# DEVELOPING EXTREME HEAT, WILDFIRE SMOKE & COVID-19 RESPONSE PLAN: A GUIDE FOR NON-PROFIT HOUSING PROVIDERS

August 2020

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# About This Document

This document was written as a template example of an extreme heat and wildfire smoke response plan during COVID-19 pandemic, that might be used for an adaptation or 'inspiration' by the non-profit housing providers. Some sections of this document are very generic and will apply to all or most organizations (such as Understanding Risks section), while others may need to be changed and tailored to the specific needs and circumstances of a non-profit housing provider, their tenants, and their social housing building or buildings.

The document offers information on risks related to extreme heat, wildfire smoke and their possible interactions with risks related to coronavirus COVID-19. While every effort was made to make all the information accurate and up to date, the knowledge and evidence related to COVID-19 is evolving and therefore it is critical to check the latest <u>orders</u>, updates and guidance from the Provincial Health Officer, <u>the local health authorities</u> and the <u>BC Center for Disease Control</u>.

This document is divided into the following key topics: Understanding Risks, Before Summer Actions, Summer Actions, and Post Summer Evaluation. The Appendixes include resources related to communication and education of staff and tenants.

# **Understanding Risks**

### Increasing Temperatures

It is expected that the number of extreme hot days (above 30°C) and nights (above 20°C) are going to significantly increase across British Columbia. The Pacific Climate Impacts Consortium predicts that by 2050 the weather patterns during summers in Metro Vancouver will be very similar to current-day San Diego, California. This means more frequent and severe heat waves and drought, deterioration of air quality due to increased frequency of forest fires, shifts in spread of infectious diseases, and others. More specifically, in the 2050s this translates to doubling of the frequency extremely hot weather in the coastal regions of B.C<sup>1</sup>.

In the past, areas where social housing sites exist across the province, on average, had four days above 30°C, and 24 days above 25°C. Projection by 2050 indicate four times the number of days above 30°C (18 days per year), and two times (59 days per year) the number of days above 25°C.

By 2050, Metro Vancouver is going to have over two full months of temperatures above 25°C. The most affected areas include Vancouver's Downtown East side, Surrey, Abbotsford and Langley. By the 2050s, an extreme heat event that happened once every 25 years will occur three times as frequently, i.e., every five years<sup>2</sup>. Across the province the number of extreme hot days has already increased in the past

<sup>1</sup> PCIC, 2017

<sup>&</sup>lt;sup>2</sup>Rydvanskiy (2017) Social Housing in the New Climate, BCH's unpublished report

decade compared to the last fifty years and it is expected to increase even further. Similarly, it is expected that overall temperatures will continue to increase.

### Health Risks

Everyone is at risk of heat and wildfire smoke illnesses in the summer, and social housing tenants are at increased risk because they often have fewer resources. Extreme heat can lead to weakness, disorientation, exhaustion. In severe cases, it can lead to heat stroke or death. Poor air quality can cause shortness of breath, lung irritation, fatigue and eye irritation. In extreme situations it can trigger asthma attacks, lower birth weights, a decrease in quality of life and anxiety. Exposure to air pollution can irritate the lungs, cause inflammation, and alter immune function, making it more difficult to fight respiratory infections such as COVID-19. When conditions are smoky, more people who are exposed to the novel coronavirus may develop COVID-19 and some cases of COVID-19 may become more severe.

Higher temperatures may lead not only to heat related illnesses but also to a thermal discomfort that can impact the quality of life. This may result in tenants being more irritable, not being able to sleep or leaving their units for extended periods of time.

### Most Vulnerable to Heat

Extreme heat presents health and life risks (see Appendix A). Many social housing tenants belong to groups identified as most vulnerable to those risks. They include:

- Older adults (in Metro Vancouver particularly those age between 65 and 75)
- Those who are chronically ill
- Those who are socially isolated
- Infants
- New residents to Canada

Notably, people are more at risk during early season hot temperatures as they are least used to them.

### Most Vulnerable to Wildfire Smoke

BC CDC identifies the following groups as most vulnerable to poor air quality due to wildfire smoke:

- People with pre-existing chronic conditions such as asthma, chronic obstructive pulmonary disease (COPD), heart disease, and diabetes
- Pregnant women
- Infants and young children
- The elderly
   (Source: <u>http://www.bccdc.ca/health-info/prevention-public-health/wildfire-smoke</u>)

This year in addition to the risks related to both extreme heat and the poor air quality due to wildfire smoke the province is also in a state of emergency due to the COVID-19 pandemic. Many people within these groups are also most vulnerable to COVID-19. The combination of COVID-19, extreme heat and poor air quality due to forest wildfires significantly increases the risks of illness and death for those people.

"Exposure to air pollution can irritate the lungs, cause inflammation, and alter immune function, making it more difficult to fight respiratory infections such as COVID-19" (Source: <u>BC CDC</u>)

### Most Vulnerable to Wildfire Smoke & COVID-19

People who are most at risk in terms of the combination of COVID-19 and wildfire smoke are: Those who have been diagnosed with COVID-19 or another respiratory infection.

- Those who have pre-existing respiratory conditions such as asthma, chronic obstructive pulmonary disease (COPD), interstitial lung disease (ILD), or lung cancer.
- Those who are taking chemotherapy or drugs that suppress the immune system.
- Those who have other risk factors that make them more susceptible to both wildfire smoke and COVID-19, such as older age, diabetes, heart disease, and insecure housing.
- Wildfire smoke exposure is also a concern for pregnant women, infants, children, and socially marginalized people

While extreme heat currently produces the highest number of casualties among all-natural disasters in Canada, it is also a hazard that can be mitigated through effective communication and education. Therefore, housing providers have a responsibility to create an effective response to an extreme heat event that includes implementation of strategies related to communication and best practice actions. This document can be used as a planning tool. It also provides resources that might be useful for staff and tenant communication and education.

# **Extreme Heat Response Procedure Outline**

Best practices in Extreme Heat response involve three stages: **Preparation, Actions and Evaluation**. They are presented below. Each of the three stages are described in more detail in the following sections of this document.

#### 1. Before Summer Preparation

Key elements of the preparation for the summer heat and wildfire smoke:

- Staff training and education on:
  - health risks and what to do
  - how to stay informed
  - what and how to communicate with the tenants
  - organizational plans or procedures (they may involve pre-identifying tenants that might be most vulnerable, use of checklists, creation of cooling rooms)
- Development or update of the organization's extreme heat and wildfire smoke response plan.
- Considerations for cooling and clean air options. This may include creation of a cooling and clean air room.
- Review of inventories of communication materials, portable air conditioners, fans and other supplies by building managers.
- Sign-off on building manager's and other checklists.

