

Roaring Lion Fire - Assessment of Private Land Fuels Mitigation

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The Roaring Lion Fire on the Bitterroot National Forest began on July 31, 2016. Within a four-hour period, this fire consumed over 3,500 acres and burned a total of 16 homes and 49 outbuildings across 21 properties.

The Roaring Lion Fire burned through several areas where private land fuel mitigation projects had been completed over the last 10 years. The objective on each project was to thin the timber stands to reduce the crown density to 10-foot crown spacing, prune the remaining trees in the stand up to 8-10 feet to reduce the ladder fuels, and to dispose of most slash and existing downed woody material while leaving some on the ground for site protection.

The hazardous fuels mitigation treatments had occurred on 20 of the 21 properties. Treatment either altered fire behavior by causing the active crown fire to drop to the ground through the thinned stands, or sustained a ground fire and did not initiate a crown fire. Unfortunately, the intense, superheated air passing through the thinned stands of trees created severe scorch damage/mortality. Some of the severely scorched ponderosa pine will probably survive but very few of the Douglas-fir are likely to survive in those thinned stands.

Seven of the treated properties suffered loss of the residence(s) while thirteen did not. Of the homes lost, four homes were lost due to high intensity crown fire, subsequent shower of embers, superheated air from the, and high intensity surface fire. Five were most likely lost due to the tremendous shower of embers landing on a receptive fuel bed in and around the residences which ignited and eventually burned the structure. Some of those same five homes also had evidence of some surface fire that may have impinged on the structure also causing the damage.



(photo: inciweb.org)



Figure 1: Residence did not have any burnable vegetation near the house. The deck had rock underneath the composite decking. It had a metal roof and cement board siding and a gravel driveway surrounded the house on two sides. Trees were cleared away from the house.



Figure 2: Riparian area south of house had minimal impacts from the fire. Note the burned surface in the foreground.



Figure 3: Timber stand where the surface fire burned across the property. Very minimal amount of torching but most of the Doug-fir had a significant amount of scorch.



Figure 4: The site of the garage that was destroyed by the fire. It was about 200 feet east of the house.



Figure 5: Neighboring area that had a very intense active crown fire. When the fire burned onto this property, it transitioned to a surface fire, under-burning the thinned stand as shown in Figure 6.



Figure 6: Below the crown fire where it had transitioned to a surface fire.