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### CURRENT STATISTICS

Fires to-date: 25

Hectares burned: 235

Human-caused: 25

Lightning-caused: 0

### BANS AND PROHIBITIONS

**Campfire:** No Ban

**Category 2:** In Effect

**Category 3:** In Effect

**Resource Mgmt Open Fire:** In Effect

## The Science of Putting Out a Fire

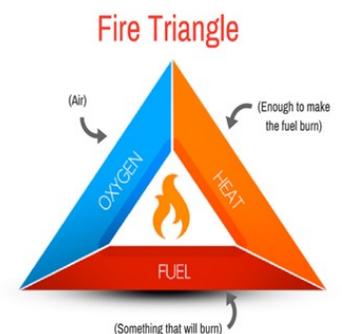
In order to understand how firefighters extinguish a wildfire, you must first understand some basic science. All fires require three key ingredients to burn – oxygen, heat and fuel. To stop a wildfire from burning one of these three elements must be removed.

Oxygen and heat can not be removed; the only factor that can be altered is fuel. By modifying fuels, you can reduce fire behaviour; eliminating fuels suppresses a fire.

The removal or management of fuels retards the growth and vigour of a fire and allow firefighters to work closer to the flames. If a fire can not be completely suppressed, firefighters working from control lines may create fuel free lines to manage or steer a fire into fuels that are less volatile. Managing what fuels a fire burns can reduce the rate of spread, fire rank and the likelihood of a fire to spot (create embers).

Other factors that can suppress fire behaviour include: weather, time of day, and the delivery of water or retardant.

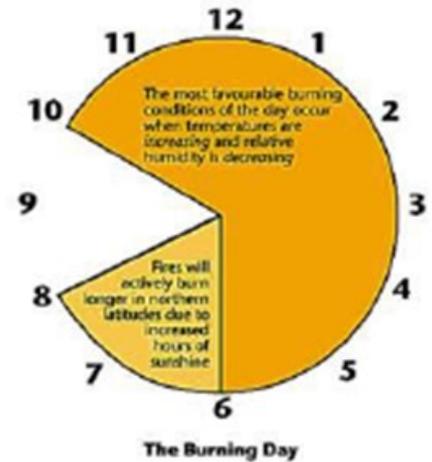
- Weather plays a key role in that cooler, damper conditions (including nighttime and morning) will reduce, but not eliminate, fire activity. It is nature's way of helping to manage fuels.
- Time of day plays a role in the ability of firefighters to suppress a fire. The 'burning day' runs from approximately 10 am to 6 pm local time. The most dangerous time for a wildfire is late afternoon, when the sun is hot, relative humidity is low, and winds are high. Firefighters know that the time around the dinner time is called the 'witching hour', as fire behaviour accelerates as



## The Science of Putting Out a Fire cont'd

daytime heating reaches its peak. Then, as temperatures fall in the evening daytime heating weakens and allows the relative humidity to recover – prompting a decrease in fire activity.

- Water delivery, whether by pumps and hoses by firefighters or delivered overhead by aircraft, tempers but does not extinguish wildfires. Firefighters use water to cool, thereby suppressing fire behaviour, so they can work the ground to extinguish fire or to hold a fire within control lines.
- Retardant (the “red stuff”) dropped from the air is effective but has a limited timeline for suppressing fire. It has a longer-lasting effect than water in fire suppression because it does not evaporate but it also does not extinguish a fire. It “retards” or inhibits the fire behaviour.



Slowing the fire or reducing its intensity gives ground crews time to safely position themselves, begin cutting a firebreak, lay water hoses, and start fully extinguishing the fire. Retardant can also be used to reinforce fire control lines or natural fuel breaks on larger and more aggressive wildfires that crews can't safely work on directly.

The decision to manage a fire or to have crews fully extinguish it is based on the fire's size, location and proximity to identified values. To fully extinguish a fire, crews work from a blackened (burnt) line around the fire and work inwards. On smaller fires, or within a specific distance along the edges of a larger fire (25' blackline is an area within 25 feet of the edge of the fire), crews systematically look for hotspots and break large pieces of fuel on the ground into smaller pieces, cooling them with water and/or burying them to cut off oxygen to the fire. On larger fires crews will strengthen a control line by reinforcing or widening the burnt area at the edge of the fire perimeter, allowing the fire to turn in on itself as it seeks additional fuel to burn. Crews continue to work 'in the black' until no hotspots can be found. It is hot, tiring and dirty work in which crews use their hand tools and hands to locate (cold trailing), break and extinguish the fire's fuel. It can take days, or weeks, on some fires depending on the size of fire, and the type of fuels, crews are extinguishing.