#### 2. Summer Actions

- Actions and tenant and staff communication during 'regular' hot weather. (Low-medium risk)
- Actions and communication triggered by extreme weather and air quality warnings issued by the local health authorities and Environment Canada. (High risk)

#### 3. Post Summer Response Evaluation

• Evaluation of effectiveness of actions taken and updating the response plan for next year.

# **Before Summer Preparations**

In the last couple of years, the first heat waves in Metro Vancouver occurred in May. Therefore, it is recommended that the summer preparation activities are completed by April. They may involve the following:

### Staff training end education

All site staff, including building managers and any other employees who have direct contact with the tenants should be aware of the following:

- a) Heat related health risks and illnesses, including symptoms and actions
   (See Appendix A: Heat Related Illnesses: What to Look For & What to Do a summary table from Center for Disease Control)
- b) **Poor air quality due to forest wildfires health impacts and how to prepare** (<u>http://www.bccdc.ca/health-info/prevention-public-health/wildfire-smoke</u>)
- c) COVID-19 and Wildfires understanding the concerns, symptoms and what to do (BC CDC, <u>http://www.bccdc.ca/health-info/diseases-conditions/covid-19/prevention-risks/wildfires</u>)
- d) How to stay informed about potential public health warnings related to heat waves or poor air quality due to wildfire smoke. Public Weather Alerts for British Columbia: <u>https://weather.gc.ca/warnings/index\_e.html?prov=bc</u>

Air Quality Health Index - View the current and forecast Air Quality Health Index (AQHI) readings for your area, hourly air quality readings and related health messages: <u>https://www2.gov.bc.ca/gov/content/environment/air-land-water/air/air-quality/aqhi</u>

More sources of information can be found in the How to Stay Informed section of the Extreme Heat or Air Quality Warning: High Risk part of this document below.

 e) How to communicate those risks and mitigation actions to tenants (Appendix B: Key Messages for Tenants; and Appendix H: Additional Resources)

Staff presentation or a workshop might be an effective way to ensure that everyone is aware of the risks and how to mitigate them, and their roles before and during a potential heat wave or wildfire smoke event. A lot of resources are available online, including videos, posters and others. For a list of most relevant resources visit: <u>www.bchousing.org/projectspartners/extreme-heat</u>

### Extreme Heat and Wildfire Smoke Response Plan

Staff also need to be aware of what actions they should take before, during, and after the summer, in order to protect themselves and their tenants from extreme heat and wildfire smoke risks. Having and being aware of an organizational Extreme Heat and Wildfire Smoke Response Plan will facilitate that.

Create and review of Extreme Heat and Wildfire Smoke Response Plan so that everyone is aware what actions are needed and when (site staff and building managers). Ensure that everyone is aware what actions are needed and when, including sign-off on check lists. Establish who has the responsibility to ensure that all relevant staff receive training and follow the plan.

Below is an example of a checklist to ensure that all steps are followed in preparation for an extreme hot weather event or poor air quality due to wildfires health warnings.

	Before Summer Preparation Checklist for Site Staff	
Who?	Actions	Completed? – check box
All staff	1. I'm familiar with extreme heat, wildfire smoke and COVID-19 health risks, symptoms, and appropriate action.	
Building managers	<ol> <li>I have assessed where there might be potential cooling opportunities within the property for the tenants.</li> <li>(E.g. creation of a cross breeze in the corridors, or setting-up "cool rooms" or "cooling zones" by installing a portable air conditioning or fans in the common rooms, or creation of a shaded area outside of the building if there's adequate space)</li> </ol>	
Building managers	3. If my building has a common area, I have set it up as a "cooling room" using fans or air-conditioning and implemented COVID-19 protocols.	
Building managers	4. If my building already has a portable air-conditioning unit, I have maintained it (e.g. cleaned the filters) as recommended and checked that it works.	
Building managers	5. If appropriate, I have provided shaded outdoor areas that allow for maintaining of COVID-19 protocols such as physical distancing. <sup>3</sup>	
Building managers	6. I have all other items that will be used for the cooling room: such as water, window coverings, chairs.	

### Checklist 1: An Example of a Before Summer Preparation Checklist for Site Staff

<sup>&</sup>lt;sup>3</sup> How to Create an Outdoor Cooling Space During COVID-19 Guide is available at <u>https://www.bchousing.org/projects-partners/extreme-heat/resources-webinars</u>

Building managers	7. I have signs for the 'cooling room' during COVID-19 to let tenants know about the room.	
All building staff	<ul> <li>8. I have communication materials for the tenants which I may need during an extreme hot weather event, such as: <ul> <li>Tips to Beat the Heat! poster &amp; flyers</li> <li>Using Cooling Rooms During COVID-19 poster<sup>4</sup></li> <li>Neighbourhood maps showing places with air conditioning such as community centers, libraries, shopping malls, etc.</li> <li>Other</li> </ul> </li> </ul>	
All site staff	9. I have all equipment or items I may want to use this summer during an extreme heat event for distribution to tenants (such as: fans, Tips to Beat the Heat handouts).	
All site staff	10. I have identified tenants who might be most at risk of heat, wildfire smoke, and COVID-19 related illnesses. (This list of the most at-risk tenants can be used during the heatwave for direct well-ness checks.)	

### Identifying Tenants Most at Risk

While everybody may be at risk for heat-and wildfire smoke-related illnesses, and the current COVID-19 pandemic may increase the danger, it might be helpful to pre-identify those at the highest risk within any specific building. Especially if a response procedure includes direct check on tenants during extreme heat or poor air quality warnings. Different factors can contribute to the increase risk levels. They include:

- Weather factors, e.g. number of days of extremely hot temperatures, humidity
- Individual tenant characteristics, e.g. age, existing illnesses, mobility
- Behavioural factors, e.g. social isolation, wearing heavy clothing, drinking alcohol
- Cultural norms, e.g. type of attire worn, type of food cooked (preparing hot meals during a hot summer day contributes to the unit's internal heat gain)
- Building's and housing unit's characteristics, e.g. solar heat exposure, shading, levels of ventilation

List and links to information on the risk factors for extreme heat, wildfire smoke and COVID-19 can be found here: <u>https://www.bchousing.org/projects-partners/extreme-heat/health-impacts</u>

<sup>&</sup>lt;sup>4</sup> Examples of such posters are available at: <u>https://www.bchousing.org/projects-partners/extreme-heat/resources-webinars</u>

Once tenants most at risk are identified site staff may want to connect with these tenants prior to the summer to conduct a further risk assessment based on the conversation with the tenant. The following questions may facilitate such assessment:

- 1. Do you have any air conditioning devices in your unit?
- 2. Do you have a family member, friend or neighbour that you see on a daily basis?
- 3. Do you have a service provider you see on a daily basis?
- 4. How have you coped in the past in extreme heat conditions?
- 5. Do you have a phone number?

