

Air Quality Workshop, Scout Island Nature Centre, September 27, 2018

The Williams Lake Air Quality Roundtable hosted a workshop on local air quality with Ralph Adams, Air Quality Meteorologist, Ministry of Environment and Climate Change Strategy, Kamloops. Ralph attends twice-yearly WLAQR meetings and is the group's technical source of information.

Approximately thirty participants, including three local elected officials (past or present) and two candidates seeking election, heard Ralph's presentations and asked questions. Ralph stated at the beginning that with the Atlantic Power appeal unexpectedly still in progress, he was currently unable to discuss the matter.

Ralph introduced the now-expired Williams Lake Airshed Plan that covered 2006-2016. A new plan is required, probably one with less process and required funding. The provincial AQRs cover 19 subjects, including air pollutants, health effects, air quality meteorology and dispersion, and airshed planning. New technology of particulate monitors will enable increased involvement of citizen science and indoor air quality monitoring.

Air pollutants include ozone, nitrogen dioxide, sulphur dioxide and fine particulate matter – PM10 and PM2.5. PM2.5, what we call smoke, measures under 2.5 micrometres in diameter (a human hair is 70-90 micrometres) and is the most important factor in air quality in Interior BC. PM2.5 results from combustion (vehicles, wildfires, industry) and is respirable, so it has the highest health effects. It can stay in the air for a long time and travel across the world. Local sources of PM2.5 include woodstoves, open burning, wildfires, industrial boilers and dryers, and vehicles.

Ralph reviewed air quality objectives by contaminant, federal and provincial criteria, and time period (hourly or annual). BC sources of PM2.5 include open burning (almost half), industry and wood heat (~18% each) and transportation (12%). Local numbers vary but the important difference in micro-level air quality is the resulting human ingestion and health. Closer, smaller sources may actually be more significant to different individuals and communities. Air quality in winter is largely driven by weather whereas summer air quality depends mostly on winds spreading wildfire smoke. Daily and weekly differences in air quality are often observable from monitoring based on woodstove use and vehicle traffic patterns.

In addition, Ralph discussed the health effects of exposure to fine particulate matter recognizing that there is no safe amount of exposure and that there are direct links (known impacts) of poor air quality on human health – mainly on the cardiovascular system. There is currently inconclusive data on the long term impacts of smoke exposure but an indication that long-term exposure to low levels may be of greater detriment than short-term exposure to high levels (like that seen during a wildfire season). Ralph discussed the Air Quality Health Index in relation to Air Quality advisories and the Smoky Skies Bulletin.

Local to Williams Lake, Ralph illustrated a downward trend in PM 2.5 that appears when wildfires are removed from the data or in years without fires. This indicates that emissions from industry and residential use may be on a slow decline, but local air quality has been drastically impacted by wildfire. The 2017 and 2018 summers show record PM 2.5 levels due to smoke. Ralph also explained that changes to air quality equipment has increased apparent levels but this is due to how the new machines read versus an actual increase in pollution in the airshed. Our current monitoring station is located at Columneetza. It is hoped that less expensive, mobile units may be employed in the future to sample air quality from other aspects of valley – another avenue for the type of ‘citizen science’ that could be possible.

Two of Ralph’s recommendations to the audience were:

1. The AQRT needs a new chair and more engaged citizens through increased public awareness and interest.
2. After the Environmental Appeal Board decision on Atlantic Power’s proposal to burn rail ties, he recommended that he speak at a second meeting to review the arguments and results.

For copies of the Powerpoint presentations Ralph used during his presentation, or for any further questions or information please email airqualityscoutisland@shaw.ca