

TYPES OF FUEL



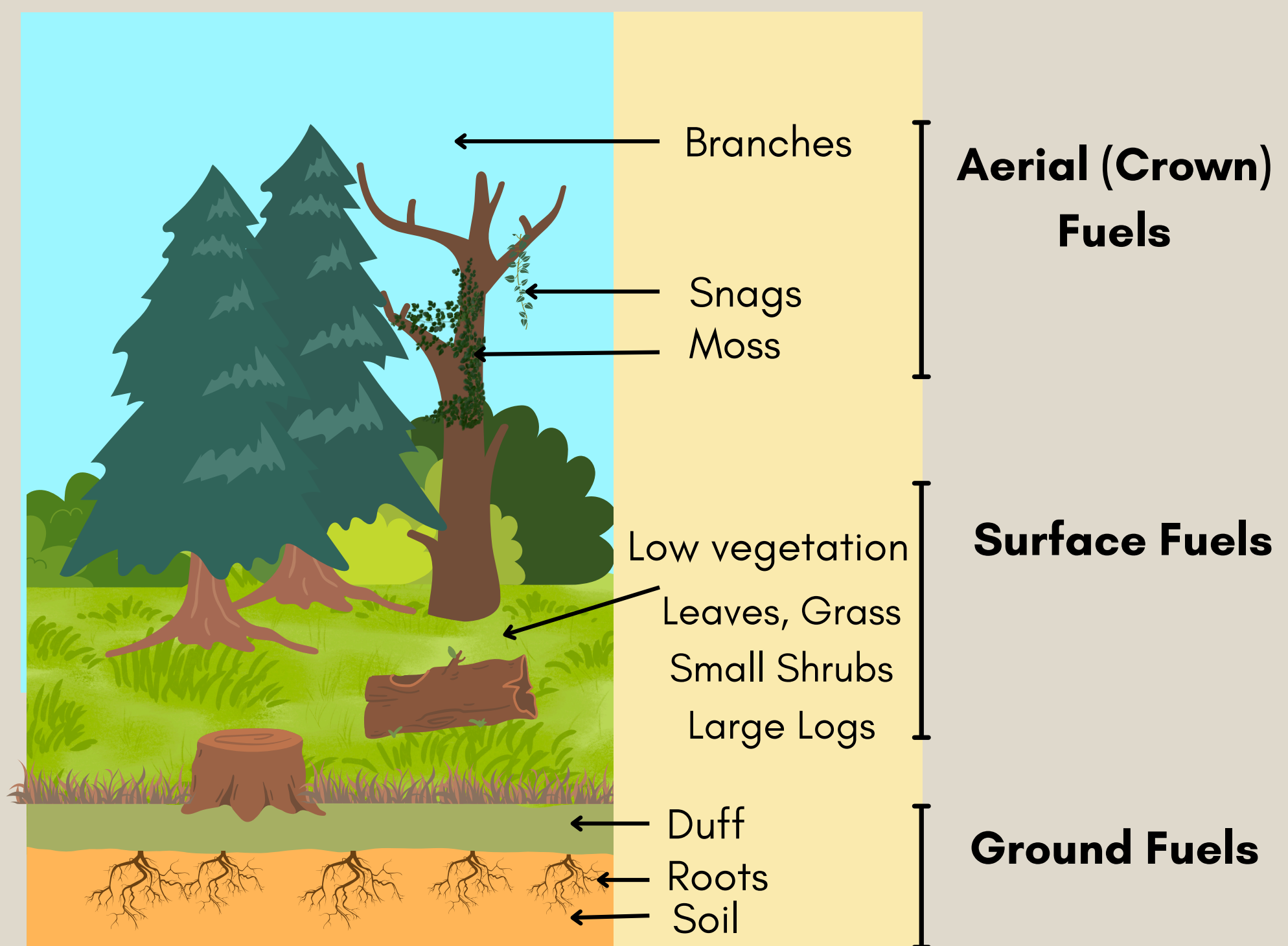
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In the context of forest fires, fuels are any materials that can ignite and sustain a fire. These materials are typically categorized based on their size, type, and how quickly they can ignite and burn. Here are the main types of fuels involved in forest fires:



GROUND FUELS

These include organic matter present on or just below the forest floor, such as leaf litter, grass, moss, peat, and decomposing vegetation. Ground fuels can smolder for a long time, contributing to ground fires that burn slowly but can be difficult to extinguish.



SURFACE FUELS

Surface fuels consist of dead branches, leaves, and low-lying vegetation like grasses and shrubs. These fuels are on the forest floor and can easily catch fire, contributing to the rapid spread of surface fires. Surface fuels are influenced by seasonal changes and weather conditions, which can alter their moisture content and flammability.





AERIAL/CROWN FUELS

These are the leaves, branches, and other materials located in the upper parts of trees. Canopy fuels are primarily involved in crown fires, where the fire spreads rapidly through the treetops, often driven by strong winds.

FUEL LADDER

Ladder fuels are vegetation that can carry fire from the forest floor up into the tree canopy. They include small trees, shrubs, and tall grasses that can act as a "ladder," allowing the fire to climb to the tops of trees and potentially leading to more dangerous crown fires.



The type and arrangement of fuels in a forest determine the fire's behaviour, including how quickly it spreads, its intensity, and how difficult it may be to control.



WUI

WUI stands for Wildland-Urban Interface. It refers to areas where human development meets or intermingles with wildland vegetation. This interface can be particularly vulnerable to wildfires due to the combination of combustible vegetation and human structures, making wildfire management and prevention crucial in these regions.



As more people move into forested or rural areas, the extent of the WUI grows, leading to greater risk of property damage and human casualties during wildfires.





The presence of both human infrastructure and natural fuel (like trees and grasses) increases the potential for wildfires to ignite and spread. Human activities in these areas—such as campfires, equipment use, or electrical faults—can lead to accidental ignitions.

ARSON

Arson, or intentional fire-setting, is a significant cause of wildfires and involves deliberately starting a fire with the intent to cause harm, destruction, or for personal gain. In the context of wildfires, arson can be particularly dangerous and devastating due to the uncontrollable nature of fire once it spreads in wildland areas.



Arson is a serious crime, and those found guilty can face severe penalties, including heavy fines and long-term imprisonment, particularly if the fire results in loss of life or significant property damage.



Effective fire management and prevention strategies often involve various techniques like prescribed burning, mechanical removal of fuel, nature based solutions such as grazing and creating firebreaks and implementing surveillance in high-risk areas to reduce the risk and impact of forest fires.

