

Fuel Treatment Success Workshop Scenarios

Scenario A – Protect historic buildings

Some historic buildings owned by a land management agency are located in a remote location at risk to wildfire. The stand surrounding the structures is dense multi-story timber with a thick shrub understory. The stand has historically experienced a stand-replacing fire regime but has not recorded fire in over a century. The agency wants to proactively treat this area and does not want to commit suppression resources to this stand. Further, the buildings cannot be modified because they are designated as historic.

Objective: The land management agency intends to modify the surrounding vegetation to reduce the likelihood of these historic buildings being destroyed by a wildfire.

Potential vegetation examples:

- Southwest ponderosa pine with Gambel oak understory
- Pond pine with pocosin understory
- Loblolly pine with palmetto and gallberry understory
- Ponderosa pine or pinyon-juniper with big sagebrush understory
- Ponderosa pine or incense cedar with oak and chaparral understory

Scenario B – Maintain whitebark pine seed source

A watershed in the agency's management area has only one stand of whitebark pine left as a seed source in an area prone to stand-replacing fire. This stand of whitebark pine trees is important wildlife habitat and important to maintaining the presence of whitebark pine in this area. The density of spruce and fir is increasing in the stand, and dense patches of sapling to pole size lodgepole pine are becoming common.

Objective: The agency wants to manage the stand to improve the survivability of current trees in the event of a wildfire.

A brief summary of whitebark pine ecology

On mid-elevation and subalpine sites, whitebark pine is an early-seral species whose seed is dispersed into open areas by the Clark's nutcracker, a species of jay bird. Whitebark pine's tolerance of cold, dry, excessively drained, exposed sites allows them to establish quickly on burned sites. However, on warm, moist, mid-elevation sites, spruce, fir, and lodgepole pine establish beneath whitebark pine trees. The successful growth of these competing species increases the likelihood of a stand-replacing wildfire.

Scenario C – Maintain old growth trees

Trees identified as old growth by the land management agency are growing in a stand at risk of stand-replacing fire. Large old growth trees are considered valuable as a seed source and important to wildlife. A dense canopy of shade tolerant trees is becoming dominant in the stand. The high tree density increases the likelihood of a stand-replacing fire.

Objective: The agency wants to manage the stand to improve the survivability of old growth trees in the event of a wildfire.

Potential forest examples:

- Old growth ponderosa pine with dense lodgepole pine in the understory
- Old growth western larch with dense Douglas-fir and grand fir in the understory
- Old growth longleaf pine with dense oak and sweetgum in the understory

Scenario D – Protect watershed integrity

The municipal watershed is susceptible to stand-replacing fire. Tree densities are high and relatively homogeneous throughout the watershed. A wildfire that causes high tree mortality over a substantial part of the watershed will degrade water quality for the city.

Objective: The agency wants to manage the vegetation in a way that limits the proportion of tree mortality in the event of a wildfire.