Based on the information provided during these face-to-face or telephone contacts, site staff will determine which tenants will go on the final most at risk list and advise the tenant they will be checked on in any future extreme heat events. Ensure that tenant information is kept confidential and available to the designated staff.

### Setting up Cooling and Clean Air Rooms during COVID-19

Risk of illness due to hot weather is much higher than risk of illness due to COVID-19 when community transmission is low. For this reason, cooling rooms may be set up for tenants to access during extremely hot days. Typically, they are common rooms within the building, equipped with a portable air conditioning unit and an air purifier. Cooling rooms can provide a comfortable environment during extreme hot weather, but steps should be taken to reduce risk of COVID-19 transmission during the pandemic. When creating a cooling room, follow the guidelines in the <u>BC CDC Guidance Report for</u> <u>Cooling Centres in the Context of COVID-19</u>. This document includes considerations that apply to the following cooling spaces:

- Indoor spaces with central air conditioning
- Indoor spaces with portable air conditioning
- Indoor spaces with no air conditioning
- Outdoor cooling spaces

It also includes consideration for wildfire smoke conditions during the pandemic. (Source <a href="http://www.bccdc.ca/Health-Info-Site/Documents/Guidance-for-Cooling-Centres-COVID-19.pdf">http://www.bccdc.ca/Health-Info-Site/Documents/Guidance-for-Cooling-Centres-COVID-19.pdf</a>)

BC housing published resources about cooling spaces, including technical documents and information reports. These include documents like the Cooling System Assessment Guide, Strategies for Space Cooling and Five Tips for Outdoor Cooling Space during Covid-19. They can be found here: https://www.bchousing.org/projects-partners/extreme-heat

### Note on Fans: When They Are Useful and Considerations for COVID-19

Fans are effective for personal cooling when air temperature is cooler than skin temperature (i.e. around 35°C). However, if air temperature is very high (greater than skin temperature) and humidity is also high (as to impede the rate of sweat evaporation), the use of a fan can be counter-productive and increase body temperature. During extreme heat, indoor temperatures can be much hotter than the temperature outside and so re-circulating extremely hot air can be dangerous. In such situations, taking

a cold shower or bath or moving to an air-conditioned place is a much better way to cool off. (Source <u>https://www.cdc.gov/disasters/extremeheat/faq.html</u>)

When fans are being used by more than one individual, they may contribute to the spread of Covid-19 by aiding the travel of respiratory droplets further than they would otherwise.

As such, when using fans in rooms with multiple occupants, it is important to ensure the fan's directional airflow does not connect the breathing zones of different occupants. This can be achieved by directing fan airflow towards the floor or ceiling, rather than directly towards or across a group of people.

#### **Inventory Review**

Review of inventories of portable air conditioners, fans, communication materials (e.g. posters) and other supplies before the summer will make it easier to obtain items that might be missing.

Items that might be considered include:

- Electric fans
- Portable air conditioners, typically installed in common areas (aka 'cooling or cooling rooms') of larger buildings
- Portable air purifiers that can be used in a 'cooling room' during a poor air quality event due to wildfire smoke
- Water cooler/station and reusable cups for the cooling room
- Information/reminder leaflets or poster (for example see Appendix C & D: Tips to Beat the Heat flyer & poster)

# **Summer Actions**

This section describes actions taken by site staff and building managers during two levels of risk:

- Actions and communication during 'regular' summer weather. (Low-medium risk)
- Actions and communication triggered by extreme weather and air quality warnings issued by the local health authorities and/or Environment & Climate Change Canada. (High risk)

# Actions and Communication During 'Regular' Summer Hot Weather: Low-Medium Risk

Summer in Canada starts on June 21 and ends on September 22. It is recommended that the summer preparation actions are completed in all applicable buildings by the end of April. Normally extremely hot weather can be expected between May and October. In the last couple of years, the first heat waves in Metro Vancouver occurred in mid May. The following actions are recommended for building managers

during hot summer days that might be warm but below the extreme hot weather event thresholds (when health warnings are issued by the local health authorities) described in the following sections.

Checklist 2. An Example of a Regular Summer Actions: Building Manager's Checklist

	Regular Summer Actions for Building Managers (Low-Medium Risk)	
Actions		Completed? – check box
1.	If my building has a common area, I have set it up as a "cooling zone" using fans or air-conditioning and included COVID-19 protocols.	
2.	I have posted signs for the 'cooling room', if it's activated along with COVID- 19 protocols.	
3.	If appropriate, I have provided shaded outdoor areas for tenants to spend time with COVID-19 protocols.	
4.	I check the weather forecast on regular basis for hot weather or air quality warnings and alerts.	
5.	I posted Tips to Beat the Heat poster around my site/s.	
6.	I checked that all the heating in the building is turned off. (And reported up if there are any challenges with it)	
7.	I have opened windows in hallways slightly to allow air to circulate (if safe and appropriate by checking air quality). $^5$	
8.	I encourage tenants to reduce solar heat gain by putting blinds down or drawing the curtains; and have windows open only when outdoor air is cooler than indoor air and air quality is not compromised (e.g. at night).	
9.	I have provided updates to the most at-risk tenant lists when new risk factors were identified.	

<sup>&</sup>lt;sup>5</sup> Ventilation during the day by opening windows is only useful where the outdoor temperature is lower than the indoor. Ventilation at night with high air change rates, to replace warm indoor air with cooler air from outdoors is important to ensure residents can sleep and heat built up over the preceding days is liberated (Guidance Document: Overheating in dwellings).

# Extreme Heat or Air Quality Warning: High Risk

Actions and communication triggered by extreme weather and air quality warnings issued by the local health authorities and Environment Climate Change Canada.

This section describes first the **thresholds** when the temperatures or air quality represent high health risk (as defined by the health authorities and Environment and Climate Change Canada), and then **actions** that need to be taken by site staff and building managers.

### Thresholds

Environment and Climate Change Canada issues Heat Warnings and Air Quality Warnings<sup>6</sup> for the specific regions in the province. Local Health Authorities and Municipalities create public announcements based on these alerts. In 2019 thresholds for triggering an extreme heat warning were revised and are presented in the text boxes for each region below.

