



WELCOME TO THE PREMIERE ISSUE!

30-below is the quarterly newsletter of the BVLD airshed management society. The name 30 below is a reference to the Canada-wide standard for PM2.5 (24-hour average particulate matter). Our goal is to stay below this standard, and the Community Action Plan for Clean Air presents strategies for meeting this goal, based on managing and reducing emissions from all sources of particulate matter in our airshed.

Each newsletter will present seasonal news related to air quality and the work of our organization. The **30-below** dictionary included here is backed up by a glossary of terms provided on our website, presented as part of the Clean Air Plan – our 5 year strategy for improving air quality in the Bulkley Valley – Lakes District. I invite you to send in your questions, and to take personal action to reduce emissions. Check out our homegrown Clean Air Tips for some great ideas. Cheers!

Laurie Gallant
Editor



President's Message

Clean Air is important to all of us, and we hope to do what we can to improve air quality in a workable manner.

Our Airshed Management Society (the board) represents Public, Government, and Industrial interests through varied representation and consideration of our own personal concerns.

As a non-profit society, we hope to obtain funding to make a difference in our own local air quality and to share any thing we learn or develop with neighboring communities. We welcome the potential for receiving clean air gratification.

Improvements to date include: incentives for the public to exchange old woodstoves for newer, low emission ones; Pacific Inland Resources developed an energy system to replace their beehive burner; and a custom venting index forecaster was hired to coordinate local resource burning and to include landfill burning in the process.

Projects that we look forward to in the future include: efforts for other mills to move away from beehive burning; more woodstove exchanges; improved local disposal methods at landfills; reducing local stack emissions, and sharing any successes with others.

Paul Schwarz
President

Meet the AMS Board of Directors



Left to right: **Ben Weinstein, Doug Bysouth, Joanne Dickenson, Dave Stevens, Frits Goossen, Paul Schwarz, Ian Sharpe.** Not pictured: **Leroy Reitsma.**

Minutes from Board meetings are posted on at cleanairplan.ca

Spotlight on Wood Burning Appliances

In 2004, AMS estimated that there are 4,200 old technology stoves operating in the BVLD. Smoke from woodburning fireplaces and wood stoves can be a problem in neighborhoods throughout the Bulkley Valley – Lakes District region. Wood smoke can impact you and your neighbours, especially children and others with respiratory problems.

Simple changes to woodburning fireplaces and wood stoves can reduce the amount of smoke produced by approximately two-thirds. They can also reduce the amount of fuel burned and result in significant savings. These changes make a difference in fire safety as well!

- Use seasoned firewood.
- Use small amounts of kindling to start the fire, give it plenty of air, and burn small hot fires.
- Never "damper down" a stove so that it smolders.
- Never burn garbage, especially plastics.
- Have chimneys inspected annually and cleaned as necessary by a certified professional.
- Clean and repair your wood stove annually.
- **Upgrade to a natural gas, propane, pellet, or EPA-certified woodburning stove.** (*Your stove is certified if it has a plate with a U.S. Environmental Protection Agency label on the back of the stove*)

During the 2004 Wood Stove Exchange Program, retailers provided discounts on the cost of a new stove. This resulted in 35 stoves being upgraded. A research project is currently underway to confirm the total number of old technology stoves and their location to improve the success rate of future wood stove exchange programs.

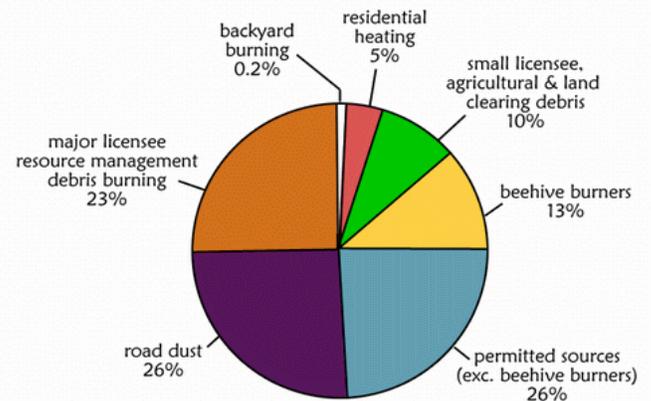
Go outside and check your chimney frequently.

If you see smoke coming out, you're wasting wood by not burning hot enough. Give the fire more air and check the chimney again.

