



2017 Cariboo Wildfires: Recovering Our Environment



In a fuel break, small trees and dry forest debris (fuels) are removed, but large trees remain. The shade cast by these trees keeps the forest floor cool and clear of highly flammable grass, small shrubs and trees. It can also provide shelter for wildlife. This fuel break was created before the 2017 fires. When it burned, the distance between trees (and the relative lack of fuels) helped confine the fire at ground level, where it was easier to suppress and had less chance to spread.

INTRODUCTION

The 2017 wildfires in British Columbia were unprecedented at the time, with over 1.2 million hectares burned. Much of this land was in the Cariboo Region. The 2018 wildfires burned even more land throughout the province, with about 1.3 million hectares affected.

There are many techniques to help landscapes recover from wildfires, from repairing burned fences to improving the resiliency of forests so they're better able to withstand future disasters. Due to the severity and scope of the 2017 fires, some recovery efforts will require many years to complete.

In addition to the Ministry of Forests, Lands, Natural Resource Operations and Rural Development, recovery work is carried out by local governments, First Nations, industry and other organizations and stakeholders throughout the region.

REHABILITATION

Wildfires can damage the environment in several ways. Fighting these fires can also create other "disturbances" on the land base. For instance, cleared strips of land around a wildfire (known as fire guards) help slow the growth of a blaze so it can be contained more easily. Repairing and mitigating these disturbances is referred to as rehabilitation.

Following the 2017 wildfires, rehabilitation "prescriptions" were developed for each fire site, which identified necessary repairs and mitigation measures. The fire sites were also screened for hazards that could potentially pose a risk to public safety. Damage that could cause erosion or landslides, or could have an impact on public safety, fisheries, endangered wildlife, water quality, archeological sites or infrastructure, is generally repaired first.

Rehabilitation activities include:

- **Installing culverts and ditches:** Severe wildfires can damage soils and affect their ability to absorb water, which can result in increased runoff. Maintaining or re-establishing natural drainage patterns helps reduce the possibility of floods and landslides in wildfire-affected areas.
- **Repairing fire guards:** This can be done by pulling the vegetation and debris that was removed to make the guard back onto the cleared land. As the plant matter breaks down, it provides nutrients for the soil and protects against the introduction of invasive plant species. Hand and helicopter seeding may also be used. Areas that were used for helipads or equipment staging purposes during firefighting activities are also reseeded.
- **Repairing damage at stream crossings**
- **Repairing damage to infrastructure** (such as bridges)



During suppression activities, fire guards can help slow the growth of wildfires.

QUICK FACTS

As of January 1, 2019, rehabilitation work had been completed at 26 sites in the Cariboo Region affected by the 2017 wildfires, including the Kleena Kleene fire (25,558 hectares), the Green Mountain fire (595 hectares), the Soda Creek fire (278 hectares), the Big Lake Complex (comprised of six smaller fires) and the UBC Research Forest Complex (comprised of seven smaller fires). Three sites in the Cariboo Region impacted by wildfires in 2018 have also been fully rehabilitated.

When all of the 2017 rehabilitation projects are completed, more than 4,000 kilometres of fire guard will have been assessed and treated where necessary. That's the equivalent of driving from Williams Lake to Ottawa, Ontario.

As of January 1, 2019, more than 60% of rehabilitation activities related to fire guards created in 2017 were complete.

REFORESTATION

Replanting burned areas has many benefits, including re-establishing wildlife habitat and increasing the future timber supply. Tree planting in the Cariboo Region will also help stabilize soils and watersheds, eventually reducing runoff that can lead to flooding. Reforestation is a long process, with tree planting activities likely taking at least 10 years.

Not all areas burned by the 2017 wildfires will be replanted. In areas that were less affected by the fires or where naturally regenerating species such as pine are prevalent, the forest will regenerate on its own over time. Early tree planting efforts will target landscapes where significant natural regrowth is unlikely, including areas that were severely burned and stands that were made up of very young trees.

Replanting wildlife habitat is also a priority. Since 2017, considerable work has been done to identify such areas and prepare them for planting. Another focus has been growing the additional tree seedlings that will be required for these areas.

In some cases, young trees planted by forest licensees to replace previous harvests were burned by the wildfires. The B.C. government has allocated \$70 million to reforest plantations destroyed by wildfire.

Douglas-fir and pine trees are the species that will be planted most in wildfire-affected areas in the Cariboo Region. These trees will contribute to the future timber supply of the region. Some broad-leaf tree species, such as aspen, are also being planted.

QUICK FACT

As of January 1, 2019, more than 25,000 hectares of wildfire-affected land have been surveyed for replanting in the Cariboo Region. About 12 million trees will be planted in the Cariboo Region in wildfire-affected areas in 2019. This number will increase to about 32 million trees in 2020 and about 22.5 million in 2021.