British Columbia – Southwest – Western Metro Vancouver, including the North Shore, City of Vancouver and Richmond, Howe Sound, Whistler, Sunshine Coast, Vancouver Island (except northern sections).

Issued when 2 or more consecutive days of daytime maximum temperatures are expected to reach **29°C** or warmer and nighttime minimum temperatures are expected to fall to **16°C** or warmer.

British Columbia – Southwest inland - Eastern Metro Vancouver including Coquitlam and Surrey, and the Fraser Valley

Issued when 2 or more consecutive days of daytime maximum temperatures are expected to reach **33°C** or warmer and nighttime minimum temperatures are expected to fall to **17°C** or warmer.

(Fraser Valley includes Abbotsford, Mission, Chilliwack, Hope)

British Columbia – Southeast – Southern interior (including South Thompson and Okanagan), Kootenays, and Columbia's (south)

<sup>&</sup>lt;sup>6</sup> <u>https://www.canada.ca/en/environment-climate-change/services/types-weather-forecasts-use/public/criteria-alerts.html#heat</u>

Issued when 2 or more consecutive days of daytime maximum temperatures are expected to reach **35°C** or warmer and nighttime minimum temperatures are expected to fall to **18°C** or warmer.

British Columbia – Northwest – Central and Northern Coast (inland and coastal regions), Northern Vancouver Island, and northwestern BC

Issued when 2 or more consecutive days of daytime maximum temperatures are expected to reach **28°C** or warmer and nighttime minimum temperatures are expected to fall to **13°C** or warmer.

British Columbia – Northeast – Northern Interior, Central Interior, including Chilcotin, Cariboo, Prince George, North Thompson, and North Columbia, BC Peace, Buckley Valley and the Lakes and Fort Nelson

Issued when 2 or more consecutive days of daytime maximum temperatures are expected to reach **29°C** or warmer and nighttime minimum temperatures are expected to fall to **14°C** or warmer.

#### Source:

https://www.canada.ca/en/environment-climate-change/services/types-weather-forecastsuse/public/criteria-alerts.html#heat

#### Note:

The heat warning criteria is the combination of both maximum and minimum temperature. However, in the Lower Mainland it was agreed upon that warnings would be issued for the entire region for any forecast point in all of the lower mainland expected to reach the criteria. For example, the forecast for Vancouver may not reflect the heat warning criteria, however at least one point (with maximum forecast daytime and nighttime temperatures) must be expected to reach the warning criteria.<sup>7</sup>

### How to Stay Informed

In order to know when a heat or poor air quality due to wildfire smoke alerts might be issued, staff needs to monitor the forecasts and public weather warnings. The links below are to some of the main sources of this information.

**Environment and Climate Change Canada issues Alerts and Special Weather Statements** when the forecasted temperatures are expected to reach the above described thresholds or when an air quality advisory or smoky skies bulletin is in effect. <u>https://weather.gc.ca/city/pages/bc-74\_metric\_e.html</u>

<sup>&</sup>lt;sup>7</sup> Personal communication with Melissa MacDonald, Health and Air Quality Forecast Services, Environment & Climate Change Canada, 2018

#### **Public weather alerts** for BC can also be found here: https://weather.gc.ca/warnings/index\_e.html?prov=bc

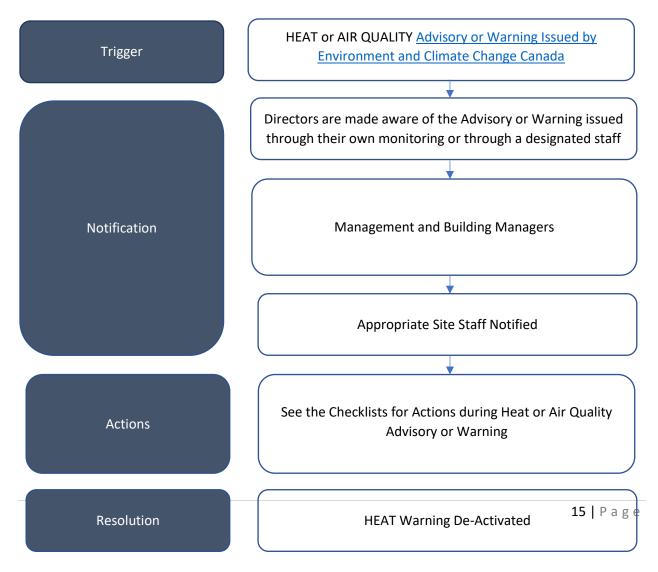
**Smokey Skies Bulletin** (issued by BC Ministry of Environment and Climate Change Strategy) The Smoky Skies Bulletin is a special type of public advisory to communicate the rapidly changing nature of wildfire smoke. It is issued when areas of the province are being impacted or have reasonable potential to be impacted by wildfire smoke within 24-48 hours. https://www2.gov.bc.ca/gov/content/environment/air-land-water/air/air-quality/air-advisories

#### **BC Air Quality Health Index**

The Air Quality Health Index (AQHI) provides hourly air quality readings and related health messages. <u>https://www2.gov.bc.ca/gov/content/environment/air-land-water/air/air-quality/aqhi</u>

### Internal Communication Flow Chart

The chart below provides an example of the flow of communication when heat or air quality advisory is issued.



Each organization needs to establish a notification process from director/s to managers to site staff, that is activated when Environment and Climate Change Canada publishes a Special Weather Statement or Alert related to extreme heat or wildfire smoke. Depending on the severity of the alert – the director/s of the organization may need to decide whether additional actions – such as direct, door-to-door wellness checks for the most at-risk tenants should be complete and when.

Timely and effective communication is extremely important for an effective response. An example email communication to site staff is included in Appendix E.

Below is an example of a checklist for site staff and building managers to complete when a Heat Warning or Wildfire Smoke Alert is activated.