Today, modern technology is used to assist with finding hotspots, but it is up to the firefighters on the ground to find all hotspots in their assigned area and extinguish them. Using infrared technology scans are taken from the air with drones or aircrafts, hotspots are located and marked using Global Positioning System (GPS) so crews can target specific locations and extinguish hotspots. Crews do not entirely rely on technology but survey the area to make sure that no visible heat is present ('smokes').

Understanding and using science is at the core of wildland firefighting. From basic concepts to the use of modern technology, every part of a firefighter's job is rooted in science. From the science of weather, to chemistry, biology and the utilization of data to develop wildfire modelling, fire crews rely on science to make their jobs safer and more efficient.

## The Science of Putting Out a Campfire

The same science used to put out a wildfire is used to extinguish campfires. You must eliminate the fuels it has to burn. As the evening wears on, most people slowly stop feeding the campfire, allowing it to burn down to coals or ash. Plan ahead! Stop fuelling the fire an hour or two before you are ready to leave the campsite or turn in to your tent.



- STEP 1 – MANAGE YOUR FUEL.** Spread the remaining wood or coals evenly using a shovel or long stick. They will extinguish quicker if they are not touching.
- STEP 2 – SUPPRESS FIRE BEHAVIOUR.** Drown the fire with water. Be sure to hold the water several feet above the fire to avoid any hot steam that rises.
- STEP 3 – WORK IN ‘THE BLACK’.** Use your shovel or long stick to mix the water with the ash and embers of the fire. Be sure all the embers are covered with water. Also, check the surrounding rocks for embers. If necessary, add more water.
- STEP 4 – COLD TRAIL THE FIRE.** Feel the area where the fire used to be to ensure that it’s cool. If the area is too hot to touch, repeat steps 2 and 3.
- STEP 5 – SURVEIL YOUR SITE.** Before leaving or going to sleep, be sure to check the entire campsite for sparks or heat. This is particularly important if you have used fuel that created a lot of embers while burning.

It is important to put your campfire out properly! We hope that by understanding the science behind putting out a campfire you understand the responsibility you have taken on by having a campfire and why BC Wildfire Service relies on you to do the right thing and put your fire out! Completely out!

### Additional Material:

[Campfires explained: A science-backed guide to the ancient practice of building a campfire.](#)

By Brian Resnick @B\_resnick brian@vox.com Updated Jul 6, 2018, 11:12am

<https://www.vox.com/2016/7/20/12212472/what-is-fire-campfire-summer-camping-how-to>

[The science behind a perfectly-toasted marshmallow](#)

Here’s what you need to know about the marshmallows you’ll torch this summer

By Rachel Becker Jun 11, 2017, 12:00pm EDT

<https://www.theverge.com/2017/6/11/15774634/marshmallows-smores-camping-camp-fire-summer-food-science>

## FireSmart

### Reducing Fuels to Reduce Fire Behaviour

Wildland fires are a natural part of most wildland ecosystems in Canada. An increasing number of homes are built in or on the boundary of these wildland areas— this is known as the wildland/urban interface. Homeowners building and living in the wildland/urban interface, must take special precautions to protect their lives and property.

In addition to the actual building design and construction material used to construct your home, the type of plant material and the design of the landscape immediately adjacent to your home is a critical factor in determining the likelihood of your home surviving a wildfire. It is important to select fire resistant plant material and design your landscape to reduce the risk, while maintaining a functional and water smart landscape appropriate to your growing zone.

Wildfire can follow a path from a forest or grassland to your home. A wildfire moving from the tops of trees can be slowed if the trees are spaced out. It can be further slowed by flame-resistant plants and shrubs in your yard. Since plants have different flammability, consider spacing out your plants to increase your home's ability to withstand a wildfire.

For a wildfire to occur, three interdependent factors are required; heat, fuel and oxygen (The Fire Triangle). The removal of any of these factors either extinguishes or prevents a wildfire from occurring, therefore making the fire triangle a useful tool in fire prevention and firefighting.

