

Canadian Ambient Air Quality Standards

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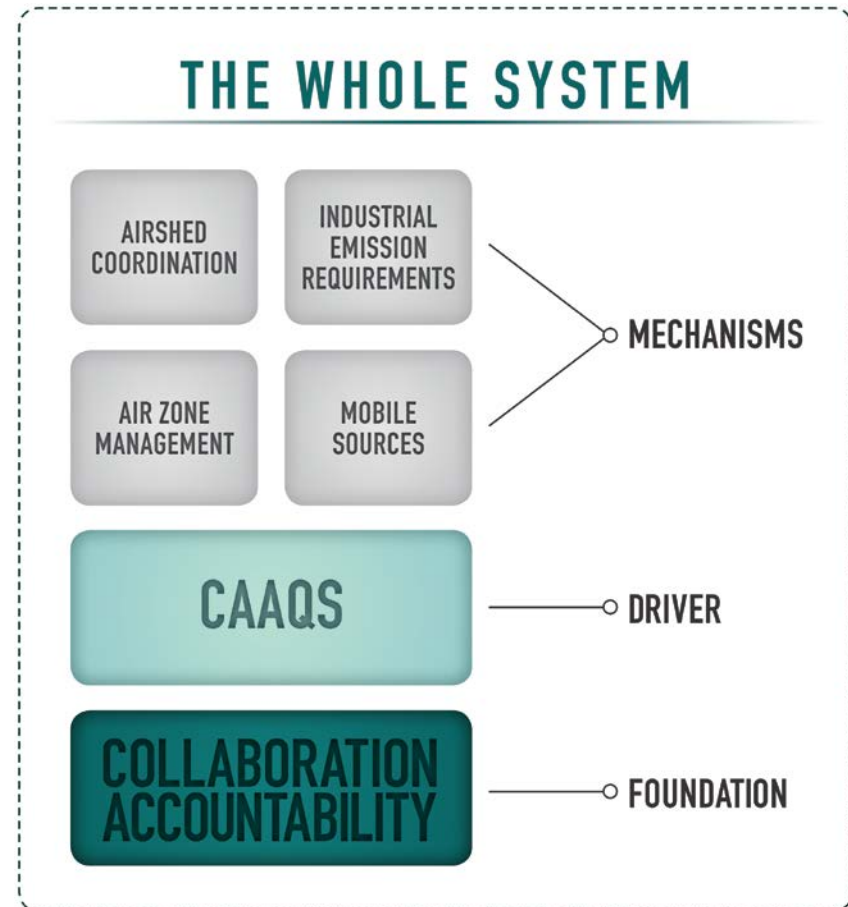
CAAQS

- **In the past ambient objectives**
 - Canada wide standards (PM_{2.5} and Ozone)
 - National Ambient Air Quality Objectives
- **Historical objectives being revised under**
 - CAAQS process
- **CAAQS are a component of the National Air Quality Management System**
 - October 2012 Ministers of the Environment* agreed to implement
- **Current Standards**
 - fine particulate matter (PM_{2.5}) and ozone
- **Standards under development**
 - SO₂ and NO₂

