Hazard Risk Analysis

Fires

Brush, Bush and Grass Fires
Community Interface Fires
Community Structural Fires
Forest Fires or Wildfires
Peat Bog Fires

Fires

This section introduces a number of types of fires: brush, bush and grass fires; forest or wildfires, peat bog fires, community structural fires and wildland community interface fires. You will note that for most of these fires there are two risk analyses: one is for those that are caused by nature (e.g., lightning) and the other is for those caused by people (human-caused). When you come to developing resilience strategies for these hazards it is important to understand where the main cause for the hazard lies.

Resources are available to assist you in completing this analysis in the Risk Analysis Resources section.

Brush, Bush and Grass Fires

Definition

Grass, Bush and Brush Fires, are started by lightning or by humans (either by accident or on purpose) and occur in bush or brush areas and on grasslands – including prairie grasses.

Discussion

Certain fuel or forest types such as dry needle-bearing trees and grasses burn more easily than trees which shed leaves every year. Many fires are caused by human activities such as: logging or lumbering activities, recreational activities, railroads, land clearing and bush burning, construction and other industrial operations.

It Happened Here…

On March 28, 2020, two grass fires east of Highway 2 caused evacuations in southern Alberta during Sunday afternoon's wind storm. RCMP evacuated the Village of Carmangay due to one fire, describing the blaze as "out of control" and spanning 11 to 16 kilometres across. The village, located about 60 kilometres north of Lethbridge, has a population of 242. The second grass fire,

on the Blood Reserve, west of Lethbridge, forced the evacuation of approximately 15 homes in the Fort Whoop-Up area on the east end of the Blood Reserve and caused temporary closures of a “significant portion” of Highway 509, according to the Blood Tribe.

On April 20, 2019, wind, terrain and dry conditions kept firefighters busy battling a grass fire in northeast Edmonton as crews were called to the area of Hooper Crescent near Victoria Trail because of a brush fire in the Kennedale Ravine. Edmonton Fire Rescue Services Capt. Rob Cavell said the fire spread quickly because of wind and dry conditions.

On May 3 2009, fires burned on the Montana First Nation, the Louis Bull First Nation, Pigeon Lake south of Camrose and near Bruderheim and Redwater, as well as near Clyde in Alberta. One home in Pigeon Lake and another on the Louis Bull First Nation near Hobbema burned and a number of outbuildings were destroyed. The mayor of Bruderheim (population 1,215) announced that there were two brush fires about eight kilometres north of town. People living within a kilometre were voluntarily leaving their homes.

Brush fires during May 2010 affected many communities in Quebec and Ontario, including the Wemotaci native reserve (population 1,337) in Quebec. One fire forced the entire Wemotaci native reserve to evacuate for five days. No deaths or injuries were reported.

On December 14, 1997, the Chinook winds came down the mountain sides, picked up flames from burning garbage in a residential burning barrel, carried it through the nearby forest and out onto the plains. Within four hours this fire had burned a path up to 10 miles wide and 30 miles long. It destroyed five houses and a large number of livestock were killed. 350 people were evacuated from the nearby town of Granum, Alberta.

Brush, Bush and Grass Fires - Natural

Hazard Rating	High Risk ☐	Low Risk ☐	Need More Info ☐	Not Applicable ☐

Yes	No	Need More Info	Not Applicable	FACTORS
☐	☐	☐	☐	Brush or grass fires are more likely to occur again where they have happened before. Have brush/grass fires happened previously in your community?
☐	☐	☐	☐	The risk indicators for brush/grass fires are similar to wildfire. Does your community meet some or all of the wildfire risk factors? (Check the factors in the 'Wildfire' section below)
☐	☐	☐	☐	Does your community experience hot dry summers?
☐	☐	☐	☐	Grass/brush fires can occur in the springtime before green-up. Do you often have periods of hot dry weather in the early spring, before the new grasses have grown?
☐	☐	☐	☐	Big areas of brush or standing dead grass are a fire risk. Are there large swaths of standing dead grass in or around your community?
☐	☐	☐	☐	Non-native grasses are a greater fire risk than native species. Do non-native grass species grow in or around your community?
☐	☐	☐	☐	Is the community lacking annual community work parties to focus on fuel removal, including low brush and debris?
☐	☐	☐	☐	Traditional Knowledge holders may have an oral history of past activities that have been helpful in reducing the risk of brush/grass fires in your community? Is there further opportunity to engage with Traditional Knowledge holders to discuss strategies to reduce the risk of a brush/grass fire.

