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## Nuisance, Smoke Chases versus Fires

When the British Columbia Wildfire Service responds to a call the results are categorized in one of five ways: Wildfire, Nuisance, Smoke Chase, Other (flood assistance or search and rescue) or Test/Training.

In 2015, there were 201 wildfires in the Coastal Fire Centre, of these 141 were human-caused and 60 were caused by lightning. That means that 70% of the wildfires that occurred in 2015 were caused by people. The number of wildfires, however, is only part of the story. For example, in 2015, not only did our crews respond to 201 wildfires but were also on-site of 158 Nuisance Fires and 113 Smoke Chases.

A Smoke Chase is fairly self-explanatory—a report is called in, someone has seen what they think is smoke. If a fire is not located it is filed as a Smoke Chase. Often it is a case of low hanging cloud being mistaken for smoke, or dust kicked up by traffic on a dirt road, but it must be investigated in case it is smoke from a wildfire.

A Nuisance Fire is a fire attended by crews or staff, such as a car fire or house fire where there is a potential for the fire to move into the surrounding forested area. BCWS crews do not fight what is called ‘non-vegetative fires’ but often are called on to attend as a precaution. Abandoned campfires also fall into this category, as although they are not a wildfire, they must be dealt with so that these do not escape the space where the campfire is intended to be and does not become a wildfire.

Any fire that is in ‘non-compliance’ where BCWS crews are forced to take action, but is not a ‘wildfire’ falls into the category of Nuisance, including bonfires where staff are called in to ask those attending to put it out, or staff puts it out. When people are having a campfire, during a campfire prohibition and crews are called in to ask the public to put it out or required to put it out. Nuisance Fires are often an unnecessary drain on resources both physical and financial.

## Locating and Accessing a Fire

Reports of a wildfire may come from many and varied sources. Whether the call comes from a member of the public who spots a smoke column, a forester who is out working and reports as fire, or a pilot flying over an area and calling to report smoke or flames the result is generally the same—an Initial Attack crew (crew of three) will be sent to the area by vehicle or by air to locate, assess and make recommendations back to the fire centre.

The first job of the crew is to locate the fire. When reports are called in it is often a report of smoke and does not often include an exact location. Remember smoke drifts, and people often spot a fire from a distance, and due to topography it can make a fire difficult to pinpoint.

Once arriving on site the Incident Commander will perform a preliminary inspection. The I/C is looking for any safety concerns, assessing which suppression methods would be most appropriate and determining what resources will be necessary.

The next job for the crew is to access the fire: this is not always as easy as it sounds as most of the time there is no road access to the fire, or access may be limited to narrow, dangerous roads. Crews must take precautions and survey the area while working their way to the fire site looking for good access and egress.

Although the province of British Columbia has an extensive backroad system there are many areas which may not be accessible by truck. If an area can not be accessed by ground then other options are looked at including helicopters or boats. Prior to fire season a list of contracted resources, including helicopters, is assembled and are called on as needed.

If crews have to be transported to remote areas then it is likely they will be delivered by helicopter and may hover exit on to the site. Only those crewpersons who are trained and certified to hover exit are allowed to do so.

If there is no good landing site crews may be called upon to build helipads in the area for ease of access. Fire crews train long and hard in the early part of the season to gain these skills and are able to put them to good use in the rough terrain along the BC coast. It is important to have a good knowledge of the size requirements for the helicopter you will be using.

It is important to establish good access to fire sites, particularly on larger fires where numerous crewpersons are working. Access routes provide safe egress should a fire event occur, allows safety vehicles or helicopters to get to the site unimpeded, and provides a way to get resources and equipment in and out of the site.

Why do wildland firefighters use woven fabric hoses instead of plastic or rubber?

Rubber or plastic hoses will melt. Also the polyester and orlon fabric covered hoses are light weight, strong, and resistant to rot or mildew.

For Information about Wildfires go to:

[Facebook](#)  
BC Forest Fire Info

[Website](#)  
BCWildfire.ca

[Twitter](#)  
BCGovFireInfo

## Water

Water is by far the most important tool used by the British Columbia Wildfire Service and crews have become experts in the movement and utilization of this valuable resource. Every firefighter on a fireline is not only trained to use water, but to use it efficiently. If water is used effectively, it may reduce suppression and mop-up efforts substantially.

