**Mixed Conifer (Ponderosa Pine/Douglas-fir) Treatment Comparison**

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| Objectives:   * Reduce the severity and intensity of a wildfire within the urban interface. * Restore ponderosa pine/mixed conifer stands toward their characteristic species composition, structure, and spatial patterns in order to increase resistance and resiliency to future natural disturbance. * Initiate fuel reduction treatments in preparation for future prescribed broadcast burn opportunities.   Indicators:   * Flame length, rate of spread, fireline intensity, torching index, crowning index, fire type, and fuel hazard rating. * Acres treated to restore species composition, stand structure and spatial arrangement in ponderosa pine/mixed conifer dominated stands. * Acres effectively treated to re-introduce fire on the landscape. | | | |
|  | **Manual** | **Mechanical** | **Untreated** |
| **Appropriate Treatments**  **Guidelines:**   * Average Size of Trees to be Cut * Topography * Amount of Rock in Unit * Amount of Perennial and Intermittent Streamcourses * Road Access * Legal Access (number of needed easements) * Amount of Temporary Road Construction to Access Unit * Cost | Thinning (trees <10” DBH)  2” – 7” DBH  Slopes > 35%  > 30% of Treatable Ground  More  Average existing road access  Flexibility  0 Miles  Less Expensive | Thinning (trees < 14” DBH)  7” – 12” DBH  Slopes < 35%  < 30% of Treatable Ground  Less  Good existing road access  Limited  < 4 Miles  More Expensive | NA  NA  NA  NA  NA  NA  NA  NA  NA |
| **Outcomes/Results Vegetation:**   * Treatment * Stand Structure * Cover Type (Potential Change) * Ponderosa pine regeneration potential * Roads | ~ 25% existing basal area removal  Intermediate and overstory tree size classes represented with some understory; limited stand perpetuation into the future. Minimal crown gaps between individual and groups of trees  Moderate  Low  Existing | ~ 40 - 50% existing basal area removal  All tree size classes represented with adequate growing space and tree perpetuation into the future. Greater crown gaps between individual and groups of trees  High  High  Improved existing and temporary roads | 0% existing basal  All tree size classes represented with crowded growing space. Shade tolerant species begin/ continue to dominate site. Minimal crown gaps between individual and groups of trees  Moderate (short term, high long term  Low  NA |
| **Outcomes/Results Fuels:**   * Fuel Treated * Piles/Lop & Scatter * # of Piles * Pile Size * Piled Material | Surface, ladder  Hand; Lop & Scatter  25+ piles/ac  6’x 6’ to  10’ x 10’  < 6 inches | Surface, ladder, crown  Machine  ~5 piles, one landing/20 ac  10’x 10’ to  20’ x 20’  ~95% activity | NA  NA  NA  NA  NA |
| **Outcomes/Results Prescribed Burning:**   * # of Piles to Burn * Need for Another vegetation Treatment Before Fire Re-introduction * Fuel Preparation (Surface Fuels to Carry Fire). * Resilience to Wildfire Post-treatment | High  Medium  Low to Medium  Medium | Low  Low  Low to Medium  High | NA  High  NA  Low |
| **Outcomes/Results Wildfire Behavior:**   * Flame Length * Rate of Spread * Fireline Intensity * Torching Index * Crowning Index * Fire Type * Fuel Hazard Rating | Low  High  Medium  Low  Low  Surface/Crown  Moderate | Low  High  Low  Low  Low  Surface  Moderate | High  High  High  High  High  Surface/Crown  High |
| **Outcomes/Results Suppression Strategy:**   * Line Construction Efficiency * Retardant Effectiveness * Structure Protection (Private Land w/ D-Space Completed * Structure Protection (Private Land w/ D-Space Not Completed * Structure Protection (Access to Structure w/ NFS Lands Fuels Mitigation) * Structure Protection (Access to Structure w/out NFS Lands Fuels Mitigation) | Medium  Medium  Medium/High  Low  Medium  NA | High  High  High  Low  High  NA | Low  Low/Medium  Low/Medium  Low  NA  Low |
| **Outcomes/Results Aesthetics:**   * Visual Impact (Cut) * Visual Impact (Piles) * Pile Longevity * # of Large Tree Retention * Presence of Invasive Weeds | Medium  High  One Winter season cure time  High  Medium | High  Medium  One Winter season cure time  Medium  High | Low  Low  NA  High  Low/Medium |
| **Outcomes/Results Wildlife:**   * Habitat Structural Stage (Potential Change) * Habitat Tree Species Diversity (Potential Change) * Understory Species Tree/Shrub/Grass Diversity * Horizontal Structure (Downed Wood) * Snag Retention | Low  Low  Medium  Low/Medium  High | High  High  High  Low  Medium | NA  NA  Medium  High  High |