



First Nations Health Authority
Health through wellness

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Returning to Your Home After Wildfires

Information from the First Nations Health Authority

Your home may be impacted by smoke, soot and ash, chemicals, structural damage and water damage. This information is a collection of health and safety considerations during initial work to restore your home. This document is intended to be broad-serving and not all of the information may apply to your situation.

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Contact Information

First Nations Health Authority, Environmental Public Health Services

Find your local FNHA Environmental Health Officer at:

<http://www.fnha.ca/what-we-do/environmental-health/contact-environmental-health>

EPHS After-hours line: 1-844-666-0711.

Health Link: Call 811

Content Adapted from: Alberta Health Services and Interior Health

Protect yourself and your family: Re-entering areas burned by wildfire safely

Do not re-enter any areas that were heavily damaged or destroyed by the wildfire until the area has been cleared by the local fire authority. Once you are able to enter burned out areas safely, be very careful. Take basic precautions and be aware of hazards to your health and safety.

What hazards should I watch for?

- Slip, trip and fall hazards from unstable structures, open pits or wet and slippery surfaces.
- Sharp objects such as nails, metal, concrete or wood debris.
- Ash, soot and demolition dust.
- Hazardous materials such as kitchen and bathroom cleaning products, paint, batteries, and pesticide, herbicide and fuel containers which have been partially damaged or destroyed.
- Confined or poorly ventilated areas where carbon monoxide may be present from the operation of pumps, generators, or pressure washers. **Be careful entering tight spaces.**
- Propane cylinders for heating or from BBQ appliances.

Fire Ash

The ash deposited by forest fires is relatively nontoxic and similar to ash that might be found in your fireplace. However, any ash will contain small amounts of cancer-causing chemicals. Fire ash may be:

- irritating to the skin, especially to those with sensitive skin.
- irritating to the nose and throat and may cause coughing.
- a trigger of asthmatic attacks in people who already have asthma.

What Personal Protective equipment (PPE) should I use to enter burned out areas?

Personal Protective Equipment helps to reduce exposure to hazards. Use personal protective equipment when entering your home. In particular, people with asthma or respiratory conditions should only spend short periods of time in these areas and wear respiratory protection.

Breathing protection:

- Use N95 rated masks to help filter out and reduce exposure to fine dust particles such as ash, soot, and other nuisance-type particles. A mask rated N95, when properly fitted (see section below) will be more effective than a dust mask in blocking particles from ash.
- Look for "NIOSH 95" on the package. N95 means the mask blocks about 95 percent of particles that are 0.3 microns in size or larger.
- Purchase N95 masks at hardware, safety/construction supply businesses and home improvement centres.
- Masks can add physical stress to a person by making it harder to breathe. Individuals who have any doubts concerning their ability to wear a mask should consult with their physician.
- If you cannot locate N95 masks, a well-fitting dust or surgical mask may provide some protection during cleanup. Many ash particles are larger than found in smoke, and a dust mask can significantly reduce the amount of particles inhaled.

How to Self-Fit N95 Masks

- Always read and follow the manufacturer's directions when using a mask.
- The mask must cover both the nose and mouth to keep you from breathing in dust and ash.
- If the mask does not have a snug fit, it will not work properly. Correct fit of the respirator requires contact with smooth skin. Masks will not work properly for people with beards or facial hair.
- Always use both straps on the respirator to hold it in place to keep air from leaking around the respirator.
- Do a user seal check, including both positive and negative pressure checks, to confirm that the respirator is adjusted and fits properly.
 - Negative pressure check – Place both hands completely over the respirator and inhale sharply. Be careful not to disturb the position of the respirator. The respirator should pull into your face. If air leaks around your face or eyes, adjust the nosepiece and straps and repeat the positive pressure check.
 - Positive pressure check – Put your hands over the respirator and breathe out sharply. If your respirator has an exhalation valve be sure to cover the exhalation valve when you exhale. No air should leak out of the respirator if the respirator fits properly. If air leaks out, re-adjust the nosepiece and straps and repeat the negative pressure check.

Protective clothing, gloves and boots:

- Select "head-to-toe" protection based upon the situation and work to be done. Consider durability, including cut, puncture, abrasion and slip resistance.
- At minimum, wear long sleeve shirts, long pants, or coveralls, leather gloves and boots with thick soles to prevent punctures from sharp objects.

Eye, face and head protection:

- Wear safety glasses or goggles which provide wrap-around protection. Regular sunglasses are not sufficient protection.
- Protective helmets or hard-hats are recommended for clean-up of areas where there is a risk of falling debris due to structural damage to the home.