National Air Quality Management System

- **Includes**

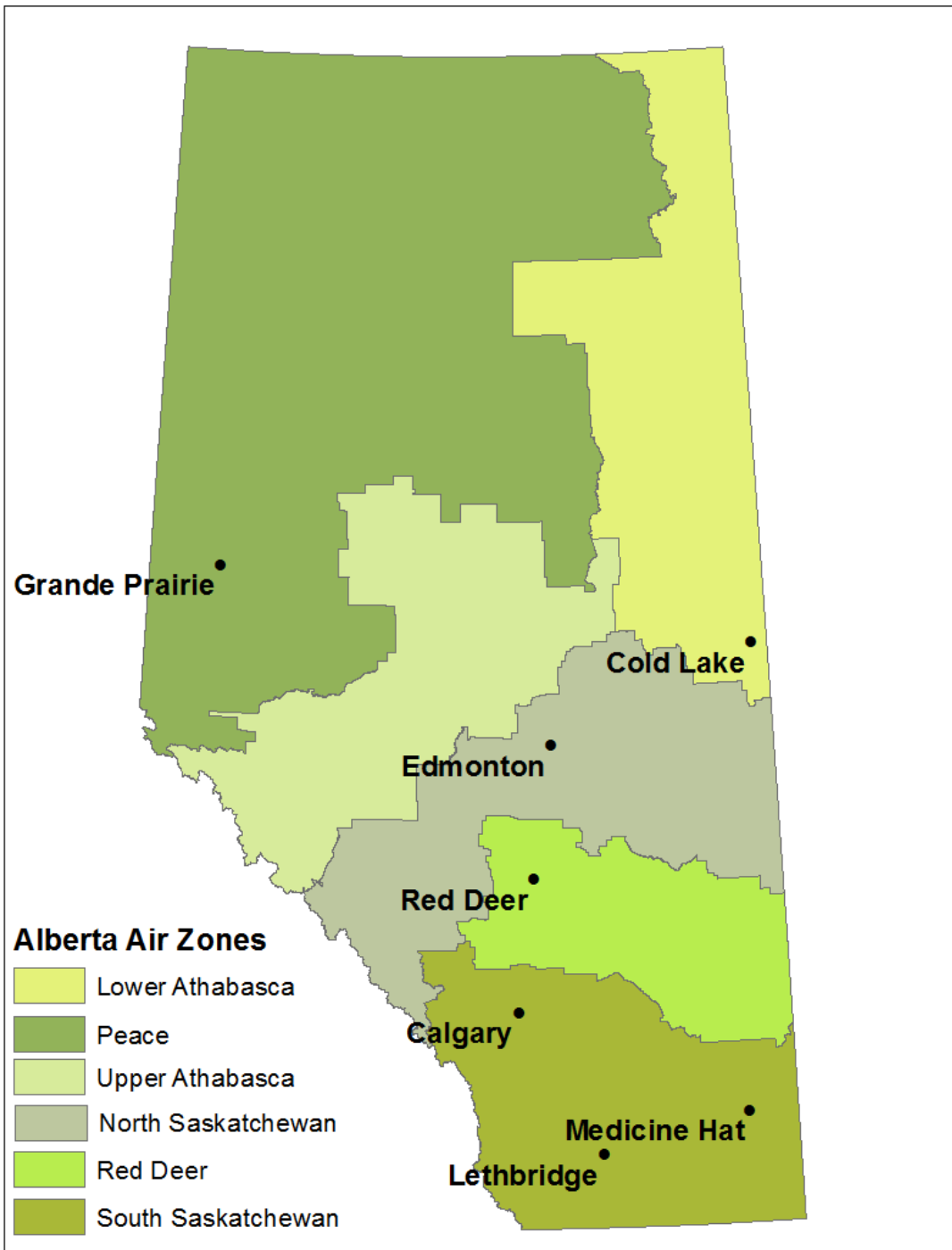
- Revision or development of ambient standards
 - CAAQS
- Place base air quality management
 - Air zones
- Emission management
 - Industrial and mobile
- Transboundary effect
 - Coordination of jurisdictions



Air Zones

- **Place based method to manage air quality**
- **Each jurisdiction**
 - Delineates and manages air zones
- **Air management within air zone guided by**
 - Air Zone Management Framework
- **The framework**
 - Describes threshold values and management levels
 - Provides guidance on implementation
 - Assignment of management level
 - Determination of transboundary flows and exceptional events