Brush, Bush and Grass Fires Human-caused

Hazard Rating	High Risk ☐	Low Risk ☐	Need More Info ☐	Not Applicable ☐

Yes	No	Need More Info	Not Applicable	FACTORS
☐	☐	☐	☐	Brush or grass fires are more likely to occur again where they have happened in the past. Have brush/grass fires, caused or started by humans, happened previously in your community?
☐	☐	☐	☐	The risk indicators for brush/grass fires are similar to wildfire. Does your community meet some or all of the wildfire risk factors? (Check the factors in the 'Wildfire' section below)
☐	☐	☐	☐	Grass/brush fires can occur in the springtime before green-up and can contribute to spring cleanup fires becoming larger fires. Do you frequently have periods of hot dry weather in the early spring, before the new grasses have grown?
☐	☐	☐	☐	Big areas of brush or standing dead grass are a fire risk. Are there large areas of standing dead grass in or around your community?
☐	☐	☐	☐	Non-native grasses are a greater fire risk than native species. Do non-native grass species grow in or around your community?
☐	☐	☐	☐	Scientists have observed that with increasing maximum summer temperatures there will be an increased chance of fires, and also more areas at high risk of fires. Has your community noted higher summer temperatures and has your community been identified to have been at high-risk of fires in the past?
☐	☐	☐	☐	Is the community lacking annual community work parties to focus on fuel removal, including low brush and debris?

Community Interface Fires Natural and Human-caused

Definition

A Community Interface Fire exists when there is uncontrolled burning in woodlands and the fire (or smoke) may spread to nearby property, homes and infrastructure or threaten human lives.

Discussion

In many communities, residents have moved out of the central area of the community and pushed out into wooded areas – often to appreciate the natural beauty of Canadian forests. Unfortunately, not all businesses and homeowners are aware of the potential for forest fires or wildfires nearby, and make sure to protect their buildings. Once fires start it may not be possible to prevent the buildings from being destroyed.

The section on ''Forest Fires or Wildfires contains much of the same information that is also related to community interface fires. The main difference is that it is not just the forests that are burned, but also the homes and businesses of the community. Forest fire fighters fighting, community interface fires need to know the best ways of dealing with structural fires, as well as forest fires.

It Happened Here….

Between April and November 2017, more than 1,300 fires engulfed British Columbia, costing more than $564 million and displacing 65,000 residents. Multiple air quality advisories were also issued as a blanket of smoke covered parts of B.C. Most of the homes on the Ashcroft First Nation reserve were lost, as were many of the homes in Boston, Flats. The city of Williams Lake was evacuated as was 100 Mile House. The Plateau Fire was the result of 20 fires near Williams Lake and covered 545,151 hectares. During peak activity, more than 4,700 personnel were on the front lines, and more than 1,200 of the firefighters were from outside the province. Support poured in from across Canada, as well as Australia, New Zealand, Mexico and the U.S. The Canadian Armed Forces also provided support.

Three communities of the Ts'kw'aylaxw First Nation (near Kamloops, BC) were put on an evacuation alert in May 2012, when a forest fire burnt close to their communities. The blaze was thought to be human caused, and burnt about 140 hectares. Six planes, five helicopters and 41 fire fighters were needed to combat the fire in the steep, and hard to access, terrain.

During the summer of 2003, the McClure Lake fire, 35 kilometres north of Kamloops, forced the evacuation of residents of Barriere, McClure and Louis Creek, along with the closure of a portion of Highway 5 south to Kamloops. The fire destroyed 73 homes in Barriere and Louis Creek and destroyed the Tolko sawmill, the region's biggest employer. It was caused by discarded cigarette.

