

# **Smoke, Air Quality and the Open Burning Smoke Control Regulation Woody Debris Management Workshops**

**January 27 – February 10  
2020**

# Biomass Burning Sources in B.C.

- **Open burning**

Forestry, agriculture, land clearing, risk reduction, prescribed, backyard

- **Domestic burning**

Wood heating, cooking

- **Commercial/institutional**

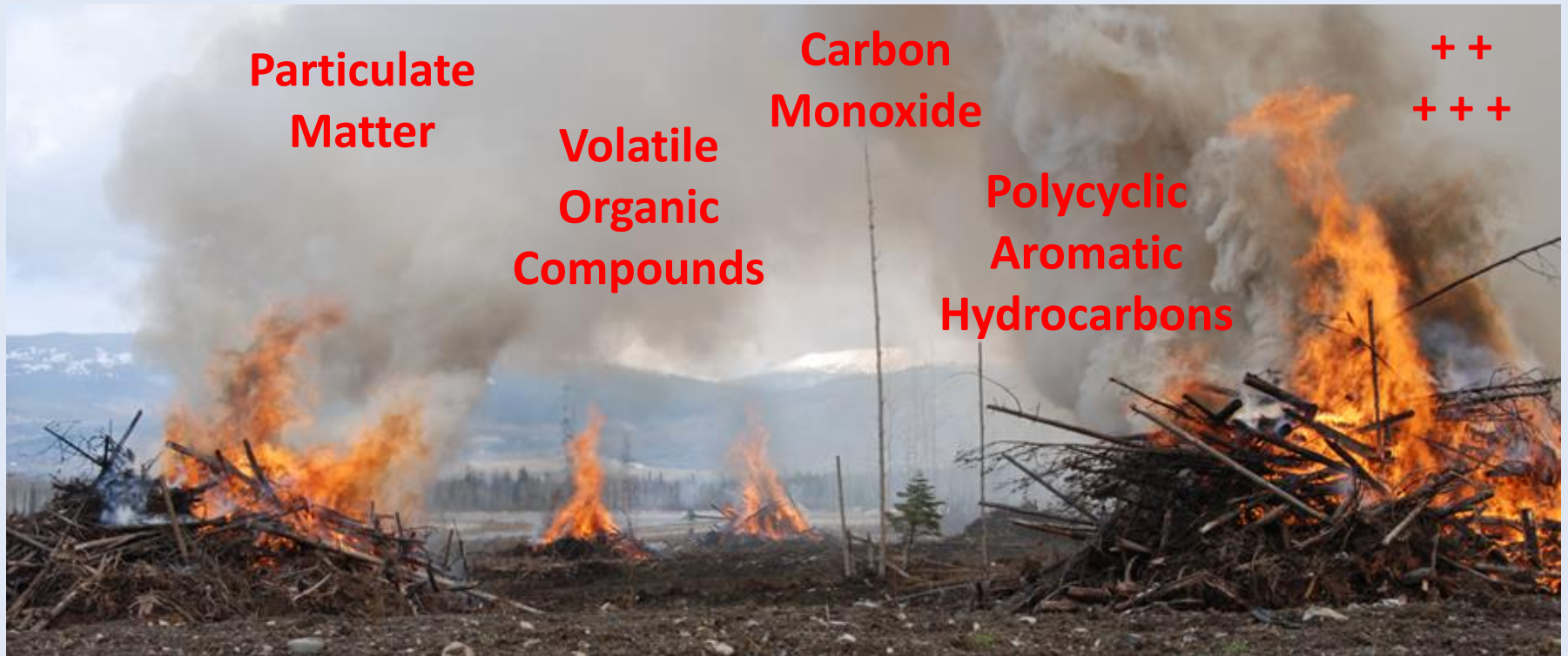
Facility heating, district energy

- **Industrial**

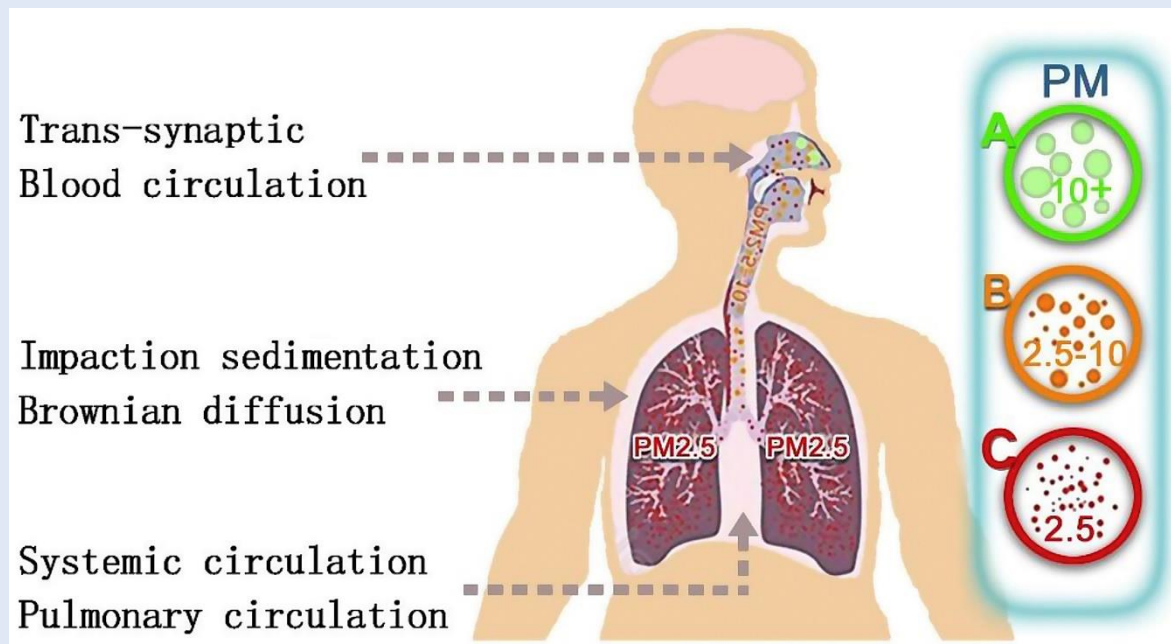
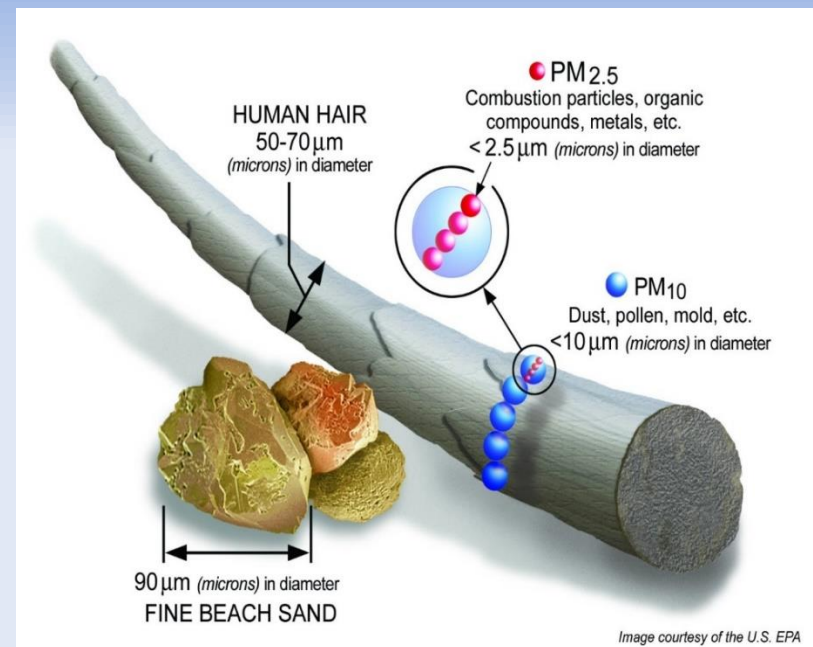
Steam, process heat, and waste disposal

