Project Funded by the Plumas NF with USDA Forest Service’s “Community Protection” program funds to reduce fuels on 50 acres.
Wildland Fire Behavior Factors

* Fire Intensity - (Flame Length (FL) in feet)
* Crowning Potential - (FL + Crown to base height)
* Spotting Potential - (FL + Crowning = ember production)
* Resistance to Control (RTC) - (FL + spotting + volume of fuel)
Fuelbed Factors Affecting Intensity, Crowning & Spotting Potential

- Fuel Loading (Tons/acre by size)
- Fuel Arrangement (Horizontal & Vertical)
- Fuel Layers (Surface-Ladder-Canopy)
Delleker North HFR
Mechanical Commercial Thinning of Stands

**Surface Fuels** – Scattered brush and heavy pockets of needles were disturbed and compacted in operations.

**Ladder Fuels** – Trees were mechanically thinned.
- Small trees were cut and chipped as biomass
- Trees greater than 12-14” were harvested as sawlogs

**Canopy Fuels** – Trees were thinned and harvested.
Delleker North HFR
Commercial Thinning of Stands
Pre-Treatment - Plot 1

Expected Fire Conditions
Surface Flame Length = <4 Feet
Crowning Potential = High
Spotting Potential = High
Resistance to Control = Moderate
Expected Fire Conditions
Surface Flame Length = 2-4 Feet
Crowning Potential = Low
Spotting Potential = Low
Resistance to Control = Low
Delleker North HFR
Commercial Thinning of Stands
Pre-Treatment - Plot 2

Expected Fire Conditions
Surface Flame Length = 4-5 Feet
Crowning Potential = High
Spotting Potential = High
Resistance to Control = High
Delleker North HFR
Commercial Thinning of Stands
Post-Treatment - Plot 1

Expected Fire Conditions
Surface Flame Length = <4 Feet
Crowning Potential = Low
Spotting Potential = Low
Resistance to Control = Low
Delleker North HFR
Commercial Thinning of Stands
Pre-Treatment - Plot 3

Expected Fire Conditions
Surface Flame Length = 4-5 Feet
Crowning Potential = High
Spotting Potential = High
Resistance to Control = High
Delleker North HFR
Commercial Thinning of Stands
Pre-Treatment - Plot 3

Expected Fire Conditions
Surface Flame Length = 4 Feet
Crowning Potential = Low
Spotting Potential = Low
Resistance to Control = Moderate
Delleker North HFR
Mastication of non-commercial stands

**Surface Fuels** – Brush and scattered trees were rearranged in the masticating operation.

**Ladder Fuels** – Trees were mechanically thinned by a masticator to a spacing of approximately 20 feet.

**Canopy Fuels** – Due to stand conditions, no trees harvested as sawlogs.
Delleker North HFR
Mastication of non-commercial stands
Pre-Treatment

Expected Fire Conditions
Surface Flame Length = 4-6 Feet
Crowning Potential = High
Spotting Potential = High
Resistance to Control = High
Delleker North HFR
Mastication of non-commercial stands
Post Treatment

Expected Fire Conditions
Surface Flame Length = 2-3 Feet
Crowning Potential = Low
Spotting Potential = Low
Resistance to Control = Low
Delleker North HFR
Mastication of Prior Activity Slash in Commerially Thinned Stands

Surface Fuels – Pockets were rearranged in masticating operation.
Ladder Fuels – Mechanically thinned in earlier harvesting activity.
Canopy Fuels - Mechanically thinned in earlier harvesting activity.
Delleker North HFR
Prior Activity Slash in
Commerially Thinned Stands

**Expected Fire Conditions**
- Surface Flame Length = 4-6 Feet
- Crowning Potential = Low
- Spotting Potential = Low
- Resistance to Control = Moderate
Delleker North HFR
Mastication of Prior Activity Slash in Commercial Thinning Stands

Expected Fire Behavior
Surface Flame Length = 1 foot
Crowning Potential = Low
Spotting Potential = Low
Resistance to Control = Low
Fuelbed Changes
Fuelbed height was lowered, fine fuels were broken down & dirt was mixed into the fuel. Projected flame lengths dropped from 4-6 feet to 1 foot