Community Interface Fires Natural and Human-caused

Hazard Rating	High Risk ☐	Low Risk ☐	Need More Info ☐	Not Applicable ☐

Yes	No	Need More Info	Not Applicable	FACTORS
☐	☐	☐	☐	Community interface fires are most likely to occur where they have happened in the past. Have community interface fires happened in your community before?
☐	☐	☐	☐	Community interface fires occur where homes or buildings exist in, or next to, undeveloped wildlands. Are houses and buildings located in or next to forested areas?
☐	☐	☐	☐	Is your community vulnerable to the risk factors for forest or wildfires? (see Section on Forest Fires and Wildfires)
☐	☐	☐	☐	Fire can spread from homes to forest. Is your community lacking proper structural firefighting capacity?
☐	☐	☐	☐	Fire can spread from forests to built-up areas. Is your community lacking proper wildfire-fighting capacity?
☐	☐	☐	☐	Bylaws, regulations and building codes can reduce the chance of interface fire. Are existing bylaws, regulations and building codes lacking enforcement in your community?
☐	☐	☐	☐	Building materials that easily burn, such as cedar shingles and plywood, can increase the chance of fire. Is construction with flammable materials allowed in new and retrofitted construction?
☐	☐	☐	☐	A community protection plan and the FireSmart principles (see Risk Analysis Resources) can decrease the chance of interface fire. Is your community lacking compliance with FireSmart principles?
☐	☐	☐	☐	Traditional Knowledge holders may have an oral history of past activities that have been helpful in reducing the risk of community interface fires in your community? Is there further opportunity to engage with Traditional Knowledge holders to discuss strategies to reduce the risk of an interface fire?
☐	☐	☐	☐	Does the community lack posting of “No Smoking” signs in wildland interface areas and along roadways?

Community Structural Fires - Human-caused

Definition

A community structural fire is a fire which happens in a residential, commercial or industrial community. Fires occur on a frequent basis in many parts of Canada. Fires of great concern, are those that cause a large number of deaths or injuries, those that are beyond the ability of the local resources to respond, or those that cause severe economic losses.

Discussion

Fires are classified in a number of ways: residential fires, schools, automobile fires, large dollar loss fires and arson. Efforts to reduce fires through fire prevention initiatives and public safety awareness, have not led to a lot less arson fires in Canada since 2005, when 13,315 cases were reported.

It Happened Here…

On June 30, 2021, a fire swept through the town of Lytton, killing two people and resulting in the complete destruction of 90% of the community of approximately 250 people. The fire is believed to have started as a result of sparks emitted from a passing train. The community, set a temperature record for Canada after days of extreme heat with a temperature on June 29 of 49.6 C. (See Heat Waves and Heat Domes)

On May 2, 2019, a house fire claimed the lives of one mother and four of her children in Kitchenuhmaykoosib Inninuwug, also known as Big Trout Lake First Nation.

On February 20, 2019, seven children, all members of a Syrian refugee family, died early Tuesday in a fast-moving house fire described as Nova Scotia's deadliest blaze in recent memory.

On March 30, 2016, nine people from one family, including three children, died from a house fire on the northern Ontario community of Pikangikum First Nation.

In January 2014, two young boys lost their lives in a fire in Pelican Narrows, Saskatchewan. Their house on the Peter Ballantyne Cree First Nation reserve burnt down after candles sparked a fire in the attic space. The community faces many problems in fighting fires on the reserve. The only fire truck of the community is in need of repair, and many houses do not have running water.

On March 28, 2001 the oldest hotel in Beaverdell burned to the ground. The fire was noticed at about 2 a.m. and the intense heat took the building quickly as volunteer fire fighters fought the blaze for over five hours trying to contain the blaze. The fire was so intense it cracked the windows of buildings across the street. Local residents in the north end of town experienced a loss of power during the blaze. Locals are devastated by the loss of the heritage building built in 1901which was a drawing card for Beaverdell. People stopped just to see the old hotel.