- **Forest fires**

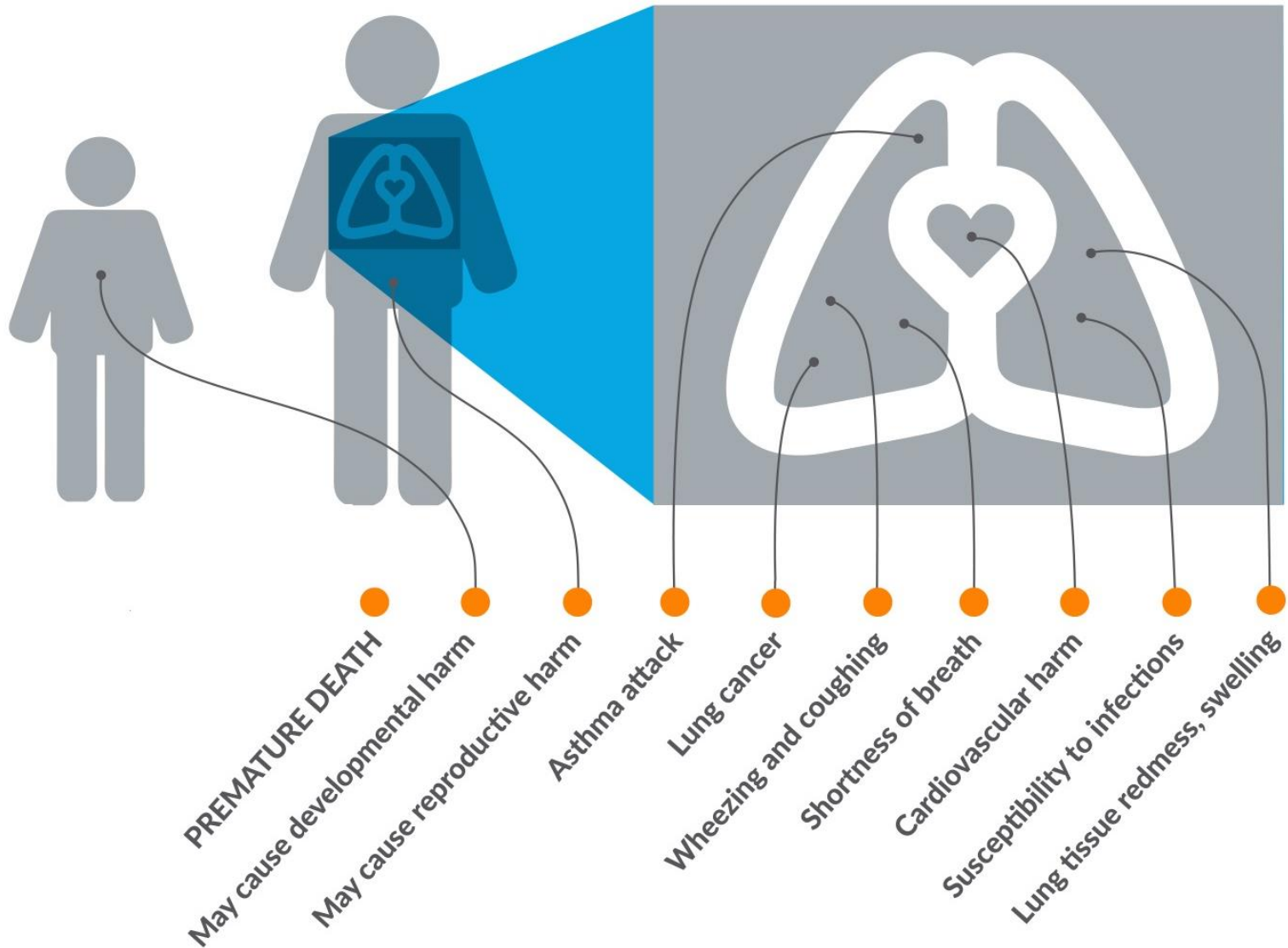
# Air Pollution from Biomass Burning



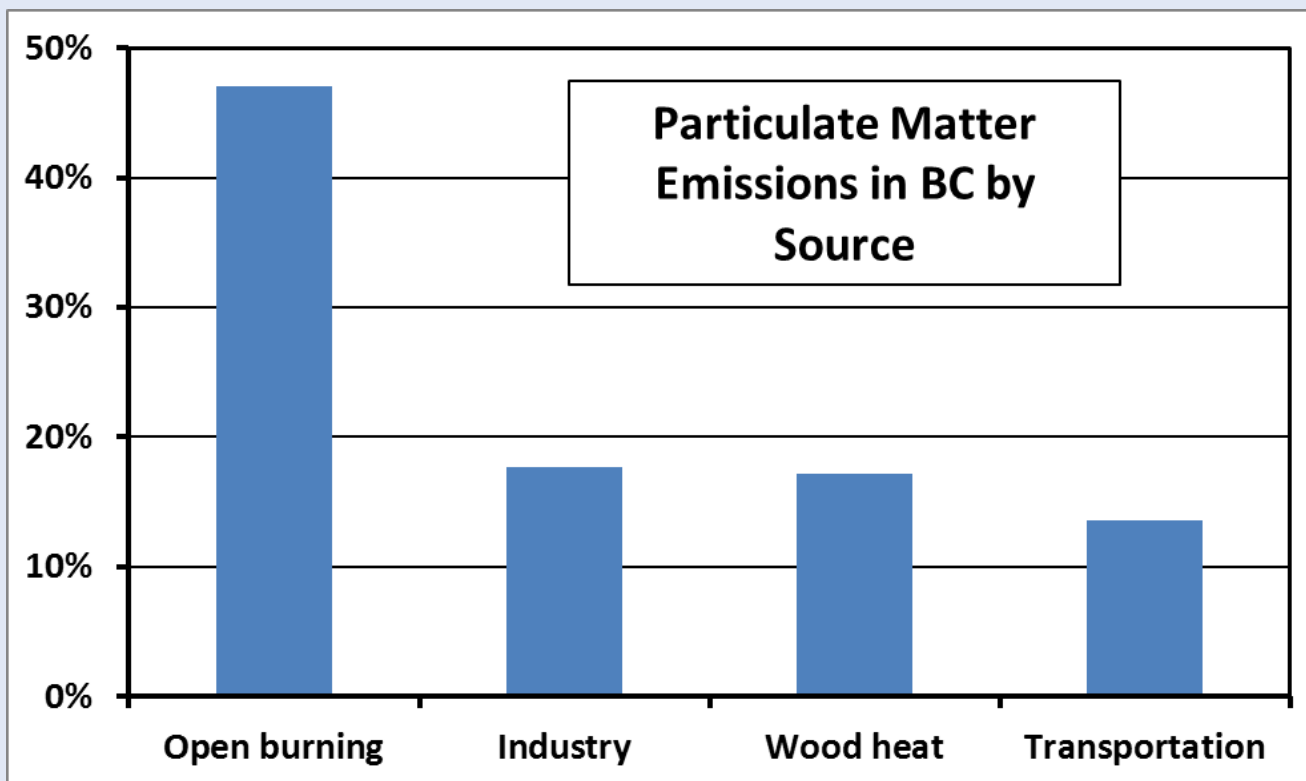
# Fine Particulate Matter is of Primary Concern



## Health Risks from Particle Pollution



## Open burning is the largest source of PM<sub>2.5</sub> in B.C.





## Air Quality in B.C.:

# Air Zone Management for PM<sub>2.5</sub>

Management Level	O <sub>3</sub> (ppb)		PM <sub>2.5</sub> – Annual (µg/m <sup>3</sup> )		PM <sub>2.5</sub> - 24h (µg/m <sup>3</sup> )	
	2015	2020	2015	2020	2015	2020
Red	Actions for Achieving Air Zone CAAQS					
Threshold (CAAQS)	63	62	10	8.8	28	27
Orange	Actions for Preventing CAAQS Exceedance					
Threshold	56		6.4		19	
Yellow	Actions for Preventing Air Quality Deterioration					
Threshold	50		4		10	
Green	Actions for Keeping Clean Areas Clean					