	Extremely Hot Weather Actions (High Risk): Site Staff and Building Managers Checklist	
Actions		Completed? – check box
	f my building has a common area, I have set it up as a "cooling zone" using fans or air-conditioning and implemented COVID-19 protocols.	
	have posted signs for the 'cooling room during COVID-19', if it's activated.	
	f appropriate, I have provided shaded outdoor areas for tenants to spend time.	
	check the weather forecast on regular basis for hot weather or air quality warnings and alerts.	
5. I	posted Tips to Beat the Heat poster around my site/s.	
	checked that all the heating in the building is turned off. (And reported up if there are any challenges with it)	

Checklist 3. An example of Extremely Hot Weather Actions (High Risk)

<ol> <li>I have opened windows in hallways slightly to allow air to circulat appropriate by checking air quality ).<sup>8</sup></li> </ol>	te (if
8. I encourage tenants to reduce solar heat gain by putting blinds do drawing the curtains; and have windows open only when outdoo cooler than indoor air and air quality is not compromised (e.g. at	or air is
<ol><li>I have checked on tenants that might be at high risk as per our organization's Response Plan or direction from my supervisor.</li></ol>	

### Direct Tenant Wellness Checks

During the extreme heat warning direct wellness checks may be required on tenants deemed most at risk. The following steps are suggested should the direct check (door to door knocking) on the most vulnerable tenants be required:

- 1. Ensure that everyone who will be doing the door-to-door checks is able to determine when the tenant may require:
  - a. Immediate medical care (such as in case of a heat stroke or if someone is experiencing severe symptoms such as difficulty breathing, or chest pain by calling 911.
  - b. A referral to Health Services for further assessment (tenant is at risk but does not require immediate medical care).
  - c. **No further action**. (Tenant is aware of risks and/or their housing unit is not overly hot, the risk level seems low).
- 2. Ensure that everyone is aware of tips they can give to the tenants on how to keep their unit as cool as possible, how to keep the body cool, where tenants may go to cool off ("cooling zone" in the building or places with air conditioning such as community centers, or shopping malls in the neighborhood).
- 3. Have information on Tips to Beat the Heat handy so you can give it to the tenants along with new protocols with respect to covid-19 (flyer Appendix C).
- 4. If possible site staff should work together with Health Services coordinators or Tenant Support Workers if available.

<sup>&</sup>lt;sup>8</sup> Ventilation during the day by opening windows is only useful where the outdoor temperature is lower than the indoor. Ventilation at night with high air change rates, to replace warm indoor air with cooler air from outdoors is important to ensure residents can sleep and heat built up over the preceding days is liberated (Guidance Document: Overheating in dwellings).

Further suggestions on how to conduct individual checks on tenants (door-to-door) can be found in Appendix F.

# Post Summer Response Evaluation

Scheduling time with site staff and possibly also tenants to reflect on the actions taken during extreme hot weather or poor air quality events can offer useful information for further refining such actions in the following year. It is best to do it shortly after the summer while the memories are still fresh.

# Appendix A: Heat-related Illness What to Look for and What to Do

WHAT TO LOOK FOR	WHAT TO DO
HEAT	STROKE
High body temperature (103°F or higher)	Call 911 right away-heat stroke is a
<ul> <li>Hot, red, dry, or damp skin</li> </ul>	medical emergency
Fast, strong pulse	<ul> <li>Move the person to a cooler place</li> <li>Help lower the person's temperature</li> </ul>
Headache     Dizziness	with cool cloths or a cool bath
Nausea	<ul> <li>Do not give the person anything to drink</li> </ul>
Confusion	ALC: N
<ul> <li>Losing consciousness (passing out)</li> </ul>	
HEAT EX	HAUSTION
Heavy sweating	Move to a cool place
Cold, pale, and clammy skin	Loosen your clothes
<ul> <li>Fast, weak pulse</li> <li>Nausea or vomiting</li> </ul>	<ul> <li>Put cool, wet cloths on your body or take a cool bath</li> </ul>
Muscle cramps	Sip water
Tiredness or weakness	Get medical help right away if:
Dizziness	You are throwing up
Headache	Your symptoms get worse
<ul> <li>Fainting (passing out)</li> </ul>	Your symptoms last longer than 1 hour
HEAT	CRAMPS
<ul> <li>Heavy sweating during intense exercise</li> </ul>	<ul> <li>Stop physical activity and move to a cool place</li> </ul>
Muscle pain or spasms	Drink water or a sports drink
	<ul> <li>Wait for cramps to go away before you do any more physical activity</li> </ul>
	Get medical help right away if:
	Cramps last longer than 1 hour
	You're on a low-sodium diet     You have heart problems
SUN	BURN
Painful, red, and warm skin	Stay out of the sun until your
Blisters on the skin	sunburn heals
	<ul> <li>Put cool cloths on sunburned areas or take a cool bath</li> </ul>
	Put moisturizing lotion on sunburned
	<ul><li>areas</li><li>Do not break blisters</li></ul>
	RASH
<ul> <li>Red clusters of small blisters that look like pimples on the skin (usually on the</li> </ul>	<ul> <li>Stay in a cool, dry place</li> <li>Keep the rash dry</li> </ul>
neck, chest, groin, or in elbow creases)	Use powder (like baby powder) to
-	soothe the rash

# Appendix B: Key Extreme Heat Messages for Tenants

The following messages are from Health Canada guide: <u>Communicating the Health Risks of Extreme Heat</u> <u>Events: Toolkit for Public Health and Emergency Management Officials</u>.

This guide provides explanation for each of these messages, more details about health risks, including a Fact Sheet specific to Older Adults, and identification of symptoms of heat related illnesses. It is free and available on-line<sup>9</sup>.

Message 1:

Heat illnesses are preventable.

#### Message 2:

While extreme heat can put everyone at risk from heat illnesses, health risks are greatest for:

- older adults;
- infants and young children;
- people with chronic illnesses, such as breathing difficulties, heart conditions, or psychiatric illnesses;
- people who work in the heat;
- people who exercise in the heat;
- homeless people; and
- low-income earners.

#### Message 3:

If you are taking medication or have a health condition, ask your doctor or pharmacist if it increases your health risk in the heat and follow their recommendations.

#### Message 4:

Heat illnesses include heat stroke, heat exhaustion, heat fainting, heat edema (swelling of hands, feet and ankles), heat rash and heat cramps (muscle cramps).

Watch for symptoms of heat illness, which include:

- dizziness or fainting;
- nausea or vomiting;
- headache;
- rapid breathing and heartbeat;
- extreme thirst; and

<sup>&</sup>lt;sup>9</sup> https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reportspublications/climate-change-health/communicating-health-risks-extreme-heat-events-toolkit-public-healthemergency-management-officials-health-canada-2011.html#appc

• decreased urination with unusually dark yellow urine.

If you experience any of these symptoms during extreme heat, **immediately** move to a cool place and drink liquids. Water is best.

### Message 5:

Heat stroke is a medical emergency! Call 911 or your local emergency number immediately if you are caring for someone, such as a neighbour, who has a high body temperature and is either unconscious, confused or has stopped sweating.