Hearing protection:

- Ear plugs or safety ear muffs should be used when operating heavy machinery or power tools.

Re-enter your home safely

Return to your home only once your local authorities have said it is safe to do so.

Do Not Enter your home if:

- There is any danger of a structural failure or collapse. Check for any visible structural damage to your home that was caused by fire.
- Roofs and floors may be damaged and subject to collapse.
- The foundation of your home and any brick or cement fireplace chimneys can be severely damaged by heat.
- The concrete foundation of your home may be cracked and leaning or looking like it will actually fall down. It is a very unsafe place for you to be trying to retrieve any items or even to climb down to try to see what damage may have happened.
- Take all appropriate precautions to protect yourself and family.

Use these tips to protect yourself and property once in your home:

- Wear the appropriate personal protective equipment (PPE) including masks, gloves and boots.
- Never try to turn utilities back on until they have been checked first by your local utility provider and they have told you it is safe to do so. It is possible that your local government and utility service providers may have had to turn off the supply of natural gas, electricity and drinking water as a result of this fire.
- Do not try to use any electrical appliances or power in your home or garage that may have come in contact with fire, water or fire retardant until they have been checked and cleared for use by a qualified electrician.
- Visually check the stability of the trees around your property. Look for damage on the tree trunk or for visible damage of burned tree roots. Any trees that have been damaged by fire may soon become another hazard. They will need to be cut down and removed.
- Stay away from damaged or fallen power lines and power poles. Wet down any remaining fire debris to minimize health impacts to you and your family from breathing soot and ash particles left by the aftermath of this fire. Do not wash the fire debris into the street.
- Impacted sites will likely smell very smoky for a number of days, and there may be soot and ash, as well as fire debris all around your home and yard.
- If you or any of your family members have breathing difficulties or asthma, take all appropriate precautions to protect yourself. Lingering smoke and fire ash at your home and yard can temporarily worsen your personal respiratory issues.
 - Smoke can irritate the skin, nose, throat, lungs and eyes and can cause coughing and wheezing.
 - These symptoms may be significant depending on the type of soot/ash, amount of exposure, and underlying respiratory conditions.
 - For more information on the health effects from wildfire smoke, please see: <https://www.interiorhealth.ca/YourEnvironment/EmergencyPreparedness/Pages/For-est-Fires.aspx>
 - Call Health Link at 811 or consult your family physician for any required medications or extra precautions you may need.

Be careful near fire retardants and fire residues

Two major types of fire retardants have been used in B.C. to fight the recent wildfires. They can appear in both off-white and red colours. The main components include fertilizers, sticking agents, and proprietary (trade secret) compounds. They break down over time.

- Avoid eye contact and wash hands when removing coloured fire suppressants from structures.
- Once no longer visible, these products and residues are harmless.
- Refer to section “Clean up fire retardant and residue” for more details.
- For more information, please see:

http://www.bccdc.ca/Documents/fire_retardants.pdf

<https://www.interiorhealth.ca/YourEnvironment/EmergencyPreparedness/Documents/forest%20fire%20-%20Precautions%20for%20Water%20and%20Food.pdf>

Fire retardants and your pets

- Ensure animals do not ingest water from puddles containing fire retardants or fire residue.
- If your pet appears to be ill from ingesting fire retardants or fire residue, take them to a veterinarian.

Review your insurance information or other options

Insurance options available depend on ownership of the home and insurance coverage. Please contact your band administrator or housing manager if your home is band owned. For individually owned homes:

If you are insured:

- Contact your insurance company/ broker as soon as possible. Try to create an inventory of household items, both inside and outside the buildings, which have been damaged by fire.
- Photograph or videotape the damage as much possible. Do not throw away any damaged goods until after the inventory is made by the insurance assessor.
- Work with your insurance company and their accredited fire restoration companies to try to restore or rebuild your home.

If you are not insured: Check with your local, private service organizations to see what help you may be eligible for:

- Canadian Red Cross
- Salvation Army
- Local religious organizations
- Provincial or municipal emergency social services
- Non-profit crisis centres
- Your municipal emergency coordinator

Drinking Water Quality

Flushing your water system before you use it:

Prior to using your water system for consumption (drinking, cooking or bathing), flush the system to remove all stagnant water from the water lines.

- Run all cold and hot water taps for at least 5 minutes before you use them (even if the water is not hot).