Air Zone	Three-year Reporting Periods				
	2015-2017	2014-2016	2013-2015	2012-2014	2011-2013
Central Interior	Houston Vanderhoof (Valemount – based on 2 years of data)	Houston Vanderhoof	Smithers Vanderhoof	Smithers Vanderhoof	Smithers Vanderhoof
Coastal	Kitimat site	Kitimat sites	Kitimat sites	Kitimat sites <sup>3</sup>	Kitimat Terrace
Georgia Strait	Courtenay	Courtenay Port Alberni	Courtenay Duncan Port Alberni	Courtenay Duncan	Courtenay Duncan
Lower Fraser Valley	Several sites	Several sites	Langley Abbotsford	Several sites	Several sites
Northeast	Fort St John	N/A	N/A	N/A	N/A
Northwest	N/A	N/A	N/A	N/A	N/A
Southern Interior	Several sites	Several sites	Several sites	Several sites	Castlegar Kamloops Vernon

# The New OBSCR

- Environmental Management Act (EMA)
- Open Burning Smoke Control Regulation (OBSCR) was first enacted in 1993.
- New OBSCR came into effect on September 15, 2019:
  - Reduce impacts to human health
  - Enable and encourage compliance
  - Minimize undue costs to industry
- Administrative Monetary Penalties and Offense Provisions.
- Amendments to Violation Ticket Administration and Fines Regulation.



## Major changes in the new OBSCR

- Smoke sensitivity zones (SSZ): High, Medium and Low.
- Burning requirements strictest around communities, less remotely.
- Increases to mandatory setbacks.
- Facilitate burning for community wildfire risk reduction and diseased vegetative debris.
- Encourage cleaner burning technologies.
- Defining exemptions for agricultural and backyard burning.
- Substitution orders to vary regulatory requirements.
- Custom ventilation forecasts to increase burn windows.

# **OBSCR Contents**

**PART 1 – INTERPRETATION AND APPLICATION**

**PART 2 – GENERAL REQUIREMENTS FOR OPEN BURNING**

**PART 3 – SPECIFIC REQUIREMENTS FOR OPEN BURNING**

**Division 1 – High, Medium and Low Smoke Sensitivity Zones**

**Division 2 – Plans for Community Wildfire Risk Reduction**

**Division 3 – Diseased Vegetative Debris**

**Division 4 – Dry Land Sort Areas**

**Division 5 – Air Curtain Incinerators**

**PART 4 – SUBSTITUTED REQUIREMENTS**

**PART 5 – AIR PROTECTION MEASURES**

**PART 6 – MISCELLANEOUS**

**SCHEDULE 1**

**SCHEDULE 2**

**SCHEDULE 3**

# Part 1. Interpretation and Application

- OBSCR applies to “Combustion of vegetative debris using open fire”
- Open burning of piled vegetative debris, such as:
  - Land clearing
  - Forestry operations
  - Agriculture and silviculture
  - Community wildfire risk reduction
  - Wildlife habitat enhancement
  - Utility right of ways

# Part 1. Interpretation and Application

- OBSCR does not apply to:
  - Fires under EMA 6(5)
    - Fires for training purposes under the *Fire Services Act*
    - Fire control under Section 9 of the *Wildfire Act*
    - Resource management open fires under the *Wildfire Act*
  - Burning of leaves, foliage, weeds, crops or stubble for domestic or agricultural purposes or in compliance with the *Weed Control Act*
  - Campfires
  - Permit or approval (S 14 or 15 of EMA) issued before Sep 15, 2019

# Part 1. Interpretation and Application

- **Partial OBSCR exemptions – open burning under Director’s approval:**
  - Plan for community wildfire risk reduction in high or medium SSZ
  - Diseased vegetative debris in high or medium SSZ
  - Air curtain incinerators in high SSZ
- **OBSCR does not authorize open fires that are:**
  - **Prohibited or banned by**
    - Ministry of Environment and Climate Change Strategy
    - a fire department (*Fire Services Act*)
    - a local government
    - an improvement district (*Local Government Act*)
  - **Contrary to the *Wildfire Act* or any other enactment**

## Part 2. General Requirements

### Before Open Burning

- Every reasonable alternative must be used to minimize burning amounts by reducing, reusing or recycling vegetative debris.
- All reasonable efforts must be taken to minimize smoke by following best practices for open burning, such as:
  - Minimizing soil content, maximizing seasoned vegetative debris
  - Constructing any debris piles in a way that maximizes air flow
- Flexibility to move vegetative debris within 5 km from its origin.
- No prohibited material allowed:
  - Waste Discharge Regulation – Schedule 1



## List of Prohibited Material

<b>animal carcasses and waste from animal slaughtering</b>	<b>asphalt or asphalt products</b>	<b>batteries</b>
<b>biomedical waste</b>	<b>carpets</b>	<b>construction waste *</b>
<b>demolition waste</b>	<b>drywall</b>	<b>domestic waste</b>
<b>electrical wire</b>	<b>fibreglass and other fibre-reinforced polymers</b>	<b>fuel and lubricant containers</b>
<b>furniture and appliances</b>	<b>hazardous waste</b>	<b>manure</b>
<b>paint and varnish</b>	<b>plastics</b>	<b>polystyrene foam</b>
<b>railway ties</b>	<b>rubber</b>	<b>tar paper</b>
<b>tires</b>	<b>treated or painted wood products</b>	<b>used oil</b>

\* other than lumber that has not been treated with wood preservatives or other chemicals and is not coated with paint, varnish, oil or other finishing material