A couple of things every firefighter knows about water are: it can not be compressed (you can not put 10 gallons of water in a 1 gallon bucket), it is heavy, and it absorbs and/or reduces heat. As water can not be compressed it is more efficient to find a water source close to the fire rather than to carry water long distances. When this is not an option, the BCWS has methods to move water to the fire via water tender (tanker truck), by helicopter (heli-bucketing) or by airtanker (fixed wing airplane).

Water is heavy. One litre of water weighs one kilogram. This means that water is heavy to move, making it difficult to move up hill without the right tools. It also makes it dangerous for crews for crews to work below helicopter and airtankers when they are dropping water. It also means that water is ideal to penetrate the ground.



Water has a direct affect on the heat component of the fire triangle. It also reduces the amount of oxygen available to maintain the fire. Water partially affects the oxygen component of the fire triangle by diluting the amount of oxygen in the air and raising the relative humidity.

When a crew arrives on the site of a fire, they are looking for a water source and if there is not an adequate source close by, then crews will problem-solve where to find water, how to access the water and/or how to transport the water necessary to manage the fire.

The cheapest and most efficient way to move water, however, is with a hoselay, a system of pumps, hoses and relay tanks that can move water considerable distances over very rough terrain to the fireline. Crews are proficient in setting up these long systems of hoses and pumps, interspersed with relay tanks, to move water to wherever its required. Working out how to connect to and move water, while maintaining pressure in the hoses is truly a skill.

## Coastal Uses Foam

One of the products used on fires in the Coastal Fire Centre is foam. Foam is used on fires where porous fuels are prevalent. Foam increases the effectiveness of water by 300 per cent when firefighting foam is added to the water supply.

The product most commonly used is a high concentrate soap called Class A foam. When handling or mixing the concentrate it crews use eye protection and gloves.

### Foam Makes Water Wetter

- Foam is used to break the surface tension of water which allows water to penetrate into the fuels
- The foam can break down the waxy layer found on some tree surfaces allowing water to penetrate the surface of the tree.

### Foam Causes Water to 'Stick' to Fuels

- Water adheres poorly to forest fuels. Unless the fuel is very rough and porous up to 95% of the water applied to a fire is ineffective because it simply flows off.
- Foam is viscous; it will drain off slowly and

cling to vertical or underside surfaces of fuels.

- The bubble structure of foam contains water in the bubble walls, as the bubbles burst due to the heat of a fire, the water flows onto the fuels wetting and absorbing heat.

### Foam Reduces Heat

- The foam blanketing the fire is a reflective, insulating barrier for the fuels it is applied to. This layer reflects radiant heat.

### Foam Cuts Oxygen Supply

- Foam bubbles enclose fuels and isolate them from oxygen. Air in the bubbles has a very high relative humidity.
- As the water in the foam extinguishes the fire, water vapour is produced. The foam blanket holds this vapour in contact with the fuels speeding the extinguishing process.

It should be noted that not all fires require the use of foam but when used it is a highly effective tool.

## Water Delivery Methods

For Information  
about Wildfires  
go to:

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BC Forest Fire Info

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### Can salt water be used on wildfires?

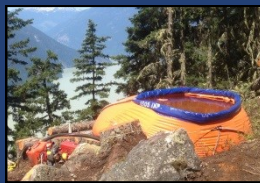
Yes, sea water or salt water can be used on wildfires but is not often used as long-term use of salt water can corrode equipment. Salt water may also affect vegetation but can be used when required.



**Pumps**—once a water source is located crews can pump water to the fire. The most commonly used pump is a Centrifugal pump. The advantages of this type of pump for firefighting are: it has few moving parts, it is capable of pumping in-tandem with another pump, the water pressure can be changed by adjusting the RPM and they can be used in muddy water sources. While there are some disadvantages overall the pumps used are dependable.



**Water Tenders**—are used to transport water from a source to fill a relay tank or a bladder on a fire. A water tender can be anything from a pick-up with a storage tank to large tank trucks. These units come with pumping equipment to offload the water. This is a good and cost effective way to move water as long as there is access and room for a large truck to manoeuvre.



**Relay Tanks (Pumpkins or Bladders)** - a relay tank is a self-supporting open topped reservoir that can be set up on a reasonably flat surface and filled by water tender or by helicopters with buckets. These tanks can range in size from 1500 gallons to 5000 gallons or more. It can also be used as a holding tank, or portable pool, to pump water into and out as part of a relay system.