While waiting for help - cool the person right away by:

- Instruct person to move to a cool place, if possible;
- Advise person to apply cold water to large areas of the skin or clothing; and
- fanning the person as much as possible while maintaining an appropriate physical distance
- ensure that all COVID-19 safety protocols are followed by yourself and the individual you are caring for. This includes wearing face masks and gloves as outlined by the BC CDC. more information can be found here on the BC CDC website: <u>http://www.bccdc.ca/health-info/diseases-conditions/covid-19/prevention-risks</u>

### Message 6:

Frequently connect electronically or when necessary, visit neighbours, friends and older family members, especially those who are chronically ill, to make sure that they are cool and hydrated within the COVID-19 protocols.

### Message 7:

Drink plenty of cool liquids, especially water, before you feel thirsty to decrease your risk of dehydration. Thirst is not a good indicator of dehydration.

Message 8:

Reschedule or plan outdoor activities during cooler parts of the day.

Message 9:

Wear loose-fitting, light-coloured clothing made of breathable fabric.

Message 10:

Never leave people or pets in your care inside a parked vehicle or in direct sunlight.

#### Message 11:

Take a break from the heat by spending a few hours in a cool place. It could be a tree-shaded area, swimming facility or an air-conditioned spot such as a public building, shopping mall, grocery store, place of worship or public library.(using COVID-19 protocols)

Message 12:

Take cool showers or baths until you feel refreshed.

Message 13:

Prepare meals that don't need to be cooked in your oven.

Message 14:

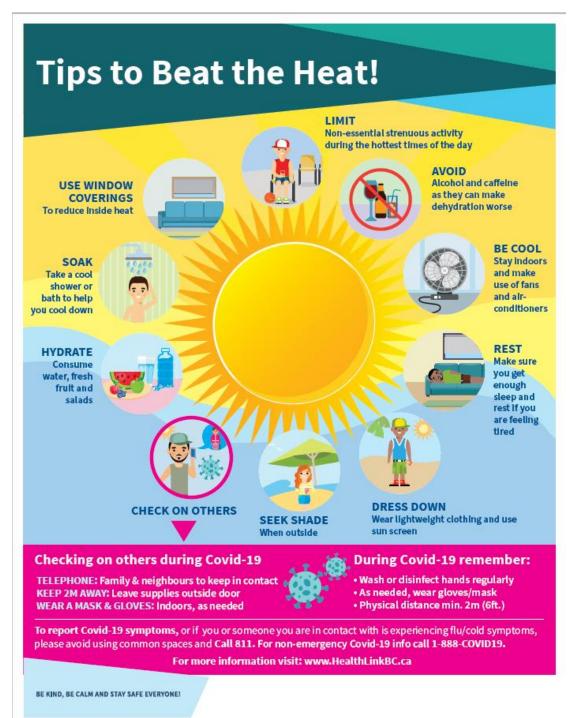
Block sun out by closing awnings, curtains or blinds during the day.

Message 15:

Avoid sun exposure. Shade yourself by wearing a wide-brimmed, breathable hat or using an umbrella.

# Appendix C: Tips to Beat the Heat Poster

Note this poster and others are downloadable and fillable (you can insert your organization's logo from: <a href="https://www.bchousing.org/projects-partners/extreme-heat/resources-webinars">https://www.bchousing.org/projects-partners/extreme-heat/resources-webinars</a>



# Appendix D: Using Cooling Rooms During COVID-19 Poster

Note this poster and others are downloadable and fillable (you can insert your organization's logo from: https://www.bchousing.org/projects-partners/extreme-heat/resources-webinars



- Physical distance min. 2m (6ft.)

To report Covid-19 symptoms, or if you or someone you are in contact with is experiencing flu/ cold symptoms, please avoid using common spaces and Call 811. For non-emergency Covid-19 info call 1-888-COVID19.

For more information visit: www.HealthLinkBC.ca

BE KIND, BE CALM AND STAY SAFE EVERYONE!

# Appendix E: Sample Email to Staff to Be Sent During Extreme Heat Alert

Subject: Extreme Heat Alert for the Lower Mainland\*

To All Building Managers and Site Staff,

As you might be aware Environment Canada has issued a special weather statement for hot weather for Metro Vancouver, the Fraser Valley, on Aug 2, 2018. **Temperatures above 35°C are expected to persist for three days in Metro Vancouver and the Fraser Valley.** 

While everyone is at risk of heat related illnesses, some groups are more vulnerable than others. They include: children, seniors and people with chronic health conditions, people living alone. There are a variety of mild to severe symptoms linked with heat-related illness, including thirst, dizziness, confusion, weakness, fainting, collapsing and even death. It is important that we remind all tenants to protect themselves from the heat.

Please ensure that you take all action described in **[your organization's name]** Heat Response Plan (insert link to the plan), including:

- Whenever possible creating and inviting tenants to spend time in 'cooling rooms' or shaded areas outside;
- Communicating to the tenant's risks of heat related illnesses and ways to prevent them (staying hydrated, keeping cool, checking on others);
- Checking on the most vulnerable tenants (as identified for each building).
- Ensure that all site staff are following and promoting COVID-19 health protocols from the BC CDC here: <u>http://www.bccdc.ca/health-info/diseases-conditions/covid-19/prevention-risks</u>

For your convenience attached are:

- Tips to Beat the Heat poster and flyer (for tenant distribution);
- Summary table of what to look for and what to do for Heat-Related Illnesses;
- Check lists for Building Managers (with COVID-19 considerations).

\*Note: The Location of this sample email is for the Lower Mainland. This location will need to be changed depending where in the province you are serving.

# Appendix F: Direct Tenant Wellness Checks

Some organizations decide to conduct direct tenant wellness checks. Traditionally this would involve knocking on the tenant's unit door and having a conversation. During COVID-19 this may be done by telephone. Information below has been developed for both scenarios.

When considering doing the direct tenant check, the following might be useful:

- 1. Pre-identifying the most vulnerable tenants.
- 2. Providing education and clear instructions to staff how to conduct the check, how to assess the risk for the tenants, what actions to take and who to contact when needed. Consider creating a script for staff.
- 3. Creating records of each visit and their outcomes. This can be helpful to adjust the list of the most vulnerable tenants, to have updated information about the tenants and to know what actions might be required and when. Decide who's going to collect and monitor these records.
- 4. Considering staff availability if the direct checks are initiated during a weekend.