## Part 2. General Requirements

### Conditions for Starting or Continuing an Open Burn

- Even if all OBSCR requirements are met and the forecasted venting conditions are favourable
- Open burning cannot be started nor continued if the actual venting conditions are causing or will likely cause smoke to:
  - Negatively impact a nearby population centre or work camp
  - Be a navigation hazard at nearby airports or highways

## Part 2. General Requirements

Property Type	General Setback	Reduced Setback
Residence or business buildings	500 metres	100 metres
Nearest property line of schools, hospitals & community care facilities	1000 metres	500 metres

### Specific Conditions for Reduced Setbacks

- One-day burn: starting not earlier than 1 hour after sunrise, ending by the later of 4 p.m. or 2 hours before sunset
- Vegetative debris: piled and seasoned
- Each pile's dimensions: largest horizontal < 2x vertical
- No stumps, diameters < 50 cm
- Written record available
- Reasonable efforts for notifications
- If available, "Good" VF or CVF for burning day

# 1(5). Open Burning for Domestic or Agricultural Purpose

## Summary of Requirements

Veg. Debris Diameter *	Applicable OBSCR Provisions
< 3 cm	Total exemption
≥ 3 cm & < 10 cm	<ul style="list-style-type: none"> <li>• Veg. debris not moved more than 5 km</li> <li>• No prohibited materials allowed</li> <li>• Adhere to open burning prohibition</li> </ul>
≥ 10 cm	No exemptions

\*All of veg. debris is branches or other pieces of veg. debris, with or without leaves  
Diameter of each branch or piece

## **Part 3. Specific Requirements**

**Sets of rules for different types of burning**

**Some types of burning can be done by several sets of rules**

**Five Divisions:**

- 1. Burning in High, Medium and Low Smoke Sensitivity Zones**
- 2. Burning under a plan for community wildfire risk reduction**
- 3. Burning of diseased vegetative debris**
- 4. Burning at dry land sort area**
- 5. Burning using air curtain incinerators**

## Part 3. Specific Requirements

### Important Definitions and Terms

<b>Ventilation Forecast</b>	<ul style="list-style-type: none"> <li>• Afternoon VI forecast issued by Environment Canada</li> <li>• Obtained on the day, but before, burning starts</li> <li>• Available online for 40 venting index zones</li> </ul>
<b>Custom Ventilation Forecast (CVF)</b>	<ul style="list-style-type: none"> <li>• Specific to local conditions in a geographic area</li> <li>• Obtained the day before or the same day, but before, burning starts</li> <li>• Issued by approved forecaster and submitted before burning to: <a href="mailto:OBSCRCVF@gov.bc.ca">OBSCRCVF@gov.bc.ca</a></li> </ul>
<b>Start</b>	Time when piles are first ignited
<b>End</b>	Time when each pile has ceased flaming and is emitting smoke from no more than 10% of its burnt surface area
<b>Seasoned Vegetative Debris</b>	<ul style="list-style-type: none"> <li>• Dry-basis moisture content <math>\leq 30\%</math>, or</li> <li>• Piled for at least 4 months, or</li> <li>• Originated from standing dead timber</li> </ul>