Air Zone Delineation



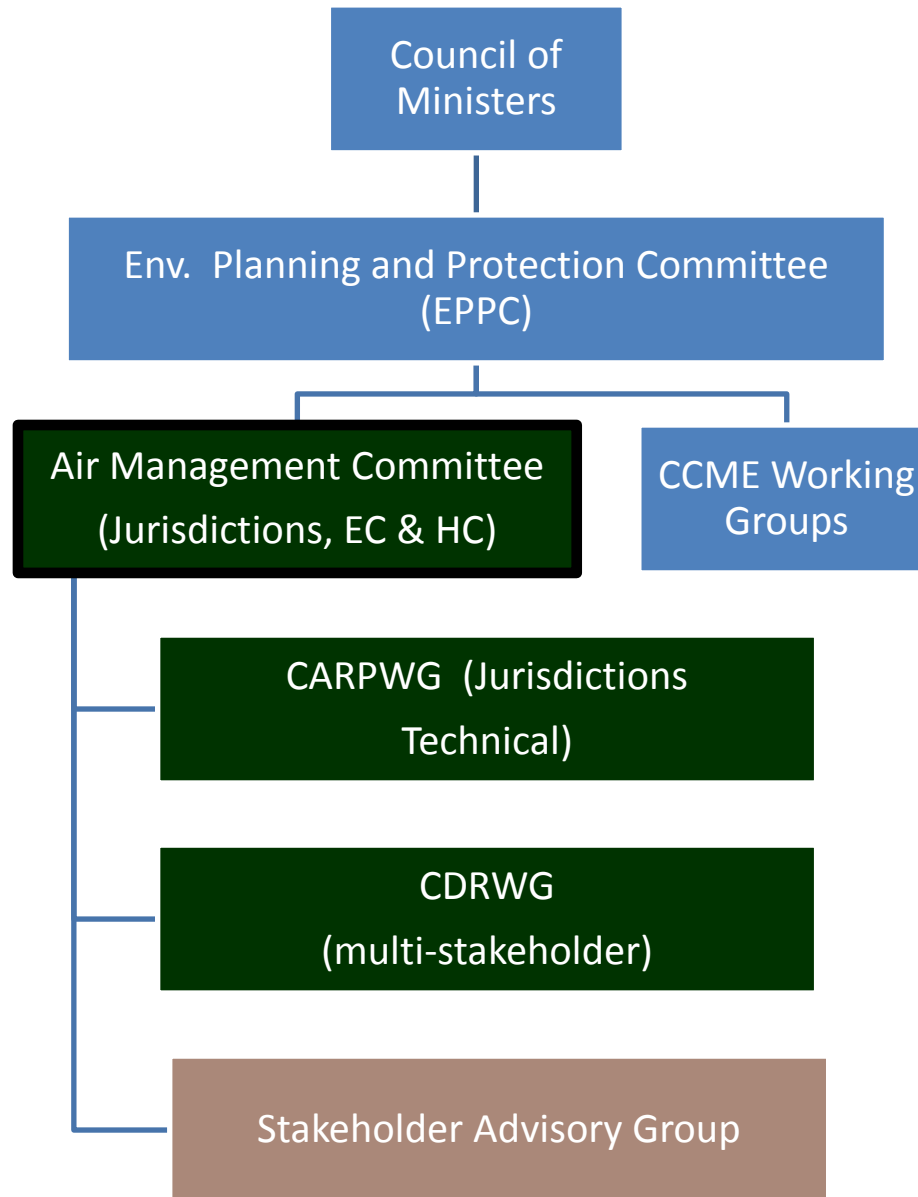


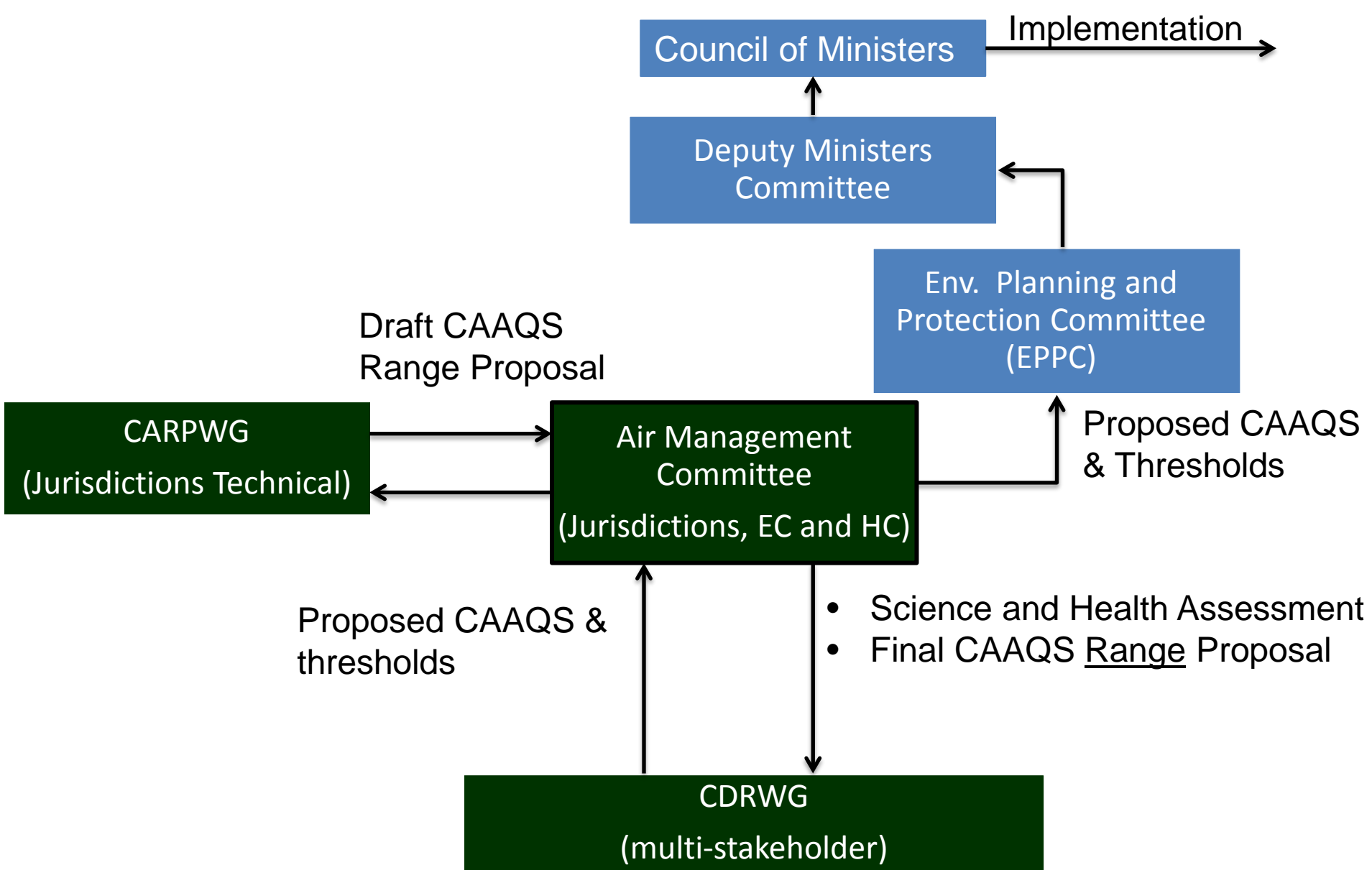




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Development process





The background of the slide is a stylized, low-poly illustration of a forest. It features various shades of green and brown. In the foreground, there are several deer of different sizes and colors (brown, grey, white) scattered across the scene. Some are standing, while others are partially obscured. There are also some small, light-colored flowers with yellow centers. The overall style is modern and artistic, with a focus on natural elements.

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Assessment and Reporting

CAAQS Assessment and Reporting

- **The responsibility of jurisdictions**
 - Assessment conducted every year
 - Results and achievement of CAAQS → *Air Zones Report*
 - Alberta published 2011-13 report
- ***Air Zones Report***
 - Submitted annually to Air Management Committee
 - Air quality report (assessment results, issues and trends)
 - Management level, action and expectations
 - Air zone report rolled up into a national *State of Air Report*
- **Alberta Implementation of Air Zone Management**
 - Management plans (when needed) to be developed within 2 years

