying out a major redesign of the website to improve its overall look and feel and to improve access to information and data. For more information, please visit [www.pasza.ca](http://www.pasza.ca).

## West Central Airshed Society

The West Central Airshed Society (WCAS) continues to grow and evolve. 2008 construction includes replacing three air monitoring station structures, relocating the Wagner station, re-commissioning the Steeper station and building a new maintenance shop. Implementation of a new data acquisition system is under way and a new agriculture bio-monitoring plot site is under development at the Genesee air monitoring site.

WCAS has been very active developing a new web based Quality Assurance Plan required by Alberta Environment. Also, a great deal of time has been spent on the development of the PM and Ozone management plan for the Capital Census Region.

Boundary expansion to the north is still being considered; emission data and community desire will determine if the expansion is viable. A decision to expand or not will most likely be made in 2008. The Hightower air monitoring station, now operating with wind, solar and a back up propane generator, has performed well through the winter months. The station still offers some challenges and new learnings.

A number of board members have changed recently. WCAS has been served well by these fine people, including Jerry Navaro of Trans Alta Utilities, Dave Stewart of Talisman and Gwen Wood of the ERCB; they will be missed.

## Wood Buffalo Environmental Association

The Wood Buffalo Environmental Association (WBEA) expanded its continuous air monitoring network with the addition of Station 14 in January of 2007. This station is located south of Fort McMurray in the community of Anzac. Transitioning for a 15th station began in December 2007. The station will be located at the Canadian Natural Resources Limited plant site.

WBEA underwent independent audits of 2006 and 2007 data. The audit analyzed and validated one month of data from each year. This is an additional quality assurance measure that is implemented by WBEA as part of a continuous effort to provide scientifically credible data.

WBEA designed and built a database and is in the process of populating the database with current and historical (10+ years) data. The next step in implementing the data management system is to look at the utilization and optimization of this database (data requests, reporting, operational documentation, etc). The database will also be used for trending and analysis as per a request made by WBEA's membership in 2007.

WBEA created and implemented a quality assurance plan in response to, and in compliance with, Alberta Environment's request and air monitoring directive.

In 2007 WBEA struck a Strategic Siting Committee to look at the existing air monitoring network and determine the effectiveness and appropriateness of the location of current air monitoring stations and passive samplers.

The committee is also tasked with considering future locations of air monitoring stations in the region; keeping in mind future development and expansion of industry. The Strategic Siting Committee is striving to achieve a truly regional forest health network.

This is an ongoing long term program that monitors, records and examines personal exposure to air contaminants in the Wood Buffalo region. In 2007, results from the Fort Chipewyan data collection were rolled out to the community in early March. Sampling took place in the Fort McMurray area in early October. WBEA is currently awaiting the results of the 2007 sampling period.

The Terrestrial Environmental Effects Monitoring (TEEM) Committee continued its work in 2007; including careful selection of analogous sites given development and expansion pressures in the region. TEEM also focused on extensive forest health monitoring: an extensive passive network, lichen studies, through fall resin samplers that also had a snow bucket collection component, soil lysimeters, etc.

In October 2007, TEEM held a conference in Banff to bring the TEEM scientists together for an opportunity to discuss and collaborate regarding TEEM work, and the expansion of the program in the future.

Conference attendees included several national and international scientists and demonstrated that WBEA is using some of the best science available to measure air and air related effects. TEEM is working with a number of renowned scientists from the Desert Research Institute (Nevada), USDA Forest Services (California), Institute of Terrestrial Ecology (Scotland), University of Calgary and Natural Resources Canada. Dr. Kevin Percy, the lead scientist, is on secondment to WBEA from Natural Resources Canada and will be heading up the work WBEA is doing on the effects of air quality on the forest ecosystem.





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