This appendix includes the following sections:

- Door to Door Checks considerations and general guidance for conducting direct checks on tenants during COVID-19.
- Actions to Help Clients Avoid Heat Illnesses: Checklist tips for tenants on how to stay cool and how to keep the unit cool
- Extreme Heat Tenant Report: Completed an example of a report used during direct tenant checks
- Extreme Heat Tenant Report: Not Completed an example of a report used during direct tenant checks
- Weekend Procedure for Door to Door Checks an example of a procedure and considerations for when the direct tenant check needs to take place over the weekend

### **Door to Door Checks**

Note: when completing wellness checks for others, follow all health guidelines for COVID-19 as described on the BC CDC website here:

http://www.bccdc.ca/health-info/diseases-conditions/covid-19/prevention-risks

Before talking to tenants in their units to check how they are coping with the heat:

- Wash hands, wear appropriate PPE (mask, googles gloves) and ensure physical distance of 6feet from tenant and/or unit doorway.
- If tenant presents with symptoms similar to cold or flu, advise them to call 811 or their family doctor for medical advice and self-isolate until given further instruction. Do not proceed with assessment of home environment and refer them to "Tips to Beat the Heat" information pamphlet. arrange to follow up with tenant while adhere to COVID-19 protocols.

- If tenant is wearing appropriate PPE and did not disclose any symptoms related to COVID-19
  proceed with an <u>observation of the home environment</u>: does it feel very hot, are there any
  forms of cooling such draughts or fans, etc.
- 1. The first check should be conducted before noon.
- 2. When talking to tenants in their units check how they are cooping with the heat:
  - **Observe home environment**: does it feel very hot, are there any forms of cooling such draughts or fans, etc.
  - Assess the tenant/s: do they show physical signs of being in distress?
  - Use the Heat Related Illnesses Table What to Look For/What to Do (located in Appendix A)

Note: If tenant is unusually confused and very hot, this may be heat stroke and is a medical emergency – call 911!

If tenant is not in distress, check further on how they are coping with the heat.

- Is s/he uncomfortable because of the heat?
- Does s/he have access to fan, air conditioning, fridge, phone, social support?
- Do they know where they can go to cool off? ('cooling zone' in the building if there is one, shopping mall, library or community center with air conditioning, etc.)
- Is s/he at risk from exposure to extreme heat?
  - Do they have mobility, mental and /or physical health issues?
  - Do they have physical and/or mental capability to escape the heat?
  - Are they able to get to a different place to cool off? (access to transport)
- 3. If a tenant does not open the door on the first check, have site staff leave a card with a direct phone number on the door and ask tenant to call. Consider including other information on the card like the unit number and building name. have site staff retrieve voice mails and update list at end of each day.
- 4. If a Tenant does not respond by end of the second day of door to door checks and have not removed the card from the door, have site staff perform an FOB check for the unit and determine activity level.
- If there has been no activity on the FOB, site staff will arrange for a wellness check and contact RCMP. If after hours and no site staff available, RCMP will need to contact after hours Maintenance (or equivalent) for assistance into the unit.

# Actions to Help Clients Avoid Heat Illnesses: Checklist

#### **Preventative Measures:**

□ Provide care (or help to coordinate care)

Leducate client (and caregivers) on how to cool themselves

□ Inform client of local cooling options and community services to help support the needs of the client

□ Provide client with appropriate Health Canada Heat-Health Fact Sheet (for Older Adults, Physically Active and Young Children)

#### Keeping the Person Cool:

Use cool water to:

Sponge or bathe

□Soak hands, forearms, and/or feet

Spray skin while fanning

Uvet a cloth to put on neck and/or armpits.

Have Patient/Client:

Dress in loose fitting, light-coloured clothing made from breathable fabric (e.g. cotton).

Drink liquid (especially water) regularly, even when not thirsty.

Eat fruits and vegetables which are high in water content.

□Have a glass of water in reach – ensure it is beside them before leaving.

□ Ensure all cooling procedures adhere to COVID-19 protocols outlined by the BC CDC: <u>http://www.bccdc.ca/health-info/diseases-conditions/covid-19/prevention-risks</u>

#### Keeping the Home Cool and Food Safe:

□ Close windows, blinds and curtains during the hottest part of the day.

□ Open windows, blinds and curtains when temperature is cooler in the evening when air quality is good.

Use electric fans, air conditioning, to cool or circulate air.

□ If home gets too hot, have tenants go to public place to cool down (e.g. pool, shaded green space, library, shopping centre) with COVID-19 protocols in mind. Ideal temperature range is assessed on a case by case basis.

□ Do not use the oven. Instead use the stove top or microwave to heat food or have meals that do not require heating.

□ Ensure that food is properly stored as soon as eating has finished and discard spoiled food. This is particularly important following a power outage.<sup>10</sup>

<sup>&</sup>lt;sup>10</sup> Adapted from: http://www.hc-sc.gc.ca/ewh-semt/alt\_formats/hecs-sesc/pdf/pubs/climat/commun\_care-soins/commun\_care-soins-eng.pdf?forcedownload=true

# **Extreme Heat Tenant Report: Completed**

# Extreme Heat - Tenants at Risk List List Updated: enter date

BU#	241
Buildling Name	Hall Tower Extension
Inspector Name(s):	

Legend		
Call 911		
Refer to HHC		
Contact Made, No Concern		
No Answer		
Requires Next Day Follow Up		
	Call 911 Refer to HHC Contact Made, No Concern No Answer	

Date	ALERT	Unit #	Address	Tenant Name	Phone Number	Visit 1	Visit 2	Comments
example 1		207	7264 Kingsway	John Smith	604-669-7788	D	E	no one home at 11am, visited again at 4pm - still no answer
example 2		607	7264 Kingsway	Jane Black	778-212-3333	с	-3.	
example 3		701	7264 Kingsway	Jill Smith	604-858-8899	В		has AC - ok in heat, but showing symptons of dementia, created SDR for HS to f/up

Extreme He	eat - Tenants at Risk List
List Updated:	enter date

BU#	241
Buildling Name	Hall Tower Extension
Inspector Name(s):	

	Legend				
A	Call 911				
В	Refer to HHC				
C	Contact Made, No Concern				
D	No Answer				
E	Requires Next Day Follow Up				

Date	ALERT	Unit #	Address	Tenant Name	Phone Number	Visit 1	Visit 2	Comments
example 1		207	7264 Kingsway	John Smith	604-669-7788	D	E	no one home at 11am, visited again at 4pm - still no answer
example 2		607	7264 Kingsway	Jane Black	778-212-3333	с	->.	
example 3		701	7264 Kingsway	Jill Smith	604-858-8899	В		has AC - ok in heat, but showing symptons of dementia, created SDR for HS to f/up

# **Extreme Heat Tenant Report: Not Completed**

Extreme Heat - Tenants at Risk List List Updated: enter date

Location: enter ID # and Building Name

Name:	
Date:	

Legend: Requires Further Action				
A	Call 911			
В	Contact Health Services			
С	No One Home			
D	No Answer			
E				

ID#	Unit #	Address	Tenant Name	Age	Time 1	Time 2	Time 3	Requires Further Action

Extrem e Heat Tenant List Template Page 1 of 1

# Weekend Procedure for Door to Door Checks

#### [Adjust to fit with your organization as necessary]

Specific site staff will be approved for overtime during weekends or door to door checks. Assistance from site staff may be required and Managers to designate staff that can be available.

