


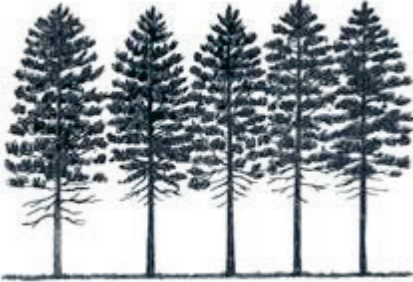





<p>Warm and Dry: Ponderosa Pine</p>	<p>Existing Condition</p>	<p>Desired Future Condition</p>	<p>Silvicultural Treatment Options: Designed to move the stands toward the desired future condition. (All treatments will be based on the existing conditions of each treated stand.) *See Activity Cards in Appendix C</p>
<p>Stand Initiation Stage</p>	<p>Young Stands - planted or natural regeneration. Starting to see tree to tree competition. Ingrowth of additional shade tolerant species.</p>	<p>Open grown, vigorous stand. Feature the best tree, primarily ponderosa pine or other desirable individuals for species diversity.</p> <ul style="list-style-type: none"> • Estimated range between 50-150 trees per acre depending on site conditions. 	<ul style="list-style-type: none"> • Small tree hand thinning
<p>Stem Exclusion Stage</p> 	<p>Even-aged stand. Crown to crown competition. Density related stressors. Moderate to high beetle hazard ratings. Past mountain pine beetle activity present with standing and down dead trees creating a fuels hazard. Ingrowth and competition from shade tolerant species. Ladder fuels may be present.</p>	<p>Open grown stand that is resistant and resilient to insects, disease and fire. The stand is dominated by ponderosa pine and may feature variable densities with opportunities for a second age-class of ponderosa pine. Retain the best genetics.</p> <ul style="list-style-type: none"> • ≤ 60 BA for pine beetle protection for 20-30 years. 	<p>Treatments shall vary across the landscape for diversity, forest health, wildlife habitat, and esthetics.</p> <ul style="list-style-type: none"> • Small tree hand thinning • Mastication, Chipping • Improvement Cut – Commercial Thin • Group Select – Single Tree • Seed Tree – Shelterwood Cut • Sanitation or Salvage Cut • Prescribed Fire – Low Intensity, Mixed Severity, Maintenance Burning, Pile Burning
	<p>Terraced Plantations: tightly spaced trees planted in terraced rows. Pockets of past mountain pine beetle mortality is present with standing dead and down material creating a fuels hazard. Stand conditions vary based on slope, aspect, soil type and water availability.</p>	<p>Open grown stands that are resistant and resilient to insects, disease and fire. Stands contain adequate understory vegetation to promote soil recovery. Depending on elevation and aspect, manage for a natural species composition for the site.</p> <ul style="list-style-type: none"> • ≤ 60 BA to reduce the risk of mountain pine beetle. 	<p>Treatment opportunities vary based on access, slope, soil type and condition, tree size, density and stand health.</p> <ul style="list-style-type: none"> • Small tree hand thinning • Mastication, Chipping • Improvement Cut – Commercial Thin • Sanitation or Salvage Cut • Prescribed Fire – Low Intensity, Mixed Severity, Maintenance Burning, Pile Burning
<p>Multistory Understory Re-initiation Stage</p> 	<p>Dominant and codominant ponderosa pine often growing with a mix of Douglas-fir. Stand densities are at moderate to high hazard for beetle activity. Stands have missed multiple low intensity fires compared to the historic fire return interval. Ingrowth and competition from shade tolerant species is dense and well established. Stand conditions are often too dense for ponderosa pine to regenerate. A buildup of needle litter, duff, down trees and ladder fuels is putting these stands at risk for fire. Under the existing conditions, these stands that were once resistance to frequent low intensities fires will likely experience stand replacing fire.</p>	<p>A stand that is resistant and resilient to insects, disease and fire. Retain mature and large diameter healthy ponderosa pine. Feature two to three age classes of ponderosa pine to carry the stand and species into the future. Retain the best genetics. The stands shall be open grown with low or variable stand densities and maintained by prescribed fire.</p> <ul style="list-style-type: none"> • ≤ 60 BA to reduce the risk of beetle caused mortality. 	<p>Treatments shall vary across the landscape for diversity, forest health, wildlife habitat, and esthetics.</p> <ul style="list-style-type: none"> • Improvement Cut – Commercial Thin • Group Select – Single Tree • Seed Tree – Shelterwood Cut • Sanitation or Salvage Cut • Prescribed Fire – Low Intensity, Mixed Severity, Site Preparation, Maintenance Burning, Pile Burning • Tree Planting

<p>Warm and Dry: Dry Douglas-fir Shade Intolerant Mix</p>	<p>Existing Condition</p>	<p>Desired Future Condition</p>	<p>Silvicultural Treatment Options: Designed to move the stands toward the desired future condition. (All treatments will be based on the existing conditions of each treated stand.) *See Activity Cards in Appendix C</p>
