

Financial Impact of Climate Change

Case Study 2: Pemberton Cabins^A

Hazard:	EM-DAT classification: Climatological/Wildfire
Contributing Climate Factors:	Monthly temperature (Change); monthly precipitation (Change) – summer months only <i>A USDA report (2012) projects that a 1-degree Celsius increase in average temperature will increase the median area burned in wildfires by 600%</i>
Exposure:	The cabins are located at in a remote forested area near Pemberton, B.C. The cabins are in very close proximity to fuel, and are located on a steep slope.
Vulnerability:	Wooden construction cabins (12), with cedar shake roofs. Located 35 km from nearest fire station. No access to fire hydrants or high-pressure water sources.
Loss potential:	Damage to, or loss of: property and associated revenue from rentals; surrounding forest (which would make the cabins a less desirable destination)



Taylor River Lodge. In Murphy, J. (2020). *15 best hotel getaways in the great outdoors*. Conde Nast Traveller. <https://www.cntraveler.com/story/best-hotel-getaways-in-the-great-outdoors>

Pemberton Cabins are located in a pristine forest area five kilometers outside Pemberton, British Columbia. The cabins are a popular destination for those looking for a wilderness get-away and retreat. The property boasts many kilometers of forest trails, wildlife viewing opportunities, and a nearby lake. A limited menu café is available in the main lodge. Most of Pemberton Cabins' revenue are earned during the high season of May – September.

The forest landscape and remote location are the main attractions to visitors. The Cabins cater to guests who are seeking an opportunity to disconnect from busy urban lives, and to reconnect

^A Some details have been estimated or fictionalized for educational purposes

with nature. Many activities are available for children, including a playground, a pool, and nearby activities such as horseback riding and canoeing. As such, the Cabins are a popular destination for families hoping to encourage their children to “unplug” from screens and encounter nature first-hand.

Canadian Forest Fire Behaviour Prediction (FBP) System classifies the surrounding forest as fuel type C-3—one of the top-three greatest danger for fire potential. The forest is characterized by “fully stocked, late young forest, crowns separated from the ground,” posing a risk of “surface and crown fire, low to very high fire intensity and rate of spread.”

The nearby forest has also been impacted by the mountain pine beetle and the western spruce budworm of the past decades, leaving a substantial volume of dangerous forest fuels.



Google Maps. (2021).
<https://www.google.com/maps/place/Pemberton,+BC/@50.3187461,-122.8654053,14504m/data=!3m1!1e3!4m5!3m4!1sox548735a2463fa035:ox44f9607eb933d3b2!8m2!3d50.322028!4d-122.8050498>

The Pemberton Cabins have an approximate market value of \$3.2 million, and average annual revenues of \$640,000. The Cabins are privately owned and operated by Mary and Bill Smith.

Case problem: Given Pemberton Cabin’s exposure and vulnerability, how will climate-induced changes in hazard levels affect its bottom line.

Analytical approach: What changes are anticipated to climate factors contributing to wildfire, and how might those changes alter: (1) the frequency and intensity of hazard; and (2) probable losses for Pemberton Cabins?