Community Structural Fires - Human-caused

Hazard Rating	High Risk ☐	Low Risk ☐	Need More Info ☐	Not Applicable ☐

Yes	No	Need More Info	Not Applicable	FACTORS
☐	☐	☐	☐	The possibility of spreading community or structural fire exists wherever human structures have been built. Is your community lacking structural fire-fighting capabilities?
☐	☐	☐	☐	Is your community lacking fire hydrants in its commercial or industrial areas?
☐	☐	☐	☐	Buildings that comply with National Building Codes are safer than non-compliant buildings. Are many structures non-compliant with building codes in your community?
☐	☐	☐	☐	Does your community have old, historic, wood-frame or ply-wood buildings?
☐	☐	☐	☐	Is your community lacking building codes requiring fire sprinklers for homes?
☐	☐	☐	☐	Is your community lacking fire sprinklers for commercial or industrial areas?
☐	☐	☐	☐	Is your community lacking routine, regular fire inspections of commercial and industrial sites?

Forest Fires or Wildfires

Definition

Forest fires are started by lightning or by humans (either by accident or on purpose). Wildfire is the general term used to describe when there is uncontrolled burning in woodlands.

Discussion

In Canada, approximately 8,000 wildfires take place annually, burning an average area of 2.5 billion hectares. Fourty-five per cent of all fires in Canada are caused by lightning. Fires caused by lightning burn most of the 2.5 billion hectares. Since these fires are often in rural or remote locations and do not threaten communities, they are left to burn.

Figure 1. Fire Triangle (Image: www.wikipedia.org)

In a nutshell, fires of all kinds require three main 'ingredients': fuel (wood or grass for example), heat and oxygen.Fire professionals call this the 'Fire Triangle' because all three ingredients are needed for a fire to burn. If one ingredient is removed the fire will collapse (or die out), kind of like the removal of a leg on a three-legged stool. .

- Fuel is the wood, grass or other vegetation.
- Heat is the initial spark that starts the fire, usually coming from lightning or human actions, intended or accidental.
- Oxygen comes from the air and is refilled by the wind.

Firefighters want to remove one or more of the three ingredients to douse an active fire. They can use water, foam or dirt to cut of the oxygen, or air supply, to the fire. This also lowers the temperature of the materials on fire (forest, grass, etc.) below the point of ignition. And firefighters can remove fuel (forest, grass, etc.) in advance, by creating so-called 'fire breaks' or removing dead vegetation before it has a chance to burn.

The **Canadian Forest Fire Behavior Prediction (FBP) System** outlines a number of factors which can be used when calculating forest fire risk and are summarized as:

- **Fuel type and condition**: certain fuel (forest, grass, twigs, leaves) such as dry conifer burn more easily than leave-shedding forests. Forests that have a lot of dead vegetation, or 'forest litter' are also more likely to burn, than forests that do not have this forest litter. The amount of moisture (or water) within the soil, shrubs and trees is also very important. Forest fire ratings are usually 'high' or 'extreme' when the forests are dry (even when skies are overcast). Low water content happens especially after long dry spells in late spring and/ or summer.
- **Weather**: weather has a great effect on wildfires. Unfortunately it can be very unpredictable and we cannot control it. Long-lasting periods of no rain of course reduce the amount of moisture (or water) within a forest, and thus boost the chance of wild fires. However, winds greatly shape the spread and intensity of a wild fire. Winds can also carry embers away from a wildfire, and start so-called 'spot fires' somewhere else. A wild fire can rapidly grow in such a way.
- **Topography**: Mountain slopes that are South facing are usually warmer and drier, and as such have a higher chance of burning. Vegetation on slopes that are facing the most common wind direction is often also drier. In steep mountainous terrain winds often move uphill during the day, and as such the winds make an easy path for the fire to travel. The heat from the fires are also carried uphill by winds, and so pre-heats fuel (forest, grass etc.) uphill.

While most forest fires are caused by lightning, a lot of fires however are caused by humans through logging or lumbering activities, recreational activities, railroads, land clearing and bush burning, construction and other industrial operations. In 2003 lightning strikes, human carelessness, and arson all contributed to igniting nearly 2,500 fires, which burned more than 265,000 hectares (ha).Over 10,000 firefighters and support personnel were involved in the dousing of the fires. The cost of the fires was estimated at $375million..

Several tools are available for fire fighters, residents and tourists to assess the risk of wild fire. You can find an overview of these tools in the 'Risk Analysis Resources' section.

