Alternative 1	Alternative 2
Vegetation Following objectives apply to all treatment conditions below: • Restore large tree structure by retaining large trees (>25" DBH), thinning to increase growth • Restore landscape spatial patterning to more closely resemble reference conditions across the landscape • Restore within stand diversity and spatial patterning to resemble historic patterns. Individual trees and variable sized clumps of trees would be distributed across the stand with interspersed openings. • Reduce Fire and Insect Risk • Enhance huckleberry production • Prescribed Fire to modify forest structure, species composition, and surface fuel loadings. In general, would be common to all conditions; however, within stand treatments may differ slightly depending on desired structure, species composition, and spatial arrangement within the landscape. <u>Condition 1 – Plantations</u> – approximately 4,883 acres • Even aged Stands of mostly non-commercial sized trees established after harvest actions • Reduce stand density to increase tree diameter growth, remove ladder fuels, reduce insect/disease mortality, reduce fire risk, and develop spotted owl habitat • These stands have regenerated following a harvest or other disturbance then developed as an even-aged single layered stand • Consistent with LSR in stands less than 80 years • Where conditions allow, set stands on a trajectory to develop northern spotted owl (NSO) nesting habitat. If site conditions preclude nesting habitat development, grow dispersal habitat. <u>Condition 2 – Off-Site Ponderosa</u> – approximately 1,112 acres • Eliminate genetic contamination of the local gene pool, but removing non-provenance seed sources • Develop NSO habitat – consistent with Late Successional Reserves (LSR) in stands less than 80 years • Manage the existing fire resilient early seral species, likely Douglas-fir, along with artificially regenerating the site with ponderosa pine. • Where conditions allow, set stands on a trajectory to develop spotted owl nesting habitat. If site conditions preclude nesting habitat development, grow dispersal habitat. <u>Condition 3 – Early seral stem exclusion closed canopy and understory reinitiation (UR)</u> – approximately 3,660 acres • Consistent with LSR for plantations< 80. Consistent for UR= stands > 80 yrs. Under risk reduction 1:1 plus shaded fuel breaks • These stands have regenerated following regeneration harvesting or other disturbance then developed into dense, closed stands • Thinning to reduce density, increase diameter growth rates, reduce insect and disease risk, and reduce potential crown fire risk. Prescribed fire to reduce surface fuels • Northwest Forest Plan (NWFP) amendment- LSR Stands > 80 include silviculture path for stands in need of late seral stand condition development (eg 100 yr old even aged PSME at high density 16" DBH) • A portion of the younger plantations classified as stem exclusion closed canopy will be left to develop and provide this otherwise limited habitat at the landscape level. Specifically within the Lake Wenatchee, and Lower Chiwawa drainages • If not NSO nesting habitat, where conditions allow, set stands on a trajectory to develop spotted owl nesting habitat. • If NSO nesting habitat, treat to promote resiliency, but maintain habitat functionality by retaining large snags, large downed logs, and >60% canopy cover. • If NSO habitat and within a strategic fuel break, prioritize fuels prescription over NSO habitat retention while minimizing impacts. <u>Condition 4 – Dry Forest – Young Forest Multistory</u> – approximately 6,101 acres • Stands > 80 yrs -Consistent with LSR for Risk Reduction –Shaded fuel breaks and 1:1. • Grand fir has moved into the upper canopy in many of these stands and increased proportionally. Increased density of insect and disease host species have resulted in elevated insect and disease hazards in these stands. • Insect and disease caused mortality has contributed to fuel loading and fire hazard. Additionally, higher competition within stands can result in decline and mortality of existing large ponderosa pine, multi layered conditions with increased late seral species encroachment, and increased crown fire and insect/disease hazards. • Thinning to reduce density and reduce ladder fuels. Prescribed fire to reduce surface fuels • Enhance huckleberry production by placing openings in areas where present	Risk reduction actions are the same as Alt. 1 Alt. 2 would drop silviculture path treatments from LSR and a plan amendment would not be needed on this alternative. <u>Condition 6 – Moist forest – Young Forest Multistory</u> • Justify exception within IRA- Mixed fire regime currently set for uncharacteristic fire effects (supporting data available) <u>Condition 6a – Root Disease</u> • Drop action from LSR. Shrink units to < 60 acres within Matrix <u>Condition 7 – Old Forest Multistory</u> • Drop action if in OG-1