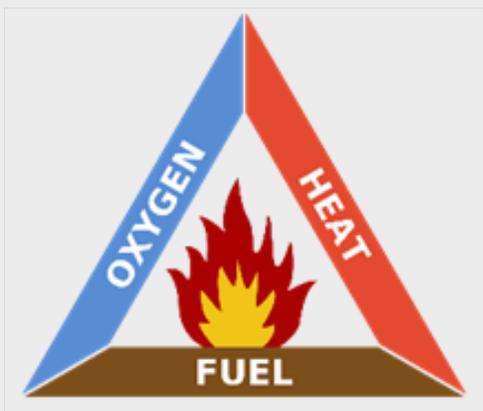
Following FireSmart landscaping tips can reduce the fuel available to a wildfire which eliminates one part of the fire triangle. This slows down the spread of wildfire as it approaches your home.

**The following three tips can significantly increase your homes survivability:**

**Yard Spacing:** Changes within 10 metres of your home, including the removal of combustible surface material, will have the biggest impact.

**Tree Spacing:** Spacing trees at least 3 metres apart will help reduce the intensity of a wildfire.

**Prune Trees:** Prune all tree branches within 2 metres of the ground.



**THE FIRE TRIANGLE**



## FireSmart

### What Homeowners Can Do to Reduce the Intensity of a Fire

Managing fire risk is a collective responsibility. With an average of more than 1,600 wildfires in British Columbia every year. Unwanted wildfires can pose a risk when they advance on to infrastructure and homes in nearby forested communities.

If you live in a fire-risk area, it's imperative that you take time to get ready for the wildfire season. By following basic FireSmart principles around your home and neighbourhood. Such as yard clean-up and long-term renovations. You reduce the risk of damage from wildfire.

As the Canadian standard recognized by all provinces and territories. The science behind FireSmart is indisputable. FireSmart principles are cost-effective, easy to follow and reduce the probability of home ignition and wildfire losses. Home survival is not random or a matter of luck.

Outlined below are the four FireSmart Home Ignition Zones and what you can do to protect your property from embers, surface fires and large flames.



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## FireSmart Cont.

### What Homeowners Can Do to Reduce the Intensity of a Fire

**NON-COMBUSTIBLE ZONE** is 0-1.5 metres surrounding your home. Otherwise called, the non-combustible zone. Within this area, ensure proper fire-resistant roofing. As well as, regular maintenance and cleaning of the gutters, decks, corners and crevices of your home. This is where needles and debris build up. Proper maintenance ensures nothing for embers to ignite.

**ZONE 1** is the 1.5 – 10 metres of your home. This should be a fire-resistant zone, free of all materials that could easily ignite from a wildfire. Move firewood piles, construction materials, storage sheds and other potentially combustible structures into Zone 2. Make sure to plant only low-density, fire-resistant plants and shrubs. Avoid having any woody debris present, since it can provide places for fires to start. Ensure any trees in the area are at least 3 metres apart and prune all branches within 2 metres of the ground. This will help reduce the intensity of a wildfire.

**ZONE 2** is 10 - 30 meters of your home. Like Zone 1, make sure to thin and prune trees to reduce hazards. Regularly clean up accumulations of fallen branches, dry grass and needles from the ground to eliminate potential surface fuels.

**ZONE 3** accounts for 30 - 100 meters of your home (or community area). In this zone, like all, look for opportunities to prune trees and keep them 3 meters apart. Remove woody debris and other potentially flammable vegetation.

FireSmart principles still apply even if you do not have direct control over the property within 100 metres. Consider talking to your neighbours, developing a FireSmart community assessment plan and setting up a FireSmart Committee to host clean-up days and provide updates on FireSmart Principles.

As community leaders, you play a crucial role in spreading actionable FireSmart disciplines. So, take these tried, tested and true recommendations and help mitigate the effects of wildfire in your community.



### FIRESMART RESOURCES

Don't forget to share and [@FireSmartBC](https://twitter.com/FireSmartBC) on your social media posts when hosting FireSmart events!

Learn more: <https://firesmartbc.ca/>

Follow FireSmart on social media: **FireSmartBC**



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## Basic FireSmart Spring Garden Clean Up Activities

In the event of a wildfire, embers and firebrands pose the greatest threat to your property.

Embers are small pieces of burning debris. Likewise, firebrands are airborne objects that travel via wind or airstreams. They can travel up to two kilometres and ignite materials on or near your home.