It Happened Here…

In 2019, wildfires forced hundreds of people to evacuate from First Nations communities in northern Manitoba and northwestern Ontario. The fires have also prompted special air quality statements for parts of both provinces. Up to 150 residents from Little Grand Rapids and as many as 50 residents from Pauingassi First Nation were evacuated. The Red Lake 23 wildfire burned 719 sq. km. and remained out of control, burning just eight kilometres south of Keewaywin First Nation. About half of the community's 450 residents fled for Sioux Lookout, Ont., and Timmins. The military was called in to evacuate the community from the Pikangikum First Nation.

The 2019 wildfires in Alberta displaced approximately 20,000 people in more than 20 communities and burned more than 800,000 hectares. About half of the area burned this year has been around High Level where the Chuckegg Creek wildfire had consumed 350,000 hectares of land since it was discovered May 12.

The fires in 2018 burned more than 13,000 sq km. in British Columbia and eclipsed the fires in 2017 as being the worst ever. About 3,200 people have been removed because of the wildfires, and another 21,800 were on alert, as 534 fires burned across the province; most caused by lightning, but 443 by human activity.

A forest fire affected the community of Kleena Kleene, British Columbia (population 808) in June 2004. Residents and tourists were evacuated from the Lonesome Lake and Klinaklini fires in South Tweedsmuir Park. The fire was caused by lightning and grew to 22,745.0 hectares.

On June 15 2009, one of the fires near Grayling Creek and Gregoire Tower, about 45 kilometres south of Fort McMurray Alberta, closed part of Highway 63 to Fort McMurray. Traffic was detoured to Highway 881, with traffic being redirected at the junctions of highways 63 and 881, highways 55 and 63 and highways 55 and 36. Officials estimated the fire at over 2,000 hectares in size.

Forest Fires or Wildfires Natural

Hazard Rating	High Risk ☐	Low Risk ☐	Need More Info ☐	Not Applicable ☐

Yes	No	Need More Info	Not Applicable	FACTORS
☐	☐	☐	☐	Wildfire is likely to occur where it has happened in the past. Have wildfires occurred in or near your community before?
☐	☐	☐	☐	Is your community located in or near forestlands, particularly coniferous (pine-tree) forests?
☐	☐	☐	☐	A long history of fire prevention activities can increase the risk of wildfire, as more fuel such as dead wood and brush will be on the forest floor. Is there a history of wildfire prevention activities in or near your community?
☐	☐	☐	☐	Almost half of the wildfires in Canada are caused by lightning strikes. Is your community in an area that has summertime thunderstorms?
☐	☐	☐	☐	Wildfire is most likely to occur during or immediately following long periods of hot dry weather. Does your community experience regular heat waves and minimal rainfall in the summer?
☐	☐	☐	☐	Winds cause fire to burn more intensely. Does your community experience high winds during the summer?
☐	☐	☐	☐	Is there increased fuel load as a result of slash left from logging?
☐	☐	☐	☐	Traditional Knowledge holders may have an oral history of past activities that have been helpful in reducing the risk of forest fires in your community? Is there further opportunity to engage with Traditional Knowledge holders to discuss strategies to reduce the risk of a forest fire.
☐	☐	☐	☐	Has the Mountain Pine Beetle, climate change, or other circumstances left large blocks of standing dead trees?

Forest Fires or Wildfires - Human-caused

Hazard Rating	High Risk ☐	Low Risk ☐	Need More Info ☐	Not Applicable ☐

Yes	No	Need More Info	Not Applicable	FACTORS
☐	☐	☐	☐	Wildfire is most likely to occur where it has happened in the past. Has your community previously experienced wildfires caused by humans?
☐	☐	☐	☐	Is your community located in or near forestlands, particularly coniferous forests?
☐	☐	☐	☐	A lengthy history of fire prevention can increase the risk of wildfire, as more fuel such as dead wood and brush will be on the forest floor. Is there a history of wildfire suppression in or near your community?
☐	☐	☐	☐	Wildfire is most likely to occur during or immediately following long periods of hot dry weather and can contribute to small fire becoming larger ones. Does your community experience regular heat waves and minimal rainfall in the summer?
☐	☐	☐	☐	Prevention measures can reduce the risk of wildfire. Does your community lack a fire-preparedness plan?
☐	☐	☐	☐	About half of all wildfires are started by humans or human activity. Do people camp or use forested areas near your community? Does logging and/ or slash burning occur near your community?
☐	☐	☐	☐	Scientists have observed that with increasing maximum summer temperatures as a result of climate changes there will be an increased chance and more areas at high risk of fires. Has your community noted increased summer temperatures and has your community been identified to have been at high-risk of fires in the past?
☐	☐	☐	☐	Is your community lacking clearly marked signs in areas leading to forest trails and camping sites that ban campfires during fire season?
☐	☐	☐	☐	Are conditions for prescribed burning not well controlled?
☐	☐	☐	☐	Does your community lack protocols for closure of back-country when the risk of fire increases?