**Porta-Tanks**—porta-tanks are similar to relay tanks. These tanks are square and usually hold up to 4,500 litres (1000 gallons) of water. These tanks have a fabric liner that is affixed to a metal frame and is filled by tender, heli-bucketing, or by a pump relay system that pumps water into this holding tank. This system is somewhat cumbersome and would not be the first choice by crews.



**Sumps**—are not commonly used in the Coastal Fire Centre but when needed crews may have a large hole dug by excavator and allow ground water to seep into the hole, then using a pump move the water to where it is needed. Farmers often have sumps (or sloughs) already dug on their property that fire fighters may utilize.



**Helicopters**—Helicopters are used a lot in suppression by bucketing on areas of a fire without manpower or areas too hot to safely deploy crews. There are times when crews will employ a bucket machine in mop-up. They will expose hot spots by grubbing them up allowing water to hit them directly when dropped from the air. This is an expensive application method and should only be used as a last resort.



**Airtankers**—may be used to drop water or retardant. Airtankers are used to slow a fire's forward movement or to cool a fire reducing fire behaviour. They are used to meet or support fire operations tactics and to support the crews on the ground.

To Date  
in Coastal

Fires to Date

Person  
Caused 43

Lighting  
Caused 2

Total  
Number  
of Fires 45

Fire Danger  
Rating today



Current Prohibitions  
*(within WMB  
jurisdictional area)*

Category 2  
Open Fires are  
**prohibited** within the  
Coastal Fire Centre  
except in the  
Fog Zone and  
Haida Gwaii.

Campfires are  
**allowed.**

## Fire Diary #1—Elk Falls Provincial Park



Fighting fire in the Coastal Fire Centre is not always routine. Due to the various types of terrain and other challenges, fighting wildfire can often be about problem-solving.

A fire was discovered by park staff at Elk Falls Provincial Park on the evening of May 26, 2016. The fire was human-caused, likely resulted from a burning substance tossed down into the ravine, and when discovered, was 10 metres by 10 metres in size. Although the fire was in fire department jurisdiction, the BC Wildfire Service was called in to assist.



An officer arrived on scene and determined that the chance of the fire spreading was not likely overnight, but the fire should be dealt with. A crew arrived the next morning, climbed down the ravine and worked the hose over the suspension bridge to douse the fire on the other side. The fire was determined to be out and the crew notified the fire department and returned to base.

The fact that crews had to take action deems this incident a fire. This type of behaviour by members of the public is unacceptable.

### At Coastal

It has been a relatively quiet week in the Coastal Fire Centre. Deployments include: 19 single resources and 2 unit crews, as 3 unit crews have returned from their deployments.

Heading into graduation season we would like to remind everyone who is a grad, and those who are parents of grads, that a Category 2 open fire prohibition is in effect. Please advise all graduates that large bonfires are not allowed but a couple of well spaced campfires with the suitable means to put them out is allowed. A campfire is 0.5 metres X 0.5 metres in size and anyone having a fire larger than this is subject to being fined. No one wants to remember their graduation with an \$1150.00 ticket from the Province.

Weather over the weekend is expected to be hot and dry. Please be careful and have a safe, fun, weekend. Remember to put your campfires out—completely out!

### Weather

**SYNOPSIS:** Generally light rain continues over the Mid Coast, North Island and western sections of the Mid Island zone today while most other areas begin to see the beginning of a gradual trend towards warmer and sunnier conditions under the influence of a building upper ridge. Weak outflow conditions develop south of roughly Port Alberni – Pemberton tonight to help kick-start a trend towards significant warming and drying on Saturday. More widespread outflow should develop Saturday night leading to fair overnight recoveries as far north as Bella Coola, potentially poor recoveries in parts of the southern zones.

**OUTLOOK:** This weekend's warming and drying trend should peak on Sunday as valley bottom locations in each zone reach the high twenties or low thirties. Weak outflow conditions Saturday night and early Sunday help bring humidities down to (or potentially below) 15% in spots before strengthening inflow winds push onshore Sunday afternoon. Fair to good recoveries in most areas Sunday night. The upper ridge drifts east of the Coast Mountains Sunday night, replaced by a stronger southwesterly flow Monday and Tuesday that brings increased onshore/inflow winds and lower temperatures (low to mid twenties).