If managing many locations or buildings, consider dividing site locations into separate regions to divide weekend check responsibilities among site staff. The following highlights some ways housing sites can be divided:

Three separate suggested division methods of building sites for designated weekend checks (for non-profit building managers with multiple sites):

By Location	By Direction	By Building Name
North Shore	North	Building 1
Lower mainland	West	Building 2
Surrey/ Fraser Valley	South	Building 3
Burnaby/ New West	East	Building 4

Keys/fobs and alarm codes to these sites will be located at one of the sites in that region. The site staff delegated to the region will retrieve site keys and obtain Tenant Lists from internal records and proceed with door to door checks.

- 1. Once at site, site staff to check cooling rooms and proceed to conduct checks.
- 2. Once 2<sup>nd</sup> checks are completed, tenant list will be updated and saved in internal records.
- 3. Upon completion, keys will be returned to the main site.

# Appendix G: Glossary

When severe weather threatens, Environment Canada, the authoritative source of Weather Alerts 24/7, is here for you, <u>issuing special alerts</u> that notify those in affected areas so that they can take steps to protect themselves and their property from harm. These public alert bulletins are issued through the media, as well as through the department's <u>Weatheradio service</u>, and our <u>Canada.ca/weather</u> website.

### Type of Alerts

The type of alert used depends on the severity and timing of the event:

- **Special Weather Statements** are the least urgent type of alert and are issued to let people know that conditions are unusual and could cause concern.
- Advisories are issued for specific weather events (like blowing snow, fog, freezing drizzle and frost) that are less severe, but could still significantly impact Canadians.
- **Watches** alert you about weather conditions that are favorable for a storm or severe weather, which could cause safety concerns.
- As certainty increases about the path and strength of a storm system, a watch may be upgraded to a **Warning**, which is an urgent message that severe weather is either occurring or will occur. Warnings are usually issued six to 24 hours in advance, although some severe weather (such as thunderstorms and tornadoes) can occur rapidly, with less than a half hour's notice.

#### <u>Alert</u>

A transmitted signal that is used to heighten awareness and/or initiate preparation for action. Alerts are issued by Environment Canada's Meteorological Service (MSC) for weather or environmental hazard events that are either occurring, imminent, or forecast to develop. Alerts are currently issued as <u>special weather</u> <u>statements</u>, <u>advisories</u>, <u>watches</u> and <u>warnings</u>.

#### **Advisory**

A type of <u>alert</u> from Environment Canada's Meteorological Service (MSC), where a certain weather or environmental hazard (for example air quality, <u>humidex</u>, and <u>tsunami</u>) is either occurring, imminent or is expected to occur.

#### **Special Weather Statement**

A type of <u>alert</u> from Environment Canada's Meteorological Service (MSC) where:

(1) A <u>warning</u> or <u>watch</u> is not warranted because the expected conditions are less menacing than those of a warning; or

(2) A <u>warning</u> or <u>watch</u> is not yet practical to issue because of the high degree of uncertainty of occurrence, location and/or timing of the possible hazardous condition(s).

A special weather statement can be used to describe any hazard (unlike an <u>advisory</u>). The statements do not have a formal "in effect" status, since there is no requirement to update or end them.

#### **Warning**

A type of <u>alert</u> issued by Environment Canada's Meteorological Service (MSC), where a hazardous weather or environmental event that poses a significant threat to public safety and property is certain or imminent.<sup>11</sup>

#### <u>Watch</u>

A type of <u>alert</u> issued by Environment Canada's Meteorological Service (MSC), where conditions are favourable for the development of weather or an environmental hazard that poses a significant threat to public safety and property, but the occurrence, location, and/or timing of the expected hazardous condition(s) is still too uncertain to issue a <u>warning</u>. It is intended to heighten public awareness of the potential impact of the event an serves as a lead-up to a warning.

<sup>&</sup>lt;sup>11</sup> http://ec.gc.ca/meteo-weather/default.asp?lang=En&n=B8CD636F-1&def=allShow#wsDT6951EE6A

# Appendix H: Additional Resources on Wildfire Smoke and COVID-10

BC Wildfire Smoke and Air Quality Alerts

- <u>Current Air Quality Data Map Air Quality Health Index</u>. Real time data of British Columbia's current air quality: <u>http://www.env.gov.bc.ca/epd/bcairquality/readings/find-stations-map.html</u>
- <u>Current Particulate Matter PM2.5 Data Map</u>. Real time update on Current Particulate Matter rates across BC and alerts: <u>http://www.env.gov.bc.ca/epd/bcairquality/readings/find-stations-map-PM25.html</u>
- <u>BC Air Quality Advisories</u>. Find up to date air quality advisories across BC: <u>https://www2.gov.bc.ca/gov/content/environment/air-land-water/air/air-quality/air-advisories</u>

Wildfire Smoke Information Resources

- BC CDC Webpage with information about risks of wildfire smoke (all resources listed below can be found on this webpage) <u>http://www.bccdc.ca/health-info/prevention-public-health/wildfire-</u> smoke
- <u>Two (2) page poster from BC CDC: Wildfire Smoke and COVID-19</u> <u>http://www.bccdc.ca/Health-Info-Site/Documents/COVID19\_WildfireSmoke.pdf</u>
- Two (2) page poster from BC CDC: Health Effects of Wildfire Smoke http://www.bccdc.ca/resource- gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Health-Environment/BCCDC\_WildFire\_FactSheet\_HealthEffects.pdf
- Two (2) page poster from BC CDC: Wildfire Smoke and Air Quality
   <u>http://www.bccdc.ca/resource-</u>
   gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Health Environment/BCCDC%20WildFire FactSheet SmokeAndAirQuality.pdf
- Two (2) page poster from BC CDC: Wildfire Smoke and Air Quality Health Index (Southern BC) <u>http://www.bccdc.ca/resource-</u> <u>gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Health-</u> <u>Environment/BCCDC\_WildFire\_FactSheet\_SmokeAndTheAQHI.pdf</u>