Peat Bog Fires

Definition

Peat bogs can dry out and catch fire (by natural causes or human activities). As the peat runs deep into the earth, the fire can smolder beneath the ground for long periods of time. This creates smoke hazards to surrounding populations.

Discussion

All wetlands can store large amounts of water. Peat bogs can also hold water, as the rotting plant matter has small particles and does not easily drain. Wetland plants hold more water in their roots, leaves and stems than dry land plants. Therefore in times of heavy rain, wetlands absorb water, and by holding the water in the plant roots the chance and severity of flooding lessens. However, when bogs do dry out (after periods of droughts) and catch fire, they are very hard to smother as they can burn undetected under the ground for a long period of time, and suddenly reach the surface.

It Happened Here…

On June 19, 2020, two water bombers have been called in to help extinguish a fire that started in the Lambert Bog, and then spread to the surrounding woodlands in the Kamouraska region. Firefighters were having difficulty accessing the fire by ground as it burned between the towns of Rivière-Ouelle and Saint-Denis-de-la-Bouteillerie, about 100 kilometres northeast of Quebec City.

On July 3 2016, a fire started at Burns Bog, burning over 78-hectares. Highway 17, a major thoroughfare in the community south of Vancouver, was closed and an evacuation order was issued affecting about a dozen businesses at the Tilbury Industrial Park. At one point, the fire jumped the highway into the industrial area, which includes a forest products company and a chemicals business. The fire was extinguished on July 11.

Burns Bog, near Vancouver, BC, is the largest peat dome on the west coast of North America. It has traditionally been important to First Nation communities in the area, who used the plants in the bog for medicinal uses. Burns Bog has experienced many fires in the past, one of the biggest happened in September 2005, when 200 hectares were burnt. Smoke from the fire covered the Lower Mainland of British Columbia, and was blown as far away as Nanaimo on Vancouver Island.

In 2002, the Crow Lake Bog in Northern Alberta (> 100 ha) was extensively burned.

Peat Bog Fires - Natural

Hazard Rating	High Risk ☐	Low Risk ☐	Need More Info ☐	Not Applicable ☐

Yes	No	Need More Info	Not Applicable	FACTORS
☐	☐	☐	☐	Peat bog fires will occur again where they have happened in the past. Canadian research shows that peat bogs happen again sometime between 4 and 102 years. Has there been a peat bog fire in the past?
☐	☐	☐	☐	Is your community located in an area known to have peat bogs (Check Risk Analysis Resources – Peat Bogs)?
☐	☐	☐	☐	Traditional Knowledge holders may have an oral history of past activities that have been helpful in reducing the risk of peat bogs fires in your community? Is there further opportunity to engage with Traditional Knowledge holders to discuss strategies to reduce the risk of a peat bog fire.
☐	☐	☐	☐	Does your community experience hot dry summers?

Peat Bog Fires Human-caused

Hazard Rating	High Risk ☐	Low Risk ☐	Need More Info ☐	Not Applicable ☐

Yes	No	Need More Info	Not Applicable	FACTORS
☐	☐	☐	☐	Are peat bogs frequented by tourists, hikers, or locals?
☐	☐	☐	☐	Is your community located in an area known to have peat bogs (Check Risk Analysis Resources – Peat Bogs)?
☐	☐	☐	☐	Does your community experience hot dry summers?
☐	☐	☐	☐	Peat harvesting can quickly reduce the water table in peat bogs and increase the risk of fire. Is your community lacking policies, signage and enforcement prohibiting peat harvesting?