For residents on a community water system:

- Questions about the quality of drinking water should be directed to your public works department. Public works staff is best able to assess how the system has been affected and whether there is any impact on the quality of drinking water. They work closely with the FNHA Environmental Health Officer to verify the safety of drinking water after an emergency.
- If there is a need for a drinking water advisory, this will be communicated to each residence. Please follow the instructions provided to protect your health.
- Where fire retardant was used in a watershed, there will be increased monitoring for changes in water quality.

For residents on individual/private water systems:

- If there is any evidence that the water supply has been affected by fire, an alternative source of drinking water should be used until the water source can be assessed or tested.
- Water system components should be checked for damage. A reputable company and qualified personnel should be used for any repairs.
- Private surface and ground water sources affected by fire retardant application should be tested to ensure compliance with the [Canadian Drinking Water Quality Guidelines](#).
- Testing can be arranged through your Community Based Drinking Water Monitor or the FNHA Environmental Health Officer for your community.

Restore your home

Discard items impacted by smoke, heat, ash and chemicals

- Food, medicines, cleaners, cosmetics and other toiletries can be damaged by heat, smoke and lingering chemical residues.
- There will be items that, after inspection of your fire-damaged home, need to be properly disposed of. Before disposing items, make sure that you inventory those items as part of your fire insurance claim.
- Follow local waste disposal requirements for disposal of hazardous materials.

Foods

Take stock of the foods in your home. Your fridge and freezer may have been without power for some time now. Take plenty of photos and write down an inventory of the contents of your fridge(s) and freezer(s).

Determine how long your power outage lasted:

- A full chest freezer will keep food frozen for up to 2 days
- A half-chest freezer will keep food frozen for 1 day
- A cooler or fridge will keep food cold for 4 hours

Check the food in your home and **discard**:

- Food stored in the refrigerators, coolers and freezers **IF** the temperature was greater than 4°C **at any time**. Please note that the temperature may have exceeded 4°C when the power was disrupted and then returned to 4°C.
- Any food that has spoiled, even if the cooler remained at 4°C at all times.
- Frozen foods that have thawed must be discarded. Once thawed food should not be refrozen.
- Fire or smoke damaged foods like dry goods (i.e. flour, sugar, spices, etc.) even if the package isn't open.
- Unrefrigerated raw vegetables or fruits.
- Foods that were stored in porous containers (e.g. cardboard, foam containers, etc.).
- Canned food where the can is bulging, rusted or dented.
- Jarred foods, including home canned items, as the heat from the fire likely compromised the safety seal.

If you do not have a thermometer, look for the following signs of spoilage and souring:

- Milk and other dairy products that have spoiled or become sour
- Ice cream that has thawed and refrozen
- Fish products that smell bad upon thawing
- Food in the freezer that has (or may have) reached 4°C or warmer

Be safe. If in Doubt, Throw it out!

Check if your refrigerator or freezer is damaged.

If your refrigerator or freezer is damaged by the fire and is not working, contact the insurance company (if applicable) about coverage as an eligible expense, and your band or local regional district about its safe disposal.

If your refrigerator or freezer was not damaged by the fire and continues to work, take the following steps to clean refrigerators and freezers:

- Remove everything from the refrigerator or freezer.
- Use paper towels or rags to wipe up spills and leaks and dispose of them with the food waste.
- Wash out the appliance with warm, soapy water.
- Disinfect the refrigerator or freezer with a strong bleach solution (1 tsp household bleach per 4 cups water).
- Use latex or rubber gloves if you have sensitive skin that may be irritated by the bleach solution.
- To remove odors, wipe out the appliance with a mixture of water and baking soda, or keep a box of baking soda in the appliance. You also may want to air out the appliance for a few days before plugging it in and using it again. Secure doors in an open position to provide air flow and keep children away.
- Wait until the refrigerator has returned to 4°C or freezer has returned to -18°C before restocking with food.

Clean up smoke damage and soot

There may be smoke damage and soot in your home after the fire. With the use of Personal Protective Equipment, such as masks, rubber gloves, rubber boots, long sleeved shirts and pants, you can do the following things on your own, if you don't hire a fire restoration company:

Exterior

- Use a hose, sprayer or pressure washer on the exterior of your home, driveways, walkways, vehicles, patios, decks and outdoor furniture. Rinse off air intakes and air conditioners. Be sure NOT to use air hoses or leaf blowers — you do not want to drive more contaminants

into your house.

- **Be careful when using pumps, pressure washers or generators in enclosed spaces.**

Carbon monoxide may be present in confined or poorly ventilated areas where from the operation of pumps, generators, or pressure washers.