PM and Ozone CAAQS

- **CAAQS and Thresholds for 2015**

Management Level	Ozone 8 Hour (ppb)	PM _{2.5} 24 hour ($\mu\text{g m}^{-3}$)	PM _{2.5} Annual ($\mu\text{g m}^{-3}$)
Red Actions for Achieving CAAQS			
Standard (2015)	63	28	10.0
Orange Actions for Preventing CAAQS Exceedances			
Threshold	56	19	6.4
Yellow Actions for Preventing Air Quality Deterioration			
Threshold	50	10	4.0
Green Actions for Keeping Clean Areas Clean			

- The **metric** is an important component
- [Guidance Document on Achievement Determination](#)
- **Proposed CAAQS and Threshold for 2020**
 - More stringent
 - In the work plan for review and finalization

Stations not used for Assessment

- **Monitoring site**

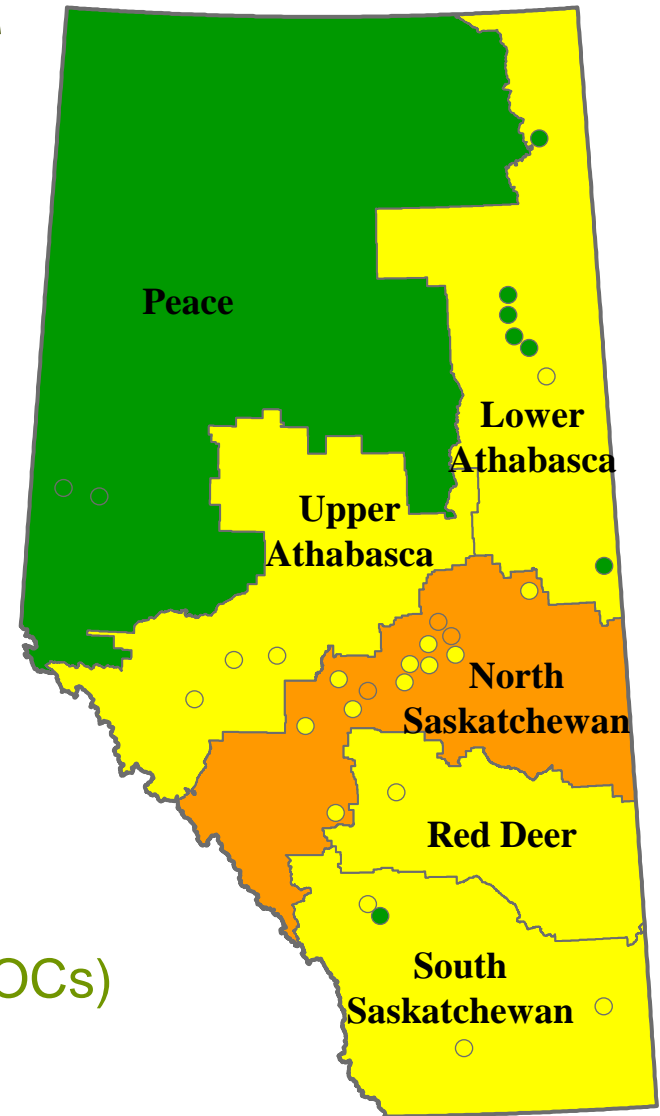
- Within areas of industrial activity
 - e.g. within fence line, in areas of mining activities
- Very near to industrial activity except those in areas accessed by the public and/or near population centers
- Special study sites
- Background sites with no history of anthropogenic influence
- Stations with incomplete data for the assessment period