# Smoke Sensitivity Zones

## High

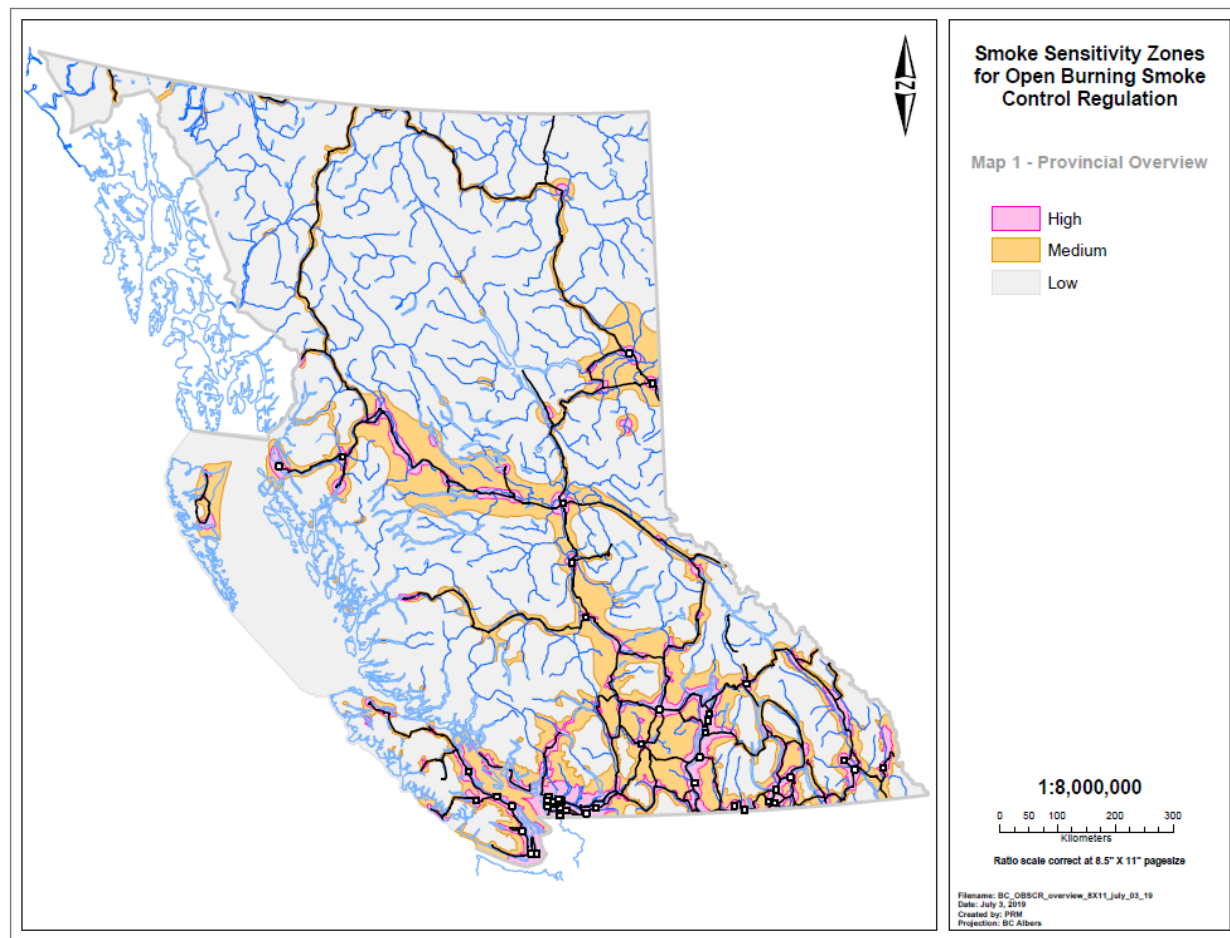
Areas in and around  
communities

## Medium

Areas around smallest  
communities, rural  
locations, transportation  
corridors