- Attic insulation can retain smoke odours, and you may wish to consider replacing it.
- If you have a private septic system, see the section on septic systems below.

Air Circulation

- Get the air moving inside your house by using a fan and open your windows, providing there is no smoke or air quality advisory for your neighbourhood**
- Replace your furnace filter and/or air conditioner filter.
- Use a humidifier to reduce how much ash becomes airborne.
- Have a professional clean your ducts and air conditioning system.
- Ozone generators do not function as “air cleaners” despite advertising claims.

** NOTE: when demolition activities are more likely to produce airborne ash:

- Stay indoors,
- Close all external doors and windows, and
- Turn off the ventilation as much as possible for air conditioners and furnaces.

Interior Surfaces

- Wash all interior surfaces with mild detergent or appropriate cleaning solution and rinse thoroughly.
- Include the inside of closets, cupboards, drawers and other locations if there is any ash, dust or the odour of fire.
- Vinegar helps remove odour and residue from smoke damage.
- Wet wiping or mopping is safer and more effective than dry or dust mopping. Change the water if it gets dirty and dispose of the solution out of the house.
- Only vacuum with a unit which has a “HEPA” filter which can catch ash particles. Using unfiltered vacuums will just move the ash around the house. Change your HEPA filter frequently.
- Ash left in place is reduced into smaller particles and becomes harder to remove from carpets and surfaces.
- Wash and clean all ash-contaminated household items with mild detergent, changing the water frequently.

Fabric, carpets and clothing

- Soot is oily and can stain carpets, curtains and soft furnishing. It must be removed before you try to clean or deodorize those items.
- Steam clean carpets, drapes, curtains and furniture, changing the water frequently.
- Launder or dry clean all affected clothing and other materials. You may have to run numerous rinse cycles to extract all materials. Consider doing this laundering off-site

using a machine tagged for heavy contaminants at a laundromat. These are usually marked as “oilers.” Washable textiles may benefit from adding one to two cups of vinegar to each wash load.

Electronics

- Take electronic equipment outside and “blow out” the components with an air hose before using. Ash can cause static charges.

Repair water damage

If your home was damaged by water, you will need to get rid of all excess water to prevent mold growth. Before starting any work, ensure proper Personal Protective Equipment is worn, such as a mask and rubber gloves.

- To help prevent mold growth, any water-damaged or water-stained surfaces and appliances should be checked for damage. Clean the affected areas using warm water and soap.
- Dry all wet items as soon as possible.
- Dry wet or waterlogged carpeting as quickly as possible and any underlay should be removed.
- Steam clean carpets with a disinfectant.
- Remove excess moisture from the air inside your home using a dehumidifier.
- Let your insurance company and restoration contractor know as soon as possible if you find any visible mold growth or smell mold inside your home.
- If you discover a small amount of mold (typically under 10 square feet), and you wish to complete the work yourself, more information is available here:
<https://www.healthlinkbc.ca/healthlinkbc-files/air-quality-mould>

Clean your yards and outdoor play areas

Your yard and surrounding areas may be impacted by fire ash and soot. These materials will contain polycyclic aromatic hydrocarbons (PAH,) as well as heavy metals. A fire restoration contractor will be able to provide clean-up services.

If you decide to manage this yourself:

- Use Personal Protective Equipment as appropriate, such as masks, rubber gloves, rubber boots, long sleeved shirt and pants.
- Wet down remaining fire debris. **Do not** wash the fire debris into the street.
- Scrape up fire ash and soot remaining on your property as much as possible, place it in plastic bags or other containers that will prevent it from being disturbed, and take it to a landfill.
 - If your home/property was totally destroyed by fire then the restoration company will look after this for you as they begin the demolition and recovery process.
- If you choose to remediate lawns, you can re-sod or reseed grassy areas.

- Consider adding new, clean soil to gardens if you suspect or know the area was impacted.
- For children's play areas and equipment, clear away any debris and ensure water that may have been used in the fire is gone.
- If there is fire or structural damage to play equipment, consider blocking access to the area until play equipment is repaired or replaced.
- Use mild detergent and clean water to wash children's outside toys, play equipment, and recreational equipment.
- Sand, gravel or other loose materials placed beneath playground equipment should be removed and replaced whenever there is visible presence of ash, silt and small debris.
- If you suspect or know a sand box was impacted by fire or firefighting materials, the sand should be replaced.