Clean Air Tip: This tip is brought to you by Ashlee Robinson, 11 & Tianna Adzick, 11
"Never burn plastic, treated wood, newspaper, junkmail or tires."

See all 58 tips collected from the Fall Fair at cleanairplan.ca

Figure 1: Contributing emission sources to the BVLD Airshed (2002).



Source: Adapted from MOE 2001 and 2002 Inventory of Particulate Matter Emissions for the Bulkley Valley – Lakes District Airshed, p.8

Strategies for reducing emissions from space heating sources identified in the Clean Air Plan include:

- An annual wood stove exchange program
- Continuous community education program
- Local Government Toolkit containing examples of communication and policy tools.

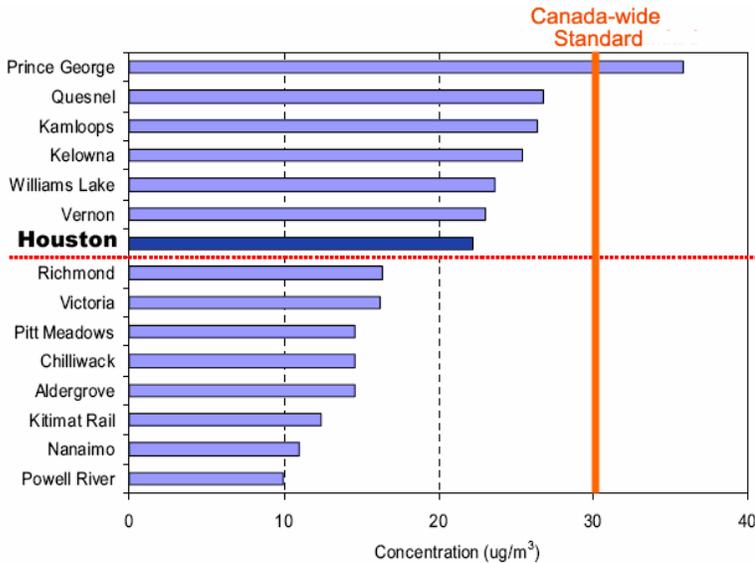
How does the Air Quality in the BVLD stack up?

It's tempting to make general statements about air quality based on what we see when we look out the window or observe from a high point in the valley. Observations like this are important on a neighbourhood level and for confirming the accuracy of what the air quality monitoring data tells us. Air quality in BVLD tends to follow seasonal patterns and is affected by weather and emission sources. Air quality advisories and pollution prevention notices are issued if levels of particulate matter become a health concern. For example, in 2004, all the bad air quality days took place in February, March and April but in 2005 we also saw air quality episodes in late November.

The importance of having good air quality data is linked to how readers interpret the data presented. In Figure 2, communities which collect data on PM_{2.5} have been ranked according to the Canada-wide Standards for ambient (outside) PM_{2.5} concentrations. In the BVLD both Houston (introduced March 2001) and Smithers (introduced July 2004) monitor for PM_{2.5} continuously.

Hazelton also has a PM_{2.5} monitor which operates for 24 hours every six days. Communities shown on this chart have reliable continuous data available for the years 2002-2004.

Figure 2: Ambient Levels of PM_{2.5} across BC



Source: Adapted from BC Lung, State of the Air (Nov 2005, p.5)

Just the FAQs!

Ben Weinstein, air quality meteorologist for the Ministry of Environment, tackles your tough questions! **Submit your questions to info@cleanairplan.ca.**

Is the Houston level of PM_{2.5} in Figure 2 representative of other communities in the airshed that don't have 2.5 data for this period?

Ask me no questions and I'll tell you no lies! There is no easy answer to this question. Often people have enough trouble believing that the monitors we have represent the AQ in their community, let alone in the airshed. It is important to think of what each monitor 'sees' when it measures air quality. It is true that communities in the BVLVD tend to experience similar air quality because of the nature of the airshed. However, the placement of monitors in communities contributes to a bias based on their location within communities. For example, the Burns Lake PM₁₀ monitor is biased towards road dust since there is more heavy truck traffic in Burns Lake because of the pine beetle issue. Expect there to be slightly less dust in Houston and a bit less in Smithers. In Houston the AQ monitors are biased because of their proximity to a trailer park with a high number of older woodstoves in

operation. This means the readings can be easily be influenced by woodstove emissions. When the MoE finishes dispersion modelling and a mobile monitoring project we will be better equipped to answer this question.

What's the difference between PM 2.5 and PM10?