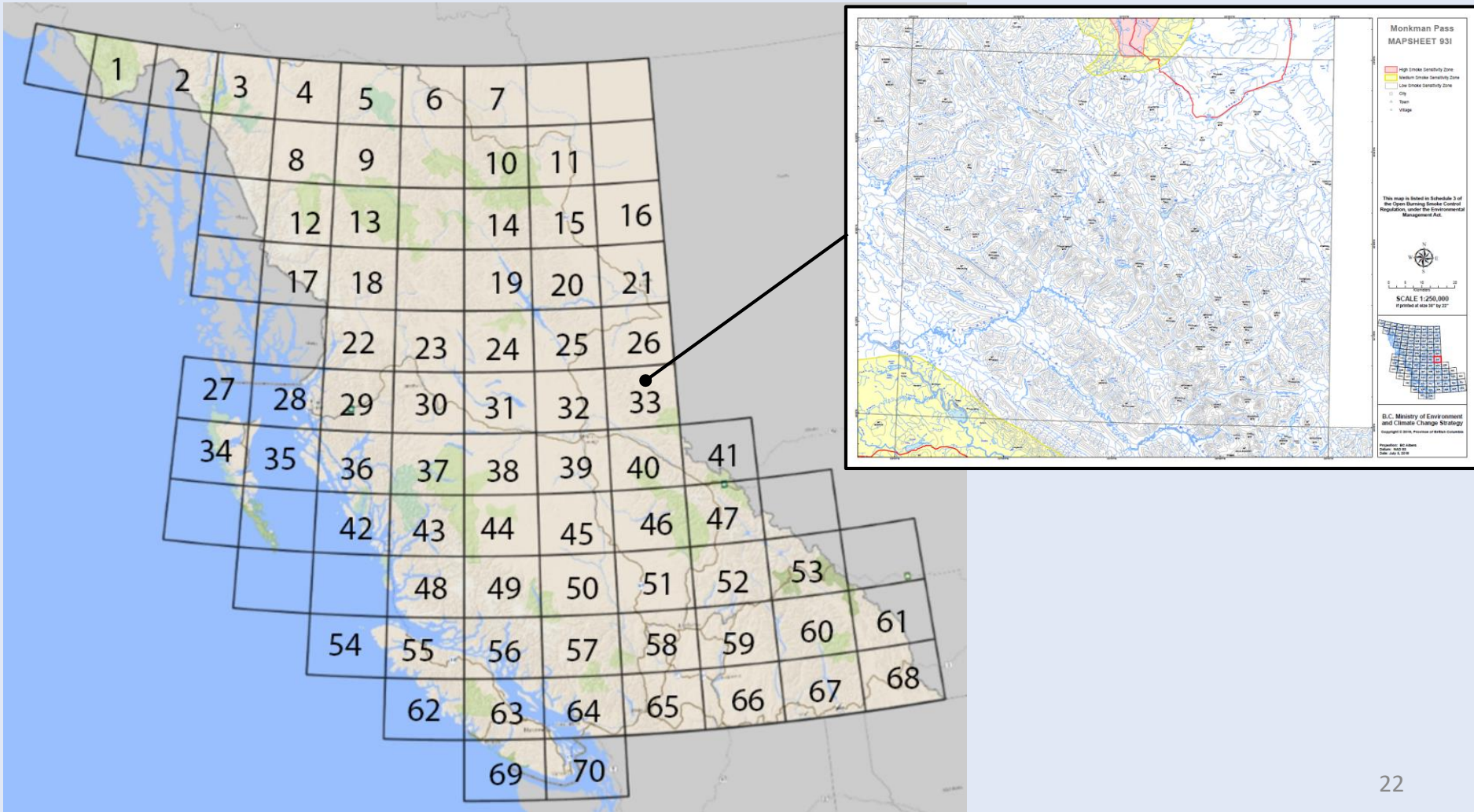
## Low

Areas distant from  
communities



**\*Director may temporarily change smoke sensitivity zones\***

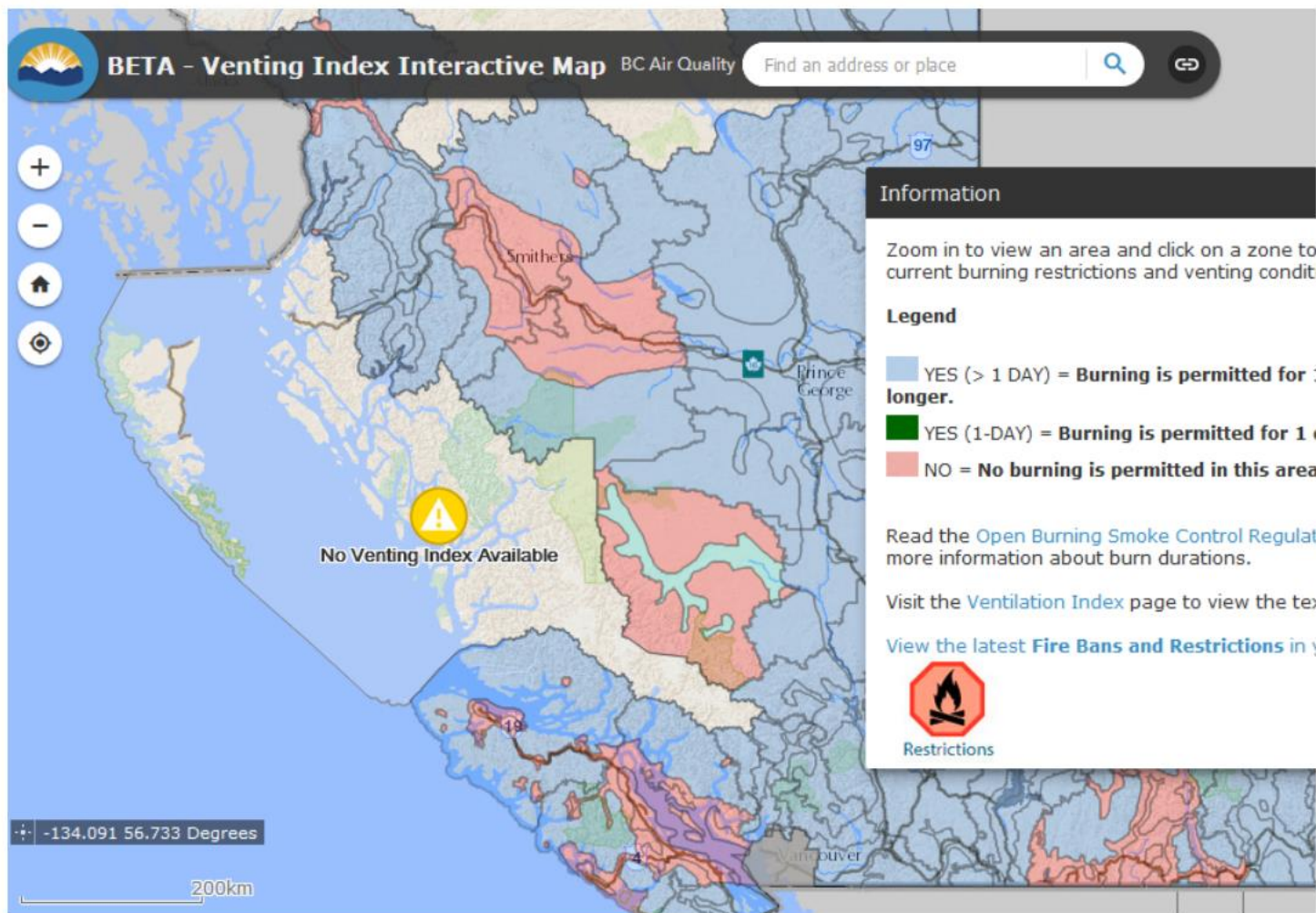
# Regional Smoke Sensitivity Zone Mapsheets



## Ventilation Index



[Access the Venting Index Forecast Interactive Map](#)



## Interactive Ventilation Index Webpage



# Division 1

## High, Medium and Low Smoke Sensitivity Zones

### Limits to Open Burnings

Zone	Allowable Burning Periods
High	Private land < 64 hectares <ul style="list-style-type: none"><li>• 12 days or portions of days in a calendar year</li><li>• 6 days in each calendar month</li></ul>
Medium	NA
Low	NA

# Division 1

## High, Medium and Low Smoke Sensitivity Zones

### Open Burning for Less Than One Day

Zone	Vegetative Debris	Ventilation Forecast	Start Time	End Time
High	Seasoned	Good	One hour after sunrise or later	Later of 4 p.m. or 2 hours before sunset
Medium	NA			

## Division 1

# High, Medium and Low Smoke Sensitivity Zones

## Open Burning for More Than One Day

Zone	Vegetative Debris	Consecutive Period	Ventilation Forecast	Start Time	End Time
High	Seasoned	Within 2 days	Good 1 <sup>st</sup> day	One hour after sunrise or later on 1 <sup>st</sup> day	4 p.m. on last day
Medium	NA	Within 4 days	Good or Fair 2 <sup>nd</sup> day		
Low	NA	Within 6 days	Good or Fair 1 <sup>st</sup> day Good or Fair 2 <sup>nd</sup> day	NA	