Residential Pools

Wildfires may impact residential pools and make them unsafe to use. There may be structural damage to the pool basin or equipment. Ash, soot, and chemicals used to fight the fire may have impacted the quality of water. If the pool water was not circulating or was not treated, harmful bacteria may have grown in the stagnant water. Work with a pool service company to restore your swimming pool and ensure it is safe to use. Small whirlpools (hot tubs) should be drained, scrubbed clean, and re-filled. Balance the water prior to using the whirlpool.

Clean up fire retardant and residue

Health and safety of retardants used in BC has been reviewed. In the long term, environmental toxicity is low because products degrade over time and turn into fertilizer. The following precautions are recommended:

If your home was sprayed with fire retardants or was impacted by windblown fire retardant, these products need to be removed from the outside siding and roof of your house, your vehicles, and any outside toys, furniture, tools etc. before you move back home. A fire restoration contractor will be able to help you with this.

If you decide to manage this yourself:

- Wash down your home's roof and siding, vehicles, and outdoor patio furniture with clean water.
- **Never use Bleach**, as the reaction between bleach and the fire retardants will produce harmful and explosive gases.
- To clean windows and glass, use clean water and a razor blade tool to help to remove the sticky residue.
- Rinse retardant off vegetation.
- Use mild detergent and clean water to wash children's outside toys, play equipment, and recreational equipment to remove any residual fire retardant.
- Keep your pets and children away from any water pooling from these cleaning activities.
- Consult your family physician as soon as possible if you experience a reaction.

Drinking water supplies

Fire retardant contaminated water is not considered harmful. Open sources (e.g. ponds, dugouts) may receive small amounts of retardant overspray during fire application. This will have no appreciable effect on the quality or toxicity of the water supply. Water containing small amounts of retardant could taste slightly salty and may not, consequently, be palatable. Immediate medical attention would not be considered necessary except in rare cases involving adverse reactions based on individual intolerances or allergic reactions.

Fruit and Vegetable Gardens

It may not be safe to eat fruits or vegetables that were growing above ground during the fire, especially if they came into contact with fire retardants.

- Discard fruits and vegetables if visible fire-suppressant residues are present.
- Rinse fire retardant off vegetation such as trees, shrubs and plants, if possible.
- Regularly wet down your garden and lawn until the smoke and ash have been diluted and/or reabsorbed into the air. Ash and soot on vegetation will continue to emit smoke odours for some time.

For more information, please see: http://www.bccdc.ca/Documents/fire_retardants.pdf
<https://www.interiorhealth.ca/YourEnvironment/EmergencyPreparedness/Documents/forest%20fire%20-%20Precautions%20for%20Water%20and%20Food.pdf>

Septic Systems

If a home is directly impacted by a wildfire, there is a possibility that some parts of the sewage disposal system may be damaged. There is also the possibility that wildfire response activities can damage the sewage system, such as heavy equipment or trucks driving over the dispersal field.

- If the home was directly impacted by the fire, or if the fire was in close proximity to the home and there is concern about the functionality or safety of the sewage disposal system after a visual assessment by band staff or an EHO, a Registered Onsite Wastewater Practitioner (ROWP) should be retained to perform an assessment of the system and make recommendations for its repair. These individuals can be found by searching your geographic region at <http://owrp.asttbc.org/rowp-finder/>
- There may be damage to a sewerage system that is not visible. Take a conservative approach when determining whether to retain the services of a ROWP. Systems with additional electrical components, such as dosing pumps or secondary treatment, should also be assessed to ensure safety.
- If residents return home and find that their onsite sewerage systems are not operating as intended (e.g. drains are flowing slowly, signs of wastewater breaking out on soil), a ROWP should be contacted immediately for assessment and repair.

If you have any questions about sewage systems, or require further information, please contact your local FNHA Environmental Health Officer.

<http://www.fnha.ca/what-we-do/environmental-health/contact-environmental-health>

Air Quality

Smoky conditions can still be present after returning home. Health risks may be present under conditions of prolonged and heavy smoke conditions, and for specific sensitive populations.

Guidance for understanding and reducing health risks:

<http://www.fnha.ca/Documents/FNHA-Wildfire-Smoke-Health-Information.pdf>

Guidance for creating an Air Shelter:

<https://www.interiorhealth.ca/YourEnvironment/EmergencyPreparedness/Documents/Air%20Shelters%20During%20Wildfires.pdf>

You can monitor general air quality conditions at:

BC Air Quality Health Index: <http://www.env.gov.bc.ca/epd/bcairquality/readings/aqhi-table.xml>

Western Canada Smoke Forecast:

https://weather.gc.ca/firework/firework_anim_e.html?type=em&utc=12®ion=pacific