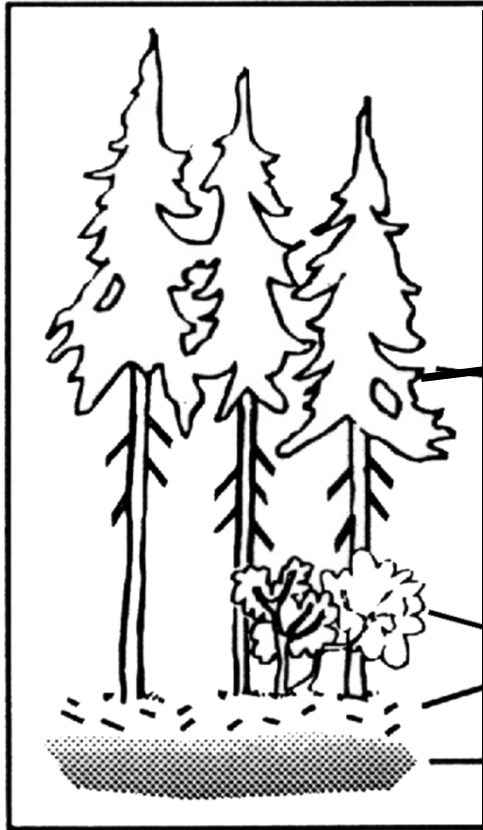
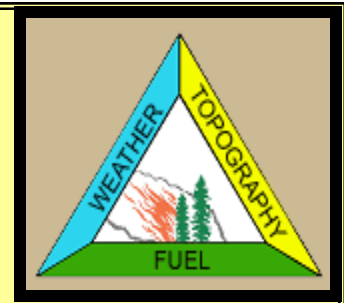




## TOPIC 32

# AERIAL FUELS



Consists of the foliage, twigs and smaller branches of the over story vegetation. Fire cannot move from crown to crown unless there is sufficient fuel or ground steep enough to tilt the flames from burning tree into the foliage of the next.

### AERIAL OR CROWN FUELS

Live needles of coniferous trees are highly flammable because of their arrangement on the branches allow for free flow of air and they contain oils and resins susceptible to ignition. Live leaves of hardwood forest trees (aspen, birch) ordinarily will not carry fire. Persistent drought conditions will contribute to the drying out of leaves and branches, which in turn increase extreme fire behaviour in hardwood stands.

Dead needles, twigs and branches are important aerial fuels. Concentrations of such fuels, as found in insect and disease-ridden stands, may carry fire from tree to tree.

Fires in the crown can be divided into three classes:

1. **PASSIVE CROWN FIRES** are those in which trees torch as individuals, reinforcing the spread rate, but not basically different from surface fires.
2. **ACTIVE CROWN FIRES** are those in which a solid flame develops in the crowns, but the surface and crown phases advance as a linked unit dependent on each other.
3. **INDEPENDENT CROWN FIRES** is one that advances in the crowns alone. This rare event has never been accurately documented.