One of the ways to make your home more resilient to wildfires is by eliminating debris from areas where embers and firebrands are likely to collect. These areas include the roof, on and below decks or stairs, at the base of exterior walls, in gutters and vents, as well as on or in woodpiles. It is important to clear all combustible debris from these areas and to continue to inspect and maintain them throughout the season.

You can help to protect yourself, your family, and your assets by including these tasks in your spring-cleaning regimen.

### Quick-fixes:

- Remove debris such as leaves, twigs, and needles from around the house and under decks.
- Keep lawns mowed and irrigated.
- Store piles of firewood a least 10 metres from the house and preferably uphill, especially during wildfire season.
- Enclose soffits and vents to ensure embers cannot enter.
- Remove trees, bushes, and other combustible vegetation, especially within 10 meters of the home.
- Remove vegetation and small trees that could act as “ladder fuels”.

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### Maintain:

- Store flammable items when not in use, such as deck furnishings, cushions, and brooms.
- Keep surfaces and structures free of flammable materials.
- Check gutters and vents regularly to ensure they are clear of debris.

### Timely, but valuable:

- Replace shake-shingle roofs with a roof made of fire-resistant material such as clay tile, concrete tile, metal, or asphalt shingles.
- Replace existing siding with ignition-resistant siding.
- Cover exposed plywood with metal flashing.
- Space trees three metres apart and prune branches that are two meters from the ground.
- Remove mulch from the exterior of the home and replace with non-combustible, smooth surfaces such as concrete, crushed gravel, pavers or simply leave a one-meter-wide buffer zone of bare mineral soil around the house.
- Follow [FireSmart Guide to Landscaping](#) when choosing greenery.

**There are several resources available to help you maximize your FireSmart efforts, and protect your home:**

- [Wildfire Exposure Assessment](#)
- [Combustible Siding Fact Sheet](#)
- [Last-Minute Checklist for Protecting Your Home and Property from Wildfire](#)
- [FireSmart Home Assessment](#)
- [FireSmart Home Partners Program](#)
- [FireSmart Home Development Guide](#)
- [FireSmart Homeowners Manual](#)

### Fire Weather Forecast

Issued: 1100 PDT Friday 22 May 2020.

**SYNOPSIS:** (Today-tomorrow) A weak ridge overhead today brings a cool moist north upper wind to all areas. Most of Fraser zone remains under heavy cloud with considerable shower activity this morning. Radar imagery and BCFS station reports show the showers gradually decreasing but not completely ending until mid afternoon. Elsewhere around the zones the mainland strip all the way north is heavily clouded except for Tweedsmuir Park which is now in the clear. On Vancouver Island most areas are cloudy but no current showers are reported and a large clear break has opened up across the Island through Gold River. More breaks will follow everywhere through the afternoon. Temperatures will warm a little but remain somewhat below seasonal normal. Saturday, the ridge weakens and a new frontal system reaches the outer and northern coasts late today. Rain will fall from Haida Gwaii starting in the early morning, across to the mainland and northern Vancouver Island starting near noon and then continues all afternoon and evening. The rain only gradually spreads southeast down the east side of the Island in the afternoon and on the mainland coast the rain band dissipates through the inland valleys. Northern areas remain much cooler than normal while towards the southeast afternoon highs come back to normal.

**OUTLOOK:** (Sunday-Tuesday) Bands of showers continue washing across the coast until Tuesday maintaining cool wet conditions.

### Coastal News

Due to continued high humidity and cooler temperatures, as well as current prohibitions, the Coastal Fire Centre has been extremely quiet.

All open fire, including Resource Management burning is prohibited province wide, except for campfires. This includes fireworks, sky lanterns and burn barrels/burn cages of any size or description, except when used for a campfire.

Campfires have not been prohibited within the Coastal Fire Centres jurisdiction. Campfires are less than 0.5m tall and 0.5m wide, are attended, and put out cold to the touch when leaving the area. Please check with local jurisdictions to verify that campfires are allowed prior to lighting.

Crews continue to prepare for the upcoming season with training being conducted on bases, and classroom delivery held online.

### Contact Information

**Report a Wildfire: \*5555 on a cell or 1 800 663-5555**

**Wildfire Information Line: 1 888 3FOREST**

**Burn Registration Number: 1 888 797-1717**

**Information Officer Phone Number: 250-951-4209**

**Information Officer Email:**

[BCWS.CoFCInformationOfficer@gov.bc.ca](mailto:BCWS.CoFCInformationOfficer@gov.bc.ca)