

South Saskatchewan Region Air Quality Management Framework

What is the Air Quality Management Framework under the South Saskatchewan Regional Plan?

The management framework focuses on managing ambient air quality in the South Saskatchewan Region with respect to ambient concentrations of nitrogen dioxide (NO_2), ozone (O_3) and fine particulate matter ($\text{PM}_{2.5}$). These indicators were chosen as monitoring shows they are at increasing and/or elevated levels in some areas of the region and they are predicted to increase with expanding development and growing populations. They are of primary importance in the South Saskatchewan Region currently because of their contribution to what is referred to as “urban smog.” Sources of these emissions in the region include building and home heating, road and construction operations, transportation, agriculture and industrial facilities. The framework is designed to maintain flexibility in how we manage cumulative effects of development on air quality within the region and is complementary to existing policies, legislation and regulations.

What are its goals?

- Adopt cumulative effects management at the regional level and take a collaborative approach to proactively manage NO_2 , O_3 and $\text{PM}_{2.5}$ considering both point and non-point sources of substances.
- Develop action triggers for NO_2 , O_3 and $\text{PM}_{2.5}$ and use monitoring data to determine ambient air quality in relation to triggers, limits and levels.
- Provide effective and efficient management tools that support the flexibility needed to address local ambient air quality issues within the region.
- Proactively identify and address issues to help maintain and improve existing air quality and to address health and environment issues associated with development within the region.
- Align with regulatory and non-regulatory processes to help ensure that development can continue and air quality that supports a healthy human population and the environment will be maintained or improved.

How will it work?

The management framework establishes ambient limits and triggers. The limits represent levels beyond which ambient air quality concentrations are unacceptable. The triggers are signals in advance of the limits that allow for evaluation, adjustment and innovation on an ongoing basis. For NO_2 the triggers and limit are based on the Alberta Ambient Air Quality Objective (AAAQO). The triggers and limits for $\text{PM}_{2.5}$ and O_3 are based on the Canadian Ambient Air Quality Standards

(CAAQS). The AAAQOs and CAAQSS are provincial and national objectives designed to protect human health and the environment.

If a trigger or limit is exceeded, there will be a management response. By setting the triggers below the ambient air quality limit, the framework allows sufficient time to plan and react so as to avoid exceeding that limit.

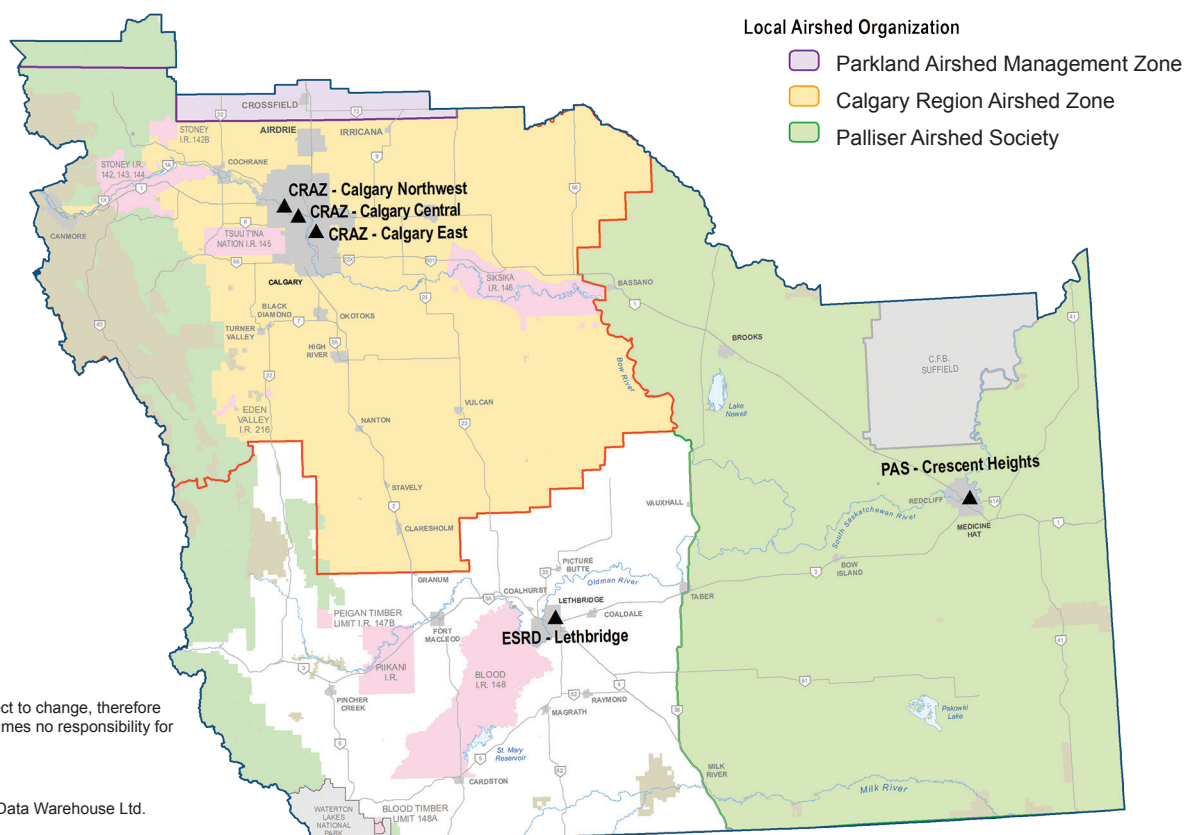
Annual Ambient Air Quality Level Descriptions

Level	Description	Management Intent
Level 4	Ambient air quality exceeding air quality limit	Improve ambient air quality to below the limit
Limit		
Level 3	Ambient air quality below but approaching the air quality limits	Proactively maintain air quality below the limit
Trigger into Level 3		
Level 2	Ambient air quality below air quality limits	Improve knowledge and understanding, and plan
Trigger into Level 2		
Level 1	Ambient air quality well below air quality limits	Apply standard regulatory and non-regulatory approaches

Multi-stakeholder organizations such as local airshed organizations and the Clean Air Strategic Alliance (CASA), a non-profit organization with representation from industry, government and non-government organizations, contribute to air quality monitoring and management in Alberta. They are expected to continue to contribute as the management framework is implemented.

In the region, five community stations report the ambient air concentrations for several substances including NO₂, O₃ and PM_{2.5} to Alberta's Ambient Air Quality Data Warehouse. The stations are managed by the Calgary Region Airshed Zone, the Palliser Airshed Society and the Alberta Environmental Monitoring, Evaluation and Reporting Agency (aemera.org). These five stations are the framework's source of monitoring data.

Local Airshed Group Organizations and aemera.org Continuous Air Monitoring Stations



Information as depicted is subject to change, therefore the Government of Alberta assumes no responsibility for discrepancies at time of use.
© 2014 Government of Alberta

Base Data provided by Spatial Data Warehouse Ltd.