Some fire guards are rehabilitated using the "pullback" method. Vegetation, dirt and stumps that were removed to create the fire guard are pulled back over the cleared strip of land after the fire is extinguished.

TIMBER SALVAGE

Following a wildfire, it's important to harvest marketable timber in the affected area before the quality of the wood deteriorates. This "salvage harvesting" of burned timber is a priority in the Cariboo Region.

Burned Douglas-fir can be harvested for lumber for two to three years after a wildfire occurs. The window of opportunity for wood salvaged for its fibre (not lumber) is longer. Trees that were cut down to create fire guards are also salvaged and sold.

The Ministry of Forests, Lands, Natural Resource Operations and Rural Development's goal is to see burned timber used in a way that optimizes its value, while collecting appropriate stumpage for British Columbians and balancing other land use concerns such as the preservation of wildlife habitat.



Trees that are cut down during the creation of fire guards can be sold as salvage timber.

QUICK FACT

As of Jan. 1, 2019, over 2 million cubic metres of burned timber had been approved for harvest in the Cariboo Region and 1.5 million cubic metres had been harvested. Applications for further harvest continue to be submitted.

RANGE LAND RECOVERY

Crown range includes grasslands, forests and wetlands that provide forage for livestock, as well as habitat and forage for wildlife. To give natural vegetation time to recover, grazing on burned rangelands may be delayed. The rate at which plant life recovers depends on several factors, including: burn severity; soil moisture the following fall and spring; and how the affected land has been managed in the past.

Range recovery work includes:

- *Invasive plant control: Reseeding burned areas can help control the spread of invasive, non-native plants and provide protection against erosion.*
- *Repairs to fences and other range infrastructure (such as cattle guards): These may have been burned by wildfire or damaged by heavy equipment required for fire suppression.*



Repairing cattle guards and other range infrastructure that's been damaged during wildfire suppression activities is part of the wildfire recovery work.

QUICK FACT

As of January 1, 2019, 190 kilometres of rangeland fencing that was damaged by the 2017 wildfires has been repaired or is under contract to be repaired.

COMMUNITY RECOVERY

Through Emergency Management BC, 27 community recovery managers were hired to oversee the implementation of wildfire recovery plans in the Cariboo Regional District and the Thompson Nicola Regional District — a key component of emergency response planning. Recovery plans were also created for 23 First Nations in affected areas.

These plans help communities address land base recovery issues such as fuel management, FireSmart practices and future wildfire response planning.



WILDLIFE MANAGEMENT

Wildfire can have short-term and long-term effects on wildlife populations. During or after a fire, animals may have to leave their preferred habitats for areas where survival is more difficult, while smaller or less mobile animals may die in the fires. In some cases, the relocations are temporary and the plant life that grows back after the fire may improve the animals' ability to forage. But when damage is more severe or the land is disturbed many times, some species may experience higher-than-normal mortality rates.

The Ministry of Forests, Lands, Natural Resource Operations and Rural Development is working with Indigenous governments and area stakeholders to survey wildlife populations in the Cariboo Region and review hunting regulations. Post-wildfire reforestation and wildfire rehabilitation activities also help wildlife habitat recover. Wildlife habitat is taken into consideration when planning forest treatments and land management activities.

RESILIENCY

When forests and rangelands are resilient, they are better able to withstand and recover from disturbances, including wildfires. In the long term, a resilient forest will result in: a more stable timber supply; fewer losses of trees to diseases and forest pests (including beetles); improved wildlife habitat; better recreational opportunities; and greater carbon sequestration.

Land management planning is an important tool for doing this type of work. The Cariboo Region's land use policy designates values such as old growth forests, wildlife habitat, wetlands and recreational areas. The Ministry of Forests, Lands, Natural Resource Operations and Rural Development, together with Indigenous communities in the region, engages with stakeholders and the forestry sector to adapt forest management practices to reduce risks while maintaining these values.

For instance, reducing the amount of forest fuels near communities and infrastructure makes it safer for firefighters to work in those areas, makes suppression activities more effective and slows the spread of wildfires. In some ecosystems, reducing the density of tree cover improves forest health and productivity, while decreasing the amount of fuel available to burn in the event of a wildfire. These treatments also benefit wildlife by improving forage production and making it easier for animals to access suitable habitat.

QUICK FACTS

The B.C. government introduced the Community Resiliency Investment (CRI) program in 2018 and has committed \$60 million to reduce wildfire risks around Indigenous and non-Indigenous communities.

As of January 1, 2019, the Forest Enhancement Society of B.C. has approved over \$114 million for projects in the Cariboo Region, including wildfire risk reduction efforts, reforestation, and wildlife habitat restoration. By the same date, 21 fire mitigation projects had been funded throughout the region.

If you have specific questions about landbase recovery efforts in wildfire-affected areas of the Cariboo Region, please send an email to: cariboorecoveryinfo@gov.bc.ca



Ministry of
Forests, Lands, Natural
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and Rural Development