



Williams Lake Air Quality Roundtable

Preliminary Findings of the 2012 Airshed Planning Review



WLAQR Presentation - November 8th 2012

Introduction

- Williams Lake first adopted the “airshed” approach to air quality management in 1999.
- Formal plan developed and implemented in 2006
 - Contained a series of initiatives to improve air quality and a schedule for implementation
- Planning window 2006-2016
- Levelton was engaged by the BC MoE in 2012 to conduct a review of airshed planning efforts to date

Objectives of the Review (1 of 2)

- Two part approach to the project
 - Evaluation of operational successes
 - Evaluation of socio-technical issues
- Part 1:
 - Of the planning initiatives identified to improve air quality, which have been successfully implemented?
 - How has their implementation impacted air quality trends?

Objectives of the Review (2 of 2)

- Part 2:
 - How effective has the WLAQR been in maintaining effective stakeholder relations and engaging the community in continuing activities to improve local air quality?
 - What are the challenges and roadblocks to further progress?
 - How do the overall findings of the review compare with experience elsewhere?
- External influences on future Planning goals
- Recommendations for continued success

Provincial Air Quality History

- Early management of air quality in B.C. focused primarily on the control of industrial point source emissions.
- Relative contribution from other sectors subsequently grew - in some areas unmasking residual air quality problems from relatively minor sources.
- Regulatory framework began to incorporate area-based sources including woodstoves, open burning, motor vehicle emissions, open sources of dust.
- Most recently, health risks due to particulate matter and ozone become central focus.

Williams Lake Air Quality History

- Long history of high $PM_{2.5}$ led to early initiatives to improve air quality. Between 1990 - 2005:
 - Elimination of local beehive burners
 - Construction of the new Williams Lake power plant
 - Introduction of a number of regulations and bylaws aimed at reducing air emissions in the region.
- These were implemented on a piecemeal basis
 - Airshed planning approach formally adopted in 1999
- 2000 - 2006 efforts focussed on more accurately quantifying local air quality.

Issues Quantification and Plan Development

- Background report on air quality based on 1991 - 2003 data.
- Emission inventory was compiled for the region
- CALPUFF modeling - source apportionment study
- Results indicated 1990 - 2005 activities had resulted in improvements to air quality
 - However, monitoring data indicated the need for further action.
- The result was the development of the WLAMP which was implemented in 2006.

Goals and Objectives of the Plan

- Regulatory permits current
- Dust mitigation from road surfaces (pm)
- Reduced emissions from backyard burning (pm)
- Reduce emissions from wood burning appliances (pm)
- Transportation (pm/O₃)
- Community and Regional Planning
 - Periodic (5 year) review of GPM and supporting data
 - Incorporation into OCP and other local planning frameworks
- Public Education
- Ongoing monitoring and research

Methodology Used in the Review (1 of 3)

- Desktop review used to:
 - Identify past and current activities of the WLAQR primarily with reference to web based materials and response to the first of two questionnaires.
 - Review existing discharge permits
 - Confirm the implementation and operability of establishment and functionality of other planning objectives
 - Review the effects of implementing planning objectives on ambient air quality since 2006

Methodology Used in the Review (2 of 3)

- First questionnaire was designed to poll for facts rather than opinions; sent only to one WLAQR member.
- Intended primarily to:
 - Review active community programs e.g. promoting optimal open burning methods, anti-idling
 - Identify most commonly used public outreach mechanisms
 - Evaluate public interest in air quality and related environmental issues
 - Identify interaction of WLAQR with other environmental groups
 - Invitation to provide any additional comments

Methodology Used in the Review (3 of 3)

- Second questionnaire was distributed to all WLAQR members (Survey Monkey)
- Blind survey to evaluate social mechanisms contributing to the success of an airshed management plan.
 - Some overlap with the first questionnaire insofar as it contains questions that relate to community support.
- Attempts to understand
 - Level of ongoing commitment to air quality improvement initiatives at 'board' level
 - Internal 'health' and functionality of the WLAQR.