Risk Analysis Resources

Peat Bogs

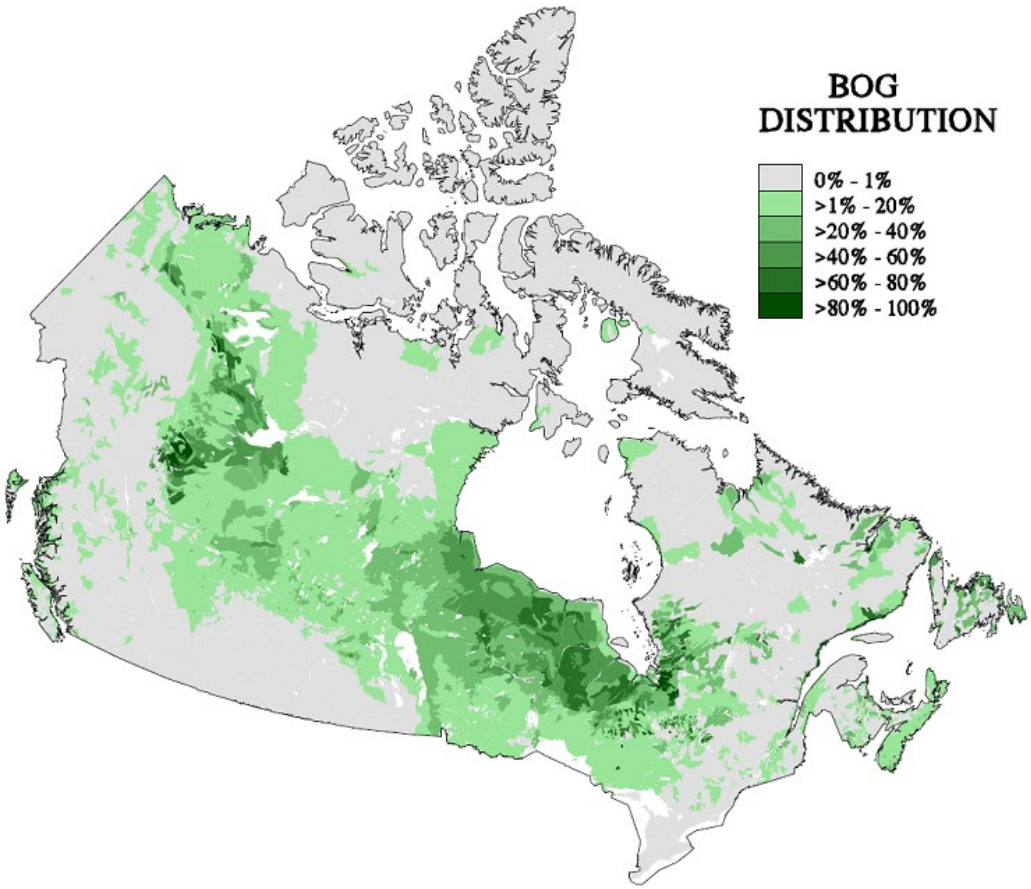

Figure 2 Peat Bog Areas of Canada

Fire Related Resources

FireSmart Canada provides resources for fire fighters, community members, industry and educators on topics related to wild fire, forest fire, wildland/ community (or urban) interface fire.

Keywords: Fire Smart Canada, wild fire, forest fire, natural hazard

Natural Resources Canada provides reports, guides, links, maps, and a web-based fire information system that monitors daily forest fire conditions and fire occurrences across Canada. It also provides information about wildfires, the Canadian Forest Fire Behaviour Prediction System and the Canadian Wildland Fire Information System.

Keywords: Natural Resources Canada, forests, forest fires, wild fire, natural hazards

Fire Prevention Canada provides links and useful tips regarding fires safety in general.

Keywords: Fire Prevention Canada, forest fires Canadian Forest Fire Behavior Prediction (FBP) System

The Institute for Catastrophic Loss Reduction (ICLR) has a lot of information about a number of natural hazards including wildfires.

Keywords: Institute for Catastrophic Loss Reduction, wild fires, forest fires

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