PM₁₀ is roughly the same size as bacteria — and like bacteria, PM₁₀ is invisible to the naked eye and small enough to be breathed into our lungs. Not all PM₁₀ is created equal. It can be composed of very small particulates of about 0.1 to 0.2 micrometers in diameter, like you'd find in automobile exhaust or fireplace emissions. It can also include particulates at least 10 times this size, like you'd find in sea salt spray or road dust.

To simplify things, we often refer to a fine and coarse fraction of PM₁₀, since they generally differ in chemical composition source and behaviour in the air. The fine fraction (PM_{2.5}) contains particulates 2.5 micrometres or smaller. This fraction is most often generated by combustion processes and by chemical reactions taking place in the air. The coarse fraction contains particulates greater than 2.5 micrometres. This is the size most closely associated with natural sources.

Are there provincial and national standards to protect public health?

BC has ambient objectives for PM₁₀ of 50 ug/m³ based on a 24 hour rolling average. This is not a Canadian standard. The Canada-wide Standard for PM_{2.5} is 30 ug/m³, 24 hour rolling average. Achievement of this standard must be based on the 98th percentile ambient measurement annually, averaged over 3 consecutive years.¹

Are the goals of the Clean Air Plan related to PM10 or PM2.5?

Both! At our last AGM (and the one before that) recommendations were made and accepted to expand the goals/indicators/strategies to include PM_{2.5}.

Is acquiring 2.5 monitoring equipment a priority?

Yes. MOE has requested \$ from the Ministry for a PM_{2.5} monitor in Burns Lake out of this year's fiscal budget ending March 31, 2006.

¹ This definition comes from http://www.ccme.ca/assets/pdf/pmozone_standard_e.pdf

30-below dictionary

Airshed - A geographic area that, because of emissions, topography and meteorology, typically experiences similar air quality.

COPD Chronic Obstructive Pulmonary Disease

FAQs Frequently Asked Questions

PM - Particulate matter. Tiny solid or liquid particles that come in many shapes and sizes and from many sources, both natural and human-caused. Fine particulates 10 micrometer or less in diameter are called PM10, and those 2.5 micrometers or less in diameter are called PM2.5.

Woodstove exchange - A program in which education and financial incentives are available to people wanting to trade in a non-EPA emission certified appliance in exchange for a new, lower PM emission appliance.

Become a member!

BVLDAMS is a non-profit, consensus-based organization. We're always on the look out for fresh ideas, specialized knowledge, and community support. If you can contribute time, make a financial contribution to our work, or would like to receive this newsletter by e-mail get in touch!

Projects and events planned for 2006 include:

- Implementation of Action Plan for reducing local stack emissions (ongoing)
- Wood Stove Exchange (dates TBA)
- Community presentations to local governments throughout the BVLD (February and March)
- Province of BC consultations on proposed options for provincial air quality objectives and an airshed planning framework
- BC Lung's annual forum on Air Quality and Health March 29, 2006 and Fraser Basin Council's annual BC Clean Air Forum on March 30, 2006.
- **AGM** and Annual Review of Clean Air Plan effectiveness – open to the public (June)
- Clean Air Day (June)
- Fall Fair Display (August)

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Headlines and Recent Publications

Spearheaded by The Lung Association and the Canadian Thoracic Society (CTS), *Chronic Obstructive Pulmonary Disease: A National Report Card* is a call to action for better COPD awareness and management across the country. November 2005.

Burn Plan for Smoke Management in the Bulkley, Kispiox, Cranberry, and Cassiar Timber Supply Areas (effective April 1, 2005) includes recommendations made by the AMS Resource Management Burning Subcommittee. Nice work!

A Teacher's Guide to Clean Air: Grade Five, November 2005. BC Clean Air Committee.

State of the Air in British Columbia 2005 (BC Lung Association). A 16-page booklet full of facts and figures that clearly explains air quality issues across the province. Includes charts comparing levels of particulate matter (PM2.5), ozone, and nitrogen dioxide for a cross-section of BC communities.

Final report Wood Waste Management October 2005 (Regional District of Bulkley-Nechako). See also the AMS letter commenting on this report on our website.

City of Prince George Clean Air Bylaw regulating wood burning appliances, open burning, and fugitive dust control (April 2005).

Proceedings of the 2005 BVLDAMS Burn Operators Forum. The largest emission source in the BVLD gets tackled by the experts.

July 2005 - Pacific Inland Resources shuts down their beehive burner and replaces it with a hot oil energy system, used to power 7 of their kilns.



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