



Ladder Fuels

A visual explanation

By

Firescape LLC

Ladder Fuels

- A ladder fuel is any type of vegetation, specifically branches from trees or shrubs, that hang down low and/or touch the ground.
- This allows fire to “climb up” the branches and get into the upper portions of the tree crowns of shrubs.
- This laddering up of the fuels causes large trees to torch out which produces extreme heat output and tall flame lengths.

The following are photos of
ladder fuels

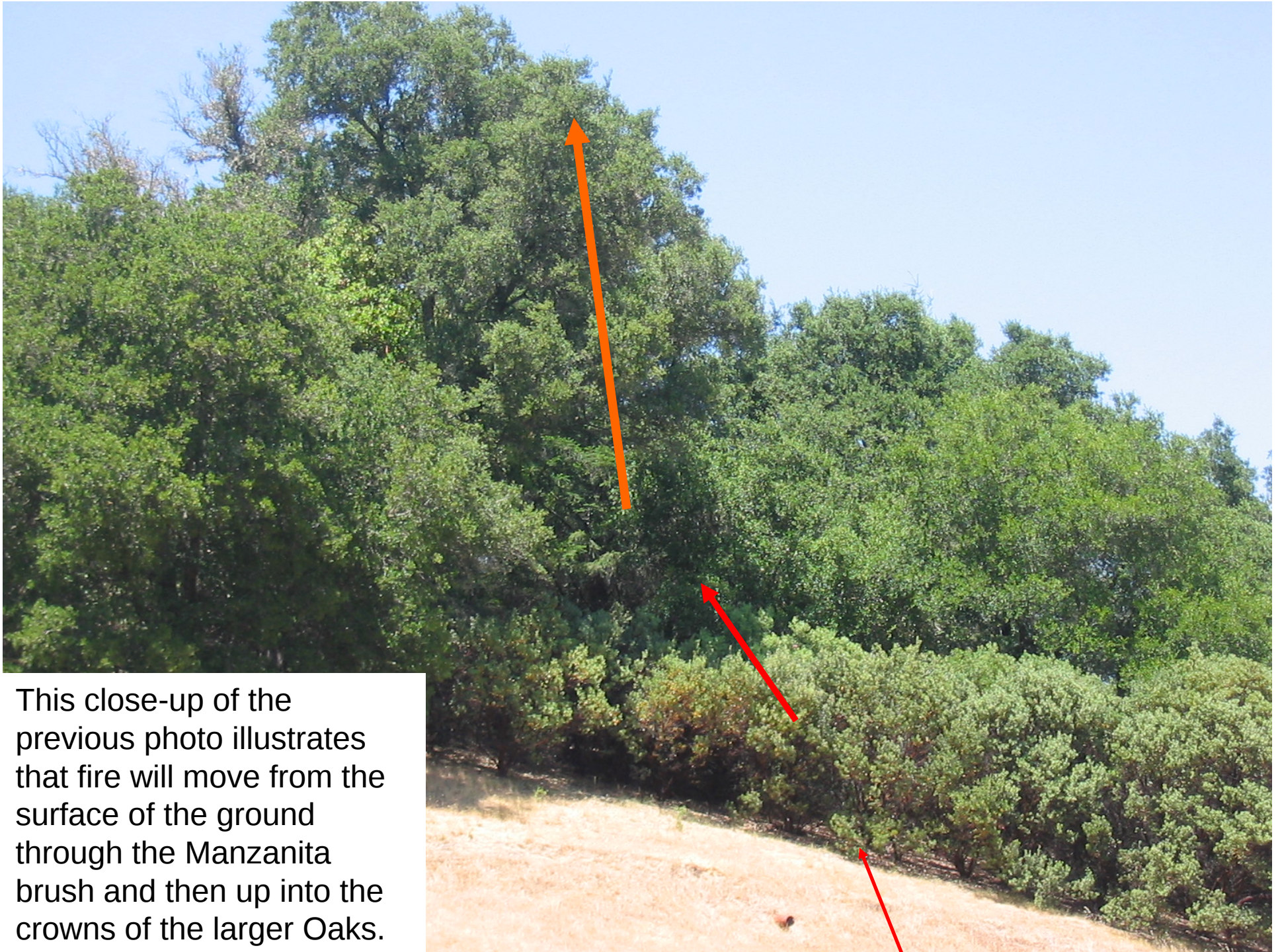
Photo's by Firescape LLC



Fire will travel through the grass and then up the lower branches of this Oak.

As in the previous photo, wildfire will travel upslope through the grasses and then ladder up into the lower limbs of the Manzanita brush and Live Oak tree. This will allow an upslope wind to push the fire through the canopy and hit the house at the top of the ridge line.





This close-up of the previous photo illustrates that fire will move from the surface of the ground through the Manzanita brush and then up into the crowns of the larger Oaks.

The following slides are of prescribed fire burns in April that show how ladder fuels carry fire aloft into other trees.

Photos courtesy of Firescape LLC

Notice how the fire is climbing up into the Live Oaks by using it's lower branches



This photo was taken two minutes after one Chemise bush was lit. Notice how the long flames are extending up slope into the trees above it. Chemise brush can produce flame lengths up to 40 feet in height.



This prescribed burn was done in April. You can see the brush starting to carry the fire up into some Redwood trees. Flame lengths are up to 40' at their highest point here.



April 30, 1999

Prescribed fire showing how ladder fuels have carried the fire into the base of this Douglas Fir. The tree is now “Torching” out. Carefully executed limbing could have prevented this.



Properly limbed up trees eliminates ladder fuels. This photo shows a nice prescribed fire burning the under-story only.



Thank you for taking the time to
learn about defensible space and
ladder fuels.

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