- **Alberta has a network of monitoring**

- Operated by Airsheds and Government
- Data publicly available

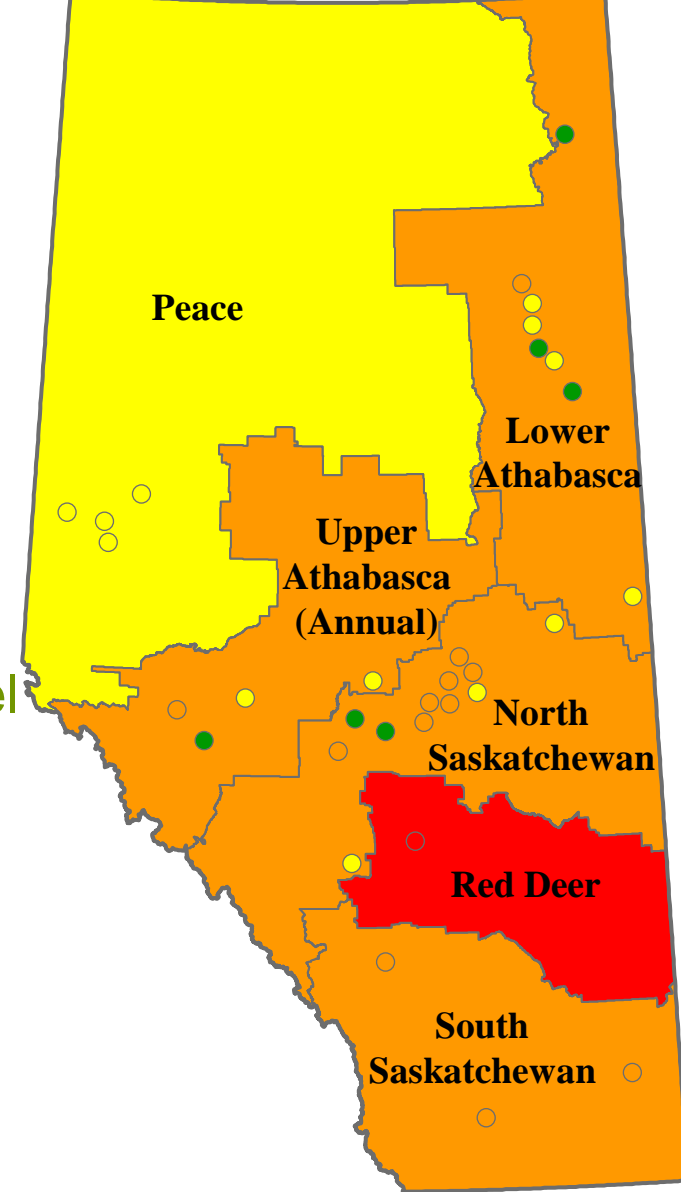
Ozone CAAQS assessment

- **2011-13 Assessment result**
 - Circles indicate location of stations
 - Colour indicates management level
- **North Saskatchewan air zone**
 - Needs an ozone management plan
 - Three stations → orange level
 - East and west of Edmonton
- **Management plan will focus on**
 - Ozone precursor emissions (NO_x and VOCs)



PM CAAQS assessment

- **2011-13 assessment result**
 - Circles indicate location of stations
 - Colour indicates management level
- **All air zones except for Peace**
 - Are assigned to either orange or red level
- **Management plan will focus on**
 - Fine particulate matter and its precursor gases
 - Including: $PM_{2.5}$, NO_x , SO_2 and VOCs





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Next Steps

Next Steps Management Plans

- **Alberta has released**
 - The first assessment was released in September of 2015
 - PM response and an action plan for the Red Deer Region
 - [Red Deer Fine Particulate Matter Response](#)
 - [Red Deer Air Zone Action Plan](#)
 - A PM and Ozone Plan for the North Saskatchewan region and PM plans for all other affected air zones are being initiated
 - According to Alberta's Implementation of Air Zone Management
 - Plans, when needed, have to be developed within 2 years
- **Stakeholder Advisory Group of the CCME**
 - Provided implementation status
 - Review implementation on a national scale
 - Provide advice to the Air Management Committee

Next Steps: National Level Work

- **New CAAQS**

- Sulphur Dioxide

- Much work has been completed
- Final approval of CAAQS by the Council of Ministers

- Nitrogen Dioxide

- Work was initiated in the winter of 2015/16

- **Review of CAAQS**

- Following the development of proposed Nitrogen Dioxide CAAQS
- Review of Ozone CAAQS
- To be followed by review of PM_{2.5} CAAQS