<p>Stand Initiation Stage</p>	<p>Young Stands - planted or natural regeneration. Starting to see tree to tree competition and high stand densities. Western spruce budworm defoliation is present at low to high levels depending on site.</p>	<p>Open grown, vigorous stands. Feature the best tree and species composition for the site.</p> <ul style="list-style-type: none"> • Estimated range between 50-150 trees per acre depending on site conditions. 	<ul style="list-style-type: none"> • Small tree hand thinning
<p>Stem Exclusion Stage</p> 	<p>Even-aged stand. Crown to crown competition. Density related stressors. Many stands are experiencing varying degrees of western spruce budworm defoliation. Douglas-fir dwarf mistletoe is common throughout the project area with a range of infection levels from mistletoe free trees/stands to heavy infections throughout the entire crown. Ingrowth and competition from shade tolerant species are starting to become established. Ladder fuels may be present.</p>	<p>Open grown stands that is resistant and resilient to insects, disease and fire. The species composition is dependent on location and conditions, often a mixed conifer stand is desired. Stand densities are variable and may allow for new age classes. Horizontally spaced age-classes are desired to minimize the spread of dwarf mistletoe and western spruce budworm. Retain the best genetics and phenotypic characters for a vigorous and resilient stand. Dry sites shall be maintained by prescribed fire. Reduce ladder fuels and multistory conditions that promote insects and disease.</p> <ul style="list-style-type: none"> • < 100 sq ft of BA desired to reduce the risk of Douglas-fir beetle. 	<p>Treatments shall vary across the landscape for diversity, forest health, wildlife habitat, and esthetics.</p> <ul style="list-style-type: none"> • Small tree hand thinning • Mastication, Chipping • Improvement Cut – Commercial Thin • Group Select – Single Tree • Seed Tree – Shelterwood Cut • Sanitation or Salvage Cut • Prescribed Fire – Low Intensity, Mixed Severity, Maintenance Burning, Pile Burning
<p>Multistory Understory Re-initiation Stage</p> 	<p>Dominant and codominant Douglas-fir often growing with a mix of ponderosa pine and other shade tolerant conifers. Douglas-fir beetle is currently active across the project area in these stands. Stand densities are at moderate to high hazard for beetle activity due to the high stand density of old trees, larger tree diameters and species composition. Stands have missed multiple low intensity fires compared to the historic fire return interval. Ingrowth and competition from shade tolerant species is dense and well established. Stands often contain moderate to high levels of western spruce budworm defoliation and dwarf mistletoe infections. It is common to find mature relic ponderosa pine towering above a multistoried dense Douglas-fir stand with little to no young ponderosa pine present to perpetuate a mixed conifer stand containing ponderosa pine in the future. A buildup of needle litter, duff, down trees and ladder fuels is putting these stands at risk for fire. Under the existing conditions, these stands that were once resistance to frequent low intensities fires will likely experience stand replacing fire and are currently experiencing insect and disease related mortality.</p>	<p>A stand that is resistant and resilient to insects, disease and fire. The stands shall be generally open grown with variable density. A mix of age-classes is preferred while retaining the healthiest individuals, best genetics and phenotypic characteristics for a vigorous and resilient stand. Species composition will feature Douglas-fir and often ponderosa pine or other species where site conditions allow. Stand densities shall remain low enough to reduce the risk of beetle, disease and fire. Stands shall be maintained with prescribed fire.</p> <ul style="list-style-type: none"> • < 100 sq ft of BA to reduce the risk of Douglas-fir beetle. • < 80 sq ft of BA to reduce the spread of western spruce budworm with horizontally well-spaced age-classes to reduce the spread of western spruce budworm and dwarf mistletoe. 	<p>Treatments shall vary across the landscape for diversity, forest health, wildlife habitat, and esthetics.</p> <ul style="list-style-type: none"> • Improvement Cut – Commercial Thin • Group Select – Single Tree • Seed Tree – Shelterwood Cut • Sanitation or Salvage Cut • Prescribed Fire – Low Intensity, Mixed Severity, Site Preparation, Maintenance Burning, Pile Burning • Tree Planting

<p>Cool and Moist : Spruce/fir, Lodgepole pine, Mixed Mesic Conifer and Shade Tolerant Mix</p>	<p>Existing Condition</p>	<p>Desired Future Condition</p>	<p>Silvicultural Treatment Options: Designed to move the stands toward the desired future condition. (All treatments will be based on the existing conditions of each treated stand.) *See Activity Cards in Appendix C</p>