- NWFP amendment- LSR Stands > 80 include SILV path for stands in need of late seral stand condition development (eg 100 yr old even aged PSME at high density 16" DBH)
- If not NSO nesting habitat, where conditions allow, such as northerly-facing slopes, set stands on a trajectory to develop spotted owl nesting habitat. Retain some Douglas-fir mistletoe to serve as nesting structure.
- If NSO nesting habitat, treat to promote resiliency in more sustainable locations such as northerly-facing slopes, and focus treatment to promote landscape resiliency in less sustainable locations such as southerly-facing slopes. Maintain stand-level habitat functionality on northerly-facing slopes by retaining large snags, large downed logs, and >60% canopy cover, and landscape-level habitat functionality on southerly-facing slopes by providing for dispersal habitat connectivity.
- If NSO habitat and within a strategic fuel break, prioritize fuels prescription over NSO habitat retention, while retaining habitat where possible.
- On drier sites, southerly aspects, develop white-headed woodpecker habitat

Condition 5 – Dry Forest – Stem exclusion open canopy – approximately 5,444 acres

- These stands are largely a result of recent (within 15 yrs) restoration actions.
- Continue treatments to remove excess fuel accumulation and maintain conifer encroachment
- If not NSO nesting habitat, where conditions allow, such as northerly-facing slopes, set stands on a trajectory to develop spotted owl nesting habitat. Retain some Douglas-fir mistletoe to serve as nesting structure.
- If NSO nesting habitat, treat to promote resiliency in more sustainable locations such as northerly-facing slopes, and focus treatment to promote landscape resiliency in less sustainable locations such as southerly-facing slopes. Maintain stand-level habitat functionality on northerly-facing slopes by retaining large snags, large downed logs, and >60% canopy cover, and landscape-level habitat functionality on southerly-facing slopes by providing for dispersal habitat connectivity.
- If NSO habitat and within a strategic fuel break, prioritize fuels prescription over NSO habitat retention, while retaining habitat where possible.
- On drier sites, southerly aspects, develop white-headed woodpecker habitat

Condition 6 – Moist forest – Young Forest Multistory – approximately 18,563 acres

- Stands > 80 yrs -Consistent with LSR for Risk Reduction on shaded fuel breaks and 1:1.
- Possible NWFP amendment if taking the silv path.
- In Matrix - Thinning to reduce density and remove ladder fuels
- In LSR – Protect and improve resilience to large and old trees, protect high value snags and remove ladder fuels
- Enhance huckleberry production by placing openings in areas where present
- NWFP amendment- LSR Stands > 80 include SILV path for stands in need of late seral stand condition development (eg 100 yr old even aged PSME at high density 16" DBH)
- If not NSO nesting habitat, where conditions allow, set stands on a trajectory to develop spotted owl nesting habitat.
- If NSO nesting habitat, treat to promote resiliency, but maintain habitat functionality by retaining large snags, large downed logs, and >60% canopy cover. Retain some mistletoe in Douglas fir to serve as nesting structure.
- If NSO habitat and within a strategic fuel break, prioritize fuels prescription over NSO nesting habitat retention, but not a priority over high quality habitat

Condition 6a – Root Disease – approximately 484 acres

- NWFP amendment required for stands > 80 yrs
- Decrease incidence of laminated root rot caused mortality, and occurrence of trees that are prone to laminated root rot caused mortality
- Where conditions allow, set stands on a trajectory to develop spotted owl dispersal habitat. Treat to minimize infection of nesting habitat.
- Wenatchee Forest Plan amendment required if > 60 acres. 60 Day RF review if more than 40 acres.

Condition 7 – Old Forest Multistory – approximately 75 acres – possibly more if not changing structure

- thinning to limit risk of crown fire, protect large and old trees, and provide defensible space
- No Amendment needed- Check for OG 1 allocation and plan amendment if in OG 1
- Primarily on moist sites south of Lake Wenatchee
- If NSO nesting habitat, treat to promote resiliency, but maintain habitat functionality by retaining large snags, large downed logs, and >60% canopy cover. Retain mistletoe in Douglas fir to serve as nesting structure.
- If NSO habitat and within a strategic fuelbreak/WUI, prioritize fuels prescription over NSO nesting habitat retention, but not over high quality habitat (RA32).