Preliminary Findings of Desktop Review & Response to Questionnaire #1 (1 of 2)

- Work in progress ...
 - Review of regulatory permits ongoing
 - Currently identifying changes to emission profiles between 2006 - 2012 to inform recommendation regarding re-casting source apportionment / GPM modeling (or other quantitative analyses).
 - Programs currently supported by WLAQR:
 - Cariboo Woodstove Exchange program - information at retail outlets
 - Open burning education
 - Anti-idling
 - *Ad hoc* workshops and public outreach activities communicating lifestyle impacts relating to air quality
 - Daily air quality index information disseminated to public / air quality advisories as necessary

Preliminary Findings of Desktop Review & Response to Questionnaire #1 (2 of 2)

- Public outreach via multi-media; radio and print
 - Tentative plans to include air quality into science curricula in local schools in 2013
 - Workshops with retailers to promote lower emission products planned

Response to Questionnaire #2

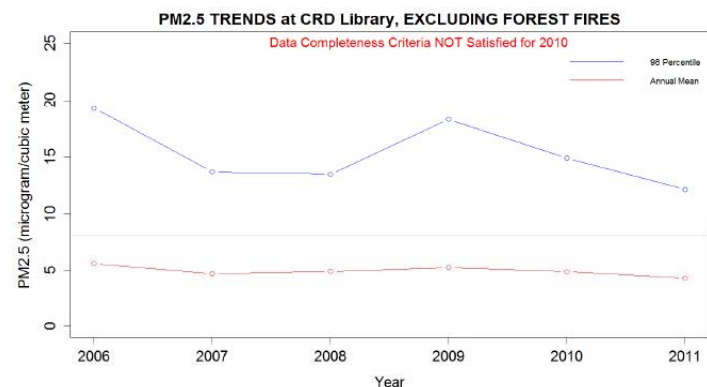
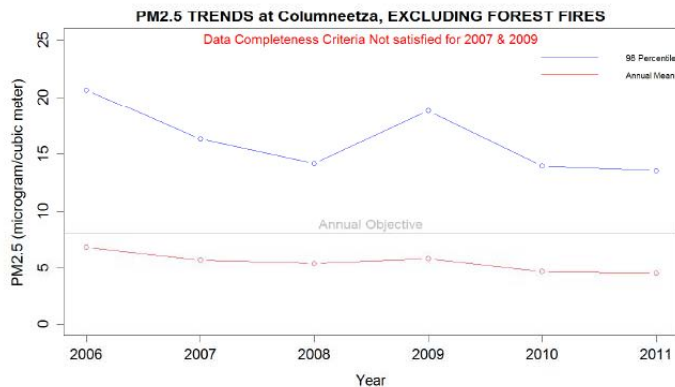
- Evaluation of the effectiveness of the WLAQR pending completion of all responses and subsequent analysis ...

Areas for Potential Improvement

- Early input suggests a need for better communication with the public
 - Majority of people in the community are not familiar with the WLAQR or its activities
- Issue reports to the community (annual / quarterly?).
 - Summarize air quality data
 - Highlight recent WLAQR activities / successes
 - Publicize upcoming community events
 - Generate public interest
 - Encourage participation / engagement
- Clarification of respective roles of WLAQR and WLES with respect to air quality issues / activities

Impacts of Planning Initiatives on Ambient Air Quality

- Levelton's in-house data review concurs with findings of MoE
 - Remove interference from forest fires and distinct downward trends in particulate matter are clearly evident.



Barriers to Progress

- Work in progress ...

External Influences on Future Planning Processes

- Review of current understanding of health effects of particulates and ozone materially complete.
- FEM switch in regard to future data comparison (pre and post) in preparation.
- Radon - potentially establish community outreach program regarding health effects, detection measures and exposure reduction / mitigation

Recommendations ...

- Open discussion with WLAQR
 - Synopsis
 - Destination or turning point...?
 - CCME objectives
 - Airshed planning in Alberta and Saskatchewan