<p>Stand Initiation Stage</p>	<p>Young Stands, often lodgepole pine with a mix of other species - planted or natural regeneration. Starting to see tree to tree competition and high stand densities. Western spruce budworm defoliation is present at low to high levels depending on site where host species are present.</p>	<p>Open grown, vigorous stands. Feature the best tree and species composition for the site.</p> <ul style="list-style-type: none"> • Estimated range between 100-200 trees per acre depending on site conditions. 	<ul style="list-style-type: none"> • Small tree hand thinning
<p>Stem Exclusion Stage</p> 	<p>Even-aged stand. Crown to crown competition. Density related stressors. Moderate to high beetle hazard ratings. Past mountain pine beetle activity present with standing and down dead trees creating a fuels hazard. Ingrowth and competition from shade tolerant species. Ladder fuels may be present. Many stands are experiencing varying degrees of western spruce budworm defoliation where host species are present.</p>	<p>Stands that is resistant and resilient to insects and disease. Fire is a natural disturbance process in these stands and often stand replacing in nature. The species composition is dependent on location and conditions, often a mixed conifer stand is desired. Stand densities are variable and may allow for new age classes. Horizontally spaced age-classes are desired to minimize the spread of dwarf mistletoe and western spruce budworm. Retain the best genetics and phenotypic characters for a vigorous and resilient stand.</p> <ul style="list-style-type: none"> • < 100 sq ft of BA desired to reduce the risk of Douglas-fir beetle. 	<p>Treatments shall vary across the landscape for diversity, forest health, wildlife habitat, and esthetics.</p> <ul style="list-style-type: none"> • Small tree hand thinning • Mastication, Chipping • Improvement Cut – Commercial Thin • Group Select – Single Tree • Seed Tree – Shelterwood Cut • Sanitation or Salvage Cut • Prescribed Fire – Low Intensity, Mixed Severity, Maintenance Burning, Pile Burning
<p>Multistory Understory Re-initiation Stage</p> 	<p>Dominant and codominant Douglas-fir often growing with a mix of ponderosa pine and other shade tolerant conifers. Douglas-fir beetle is currently active across the project area in these stands. Stand densities are at moderate to high hazard for beetle activity due to the high stand density of old trees, larger tree diameters and species composition. Stands have missed multiple low intensity fires compared to the historic fire return interval. Ingrowth and competition from shade tolerant species is dense and well established. Stands often contain moderate to high levels of western spruce budworm defoliation and dwarf mistletoe infections. It is common to find mature relic ponderosa pine towering above a multistoried dense Douglas-fir stand with little to no young ponderosa pine present to perpetuate a mixed conifer stand containing ponderosa pine in the future. A buildup of needle litter, duff, down trees and ladder fuels is putting these stands at risk for fire. Under the existing conditions, these stands that were once resistance to frequent low intensities fires will likely experience stand replacing fire and are currently experiencing insect and disease related mortality.</p>	<p>A stand that is resistant and resilient to insects, disease and fire. The stands shall be generally open grown with variable density. A mix of age-classes is preferred while retaining the healthiest individuals, best genetics and phenotypic characteristics for a vigorous and resilient stand. Species composition will feature Douglas-fir and often ponderosa pine or other species where site conditions allow. Stand densities shall remain low enough to reduce the risk of beetle, disease and fire.</p> <ul style="list-style-type: none"> • < 100 sq ft of BA to reduce the risk of Douglas-fir beetle. • < 80 sq ft of BA to reduce the spread of western spruce budworm with horizontally well-spaced age-classes to reduce the spread of western spruce budworm and dwarf mistletoe. • < 80 sq ft of BA to reduce the risk of mountain pine beetle in lodgepole pine. 	<p>Treatments shall vary across the landscape for diversity, forest health, wildlife habitat, and esthetics.</p> <ul style="list-style-type: none"> • Improvement Cut – Commercial Thin • Group Select – Single Tree • Seed Tree – Shelterwood Cut • Sanitation or Salvage Cut • Clearcut with Reserves • Prescribed Fire – Low Intensity, Mixed Severity, Site Preparation, Maintenance Burning, Pile Burning • Tree Planting