## Shelterwood treatments

- Chainsaws and heavy equipment are used
- Removes small conifer and unhealthy deciduous trees
- Removes understory vegetation
- Large conifer and healthy deciduous trees are retained and spaced apart
- Lower branches are pruned to 2m above ground
- Creates an open forest, reducing the likelihood of high-intensity wildfires
- Used around property lines and recreational trails to enhance visuals for nearby residents and visitors

Shelterwood treatment near Whitehorse

## Variable retention treatments

- Heavy equipment is used
- Removes conifer trees and understory vegetation
- Rearranges and/or reduces dead woody debris through mulching or burning
- Healthy deciduous trees are retained
- Cleared areas can be replanted to create young deciduous forests
- Wildfires burn through surface fuels, not canopy fuels
- Strategically fragments fuels to prevent wildfire spread to nearby communities

Variable retention treatment near Whitehorse

## Prescribed fire

- Controlled burning takes place during strict weather and safety conditions to minimize risk to the public
- Reduces dead woody debris, understory vegetation, and small conifer trees
- Can help rejuvenate fire-dependent understory plants and aspen trees to aid fuel conversion
- Primarily used in areas that have already had fuel reduction completed to ensure safe burning operations

Prescribed fire in variable retention treatment near Whitehorse

## Learn more

- Fuels management is part of Community Wildfire Protection Plans (CWPP) in the Yukon
- Find out more about your community's CWPP by visiting yukon.ca/en/community-wildfireprotection-plans

## Get in touch


yukon.ca/en/community-wildfire-protection-plans
yukonfireinfo@yukon.ca
867-393-7415


Yukon

Yukon

# Reducing wildfire risk in the Yukon

Different types of fuels management used to reduce risk

## Did you know?

Wildfires play a crucial role in the disturbance-rejuvenation cycle of the Yukon boreal forest.

# Understanding fuels and fuels management

## What are fuels?

Fuels are any kind of material that will burn. In wildland fire management, 'fuel' is usually referring to live or dead vegetation.


Forsite Consultants. (2024, July 18). Wildfire fuels mapping. Forsite Fire. forsite.ca/wildfire-fuels-mapping/

In a forest, fuel layers include:

- Canopy fuels: crowns of larger trees
- Ladder fuels: small trees, tall shrubs, and low branches connecting surface fuels to canopy fuels
- Surface fuels: understory vegetation and dead woody debris on the forest floor
- Ground fuels: needles, leaves, and decomposing material in the soil

Coniferous trees (spruce, pine, fir) are more flammable than deciduous trees (aspen, poplar, birch). Proper fuels management can alter future wildfire behavior.

## What is fuels management?

Fuels management changes fuel quantities, composition, or structures to reduce wildfire risk. In other words, they aim to change how much fuel, what types of fuel, or how the fuels are arranged in an area to change how a wildfire would burn there. Fuels management can involve reducing, fragmenting, or converting fuels. Four fuels management tactics are used close to Yukon communities. They are:

- Hand-thinning treatments
- Shelterwood treatments
- Variable retention treatments
- Prescribed fire

Read on to learn more about fuels management in the Yukon.

# How to change fuels

## Reducing fuels

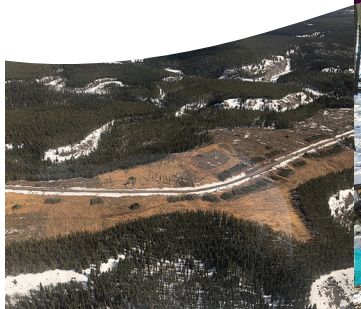
Wildfires usually burn more quickly and intensely in dense fuels. Reducing wildfire risk can be accomplished by reducing the amount of fuel there is for fire to consume. Reducing fuels can involve removing specific types of trees, their lower branches, understory vegetation, and dead woody debris. Fuel reduction often targets removal of small dead woody debris, as it strongly contributes to fire intensity. Ladder fuels are also targeted for reduction to prevent fire from spreading from the forest floor to the tree crowns, where fire can spread quickly. Finally, tree density is reduced to create gaps between tree crowns, preventing wildfires from spreading from tree to tree.



# How to change fuels

## Fragmenting fuels

At the landscape level, fragmenting fuels prevents easy spread of wildfire. Fragmenting fuels means creating gaps in vegetation at strategic locations within more flammable forest types. Wildfire naturally fragments fuels, so treatments seek to mimic that same effect. If a wildfire burns up to a gap in the forest, the speed and intensity at which it is burning will be reduced. These gaps give firefighters a safe area to respond to wildfires, and more time to do so.



## Converting fuels

Not all fuels have the same levels of flammability. Converting fuels means replacing existing fuels with a type of live or dead vegetation that won't burn as quickly or intensely during a wildfire. Converting fuels could involve mulching small trees and shrubs, removing small conifer trees through thinning or prescribed fire in an aspen dominant forest, or by planting aspen in an area that was formally a conifer dominated or mixed-wood forest. It could also involve planting less-flammable, culturally important plants for community use in an area where fuel reduction has happened.

# Types of fuels management

## Hand-thinning treatments

- Chainsaws and hand tools are used
- Lightly thins small conifer trees to remove ladder fuels and increase tree spacing
- Larger conifer and deciduous trees are retained
- Lower branches are pruned to 2m above ground
- Prevents fires burning in the forest understory from climbing into tree crowns
- Commonly part of FireSmart projects near homes and vital wildlife habitats to enhance forest wildfire resilience

FireSmart treatment near Whitehorse