Zone	Igniting Unlit Piles	Adding Unlit Debris to Ignited Piles
High	On 1 <sup>st</sup> day <ul style="list-style-type: none"> <li>Starting 1 hour after sunrise</li> <li>Ending 4 hours before sunset</li> </ul>	
Medium	On 1 <sup>st</sup> day <ul style="list-style-type: none"> <li>Starting 1 hour after sunrise</li> <li>Ending 2 hours before sunset</li> </ul>	On 1 <sup>st</sup> & 2 <sup>nd</sup> days <ul style="list-style-type: none"> <li>Starting 1 hour after sunrise</li> <li>Ending 2 hours before sunset</li> <li>VF or CVF on 2<sup>nd</sup> day, Good or Fair</li> </ul>
Low	NA	



## **Divisions 2–3**

# **Community Wildfire Risk Reduction & Diseased Vegetative Debris**

### **Community Wildfire Risk Reduction (CWRR) Plan**

- **A plan, or an addendum to a plan, developed or endorsed by:**
  - **B.C. government**
  - **Local government**
  - **Band council**
  - **Treaty First Nation**
  - **Nisga'a Government**
- **Describes risks to community from threatening fires**
- **Identifies measures necessary to mitigate those risks and actions to implement those measures**
- **Identifies the geographic areas to which the plan applies**

## **Divisions 2–3**

# **Community Wildfire Risk Reduction & Diseased Vegetative Debris**

### **Diseased Vegetative Debris (DVD)**

- **Verification or confirmation of Vegetative debris infested with pathogen or insect listed in Schedule 1**
  - **Verified by certain qualified professionals**
  - **Verification submitted to a Director**

### **OR**

- **Director confirms in writing**
  - **Pathogen or insect not listed in Schedule 1 infested veg. debris**
  - **Open burning is necessary to stop the spread of pathogen or insect**
- **Exemptions for CWRR and DVD from:**
  - **Maximizing amount of vegetative debris that is seasoned**
  - **Setbacks for open burning**

## Divisions 2–3

# Community Wildfire Risk Reduction & Diseased Vegetative Debris

Burn Type	Veg. Debris	Period	Setbacks	Ventilation Forecast	Start Time	End Time
CWRR	NA	Within 1 day	50 m residences businesses	(Obtain)	One hour after sunrise or later	Later of 4 p.m. or 2 hours before sunset
DVD	≥ 50% Diseased*		100 m schools hospitals care fac.	Good or Fair  (If Available)		

\*accelerant material is used if the diseased veg. debris is not seasoned

Burn Type	Reporting	Notification
CWRR	10-90 days prior, submit to Director • Plan identifying burning as action • Description of location	No later than 24 hrs. prior, all reasonable efforts to notify occupants or managers of all residences, businesses, schools, hospitals & care fac. within 150 m
DVD	Notify Director in writing at least 24 hrs. before earliest planned start date	

## **Divisions 4–5**

### **Dry Land Sort Areas & Air Curtain Incinerators**

- **Dry land sort area**
  - **Area of land where commercially harvested timber is collected & sorted before transferring to another location**
  - **Does not include timber processing areas at**
    - **Roadside work area**
    - **Statutory right of way, within the meaning of the Land Title Act**
    - **Facility that manufactures wood products other than whole logs for export or whole logs for further manufacturing by another facility**
- **Air curtain incinerator**
  - **Aids combustion & reduces emissions by directing air flow across**
    - **Open chamber in device**
    - **Trench**
  - **Re-circulates air and smoke**

## **Divisions 4–5**

### **Dry Land Sort Areas & Air Curtain Incinerators**

- Certain exemptions apply if specific provisions are followed, such as reduced setbacks & relaxed ventilation forecasts.
- Depending on number of technical and operational requirements (opacity, air flow, stacking, etc.)
- More permissive rules to encourage using air curtain incinerators and auxiliary forced air equipment in dry land sort areas.
- Burning at dry land sort areas currently done by permit.
- Permits will still be required for open burning at:
  - Dry land sort area in a high smoke sensitivity zone
  - Facility that manufactures wood products, other than whole logs for export or whole logs for further manufacturing by another facility

## Part 5. Air Protection Measures

- Director may, for a period of time, prohibit open burning if the Director considers that:
  - Ambient PM has reached, or will reach within 24 hours, a level that is likely to result in air quality not meeting Provincial AQOs
  - Pollution is occurring, or likely to occur, from open burning
- A prohibition may include:
  - All open burning must be extinguished
  - No veg. debris may be ignited or added to ignited piles
- A Director may repeal a prohibition if they consider that:
  - Air quality is or will be meeting AQOs
  - Pollution no longer occurring or no longer likely to occur



## Part 6. Miscellaneous

- **Records and reporting requirements**
  - **Records must be made for open burning that includes:**
    - One or more category 3 open fires
    - One or more air curtain incinerators
  - **A record must be kept, retained and submitted upon request**
  - **Director may require submission of report with specific information**
- **Offences and penalties**
  - **Violations of certain requirements**
  - **Max. fines \$5,000 – \$200,000**
- **Accessibility of maps**

# Thank You!

## For More Information

<https://www2.gov.bc.ca/gov/content/environment/air-land-water/air/air-pollution/smoke-burning/regulations/openburningregulation>

## Questions?

[OBSCR@gov.bc.ca](mailto:OBSCR@gov.bc.ca)