<u>Condition 8 – Whitebark Pine Restoration</u> – approximately 1,112 acres – overlay on previous conditions (above) • Planting, creating small openings and using fire to reduce competition, reduce fuels, and encourage seed caching – Regional Forester approval needed to treat within IRA <u>Shaded Fuel Breaks</u> • control features following ridgelines and road systems to protect late successional habitat and communities from wildfire • *Stem exclusion open canopy* – Single storied or two storied stand with large residual trees and a high canopy base height • Thinning and prescribed fire to reduce density and favor fire resistant species <u>Fuels Reduction adjacent to Private Property</u> • thinning to establish defensible area around private lands to reduce density in Stem exclusion open canopy – Single storied or two storied stand with large residual trees and a high canopy base height	
Unique Habitats Meadows, hardwood communities, huckleberry • Treatments to encourage the enhancement of meadow, riparian, and hardwood communities to benefit associated wildlife species • Could include use of thinning and fire, in addition to, planting to reduce competition and encourage establishment of desirable species • Enhance huckleberry production	Same as Alt. 1
Wildlife • If within high quality (RA32) owl habitat, treat to promote resiliency, but maintain habitat functionality by retaining large snags, large downed logs, and >60% canopy cover. Retain mistletoe in Douglas fir to serve as nesting structure. Very limited acres could be treated within strategic fuelbreaks to meet fuel reduction goals to promote landscape sustainability if demonstrated by fire modeling modelling acres treated would increase sustainability for a larger area. • If within owl nesting/roosting habitat, treat to promote resiliency, but maintain habitat functionality by retaining large snags, large downed logs, and >60% canopy cover. Retain most mistletoe in Douglas fir to serve as nesting structure. • If within owl nesting/roosting habitat, and within a strategic fuelbreak, retain owl habitat where possible, but prioritize treatments needed to create an effective fuels treatment. This is expected to occur primarily on southerly aspects in dry forest. • If within lower quality owl habitat, treat to promote resiliency and set on a trajectory to develop into the highest quality owl habitat site conditions allow. • Establish strategically located fuel breaks that modify fire flow through the landscape to increase the sustainability of owl habitat while minimizing its removal by treatments. • Maintain owl nesting/roosting habitat within 100-acre core areas for all known nest stands. • Provide for owl dispersal by maintain connectivity across the landscape. Chiwawa LSR to Deadhorse LSR and Eagle MLSA. • No net loss of grizzly bear core habitat during project implementation within any BMU. • Raptor nest buffers – eagles, osprey, hawks • Deer winter range timing restrictions.	NSO - **<u>Alternative 2 – No Forest Plan amendment, consistency with LSRA</u>** "The Chiwawa is one the "big 3" LSR's, which will manage owls over risk. Owl home ranges will have a target of optimal habitat per owl pair, to assist recovery of the species. Currently for the Forest, that amount of acreage is 3,994 acres within a 1.8 miles radius, or 60% of the home range. (Chiwawa LSRA page 31). Spotted owl Habitat In LSR or MLSA, if within owl nesting/roosting habitat, and within a 1.8-mile home range circle, treat to promote resiliency, but maintain habitat functionality by retaining large snags, large downed logs, and >60% canopy cover. Retain mistletoe in Douglas fir to serve as nesting structure.
Aquatic Restoration 1. *<u>Improve Habitat Access and Connectivity:</u>* Eliminate fish passage barriers through the removal, replacement, or modification of culverts and water crossings in the project area to improve fish distribution. Ten culverts have been identified as impassable while 23 have been identified as potential barriers for all life stages of fish in multiple streams. Culverts or bridges will be removed or replaced with a bridge or bottomless, countersunk, or oversized culverts. Design criteria developed for ARBO II would be applied to passage barrier removals. 2. *<u>Improve Instream Habitat Quality:</u>* Restore instream habitat in project area streams where REI Large Woody Debris (LWD) and Pools indicators have been identified as deficient (At Risk and Poor condition) and where improvements to the impaired indicators could be made with large wood supplementation. Includes a minimum of 20 miles of reaches improved on the low end to 85 miles on the high end, with actions spread throughout the project area subwatersheds showing deficiencies. 3. *<u>Improve Floodplain and Off-Channel Habitat Connectivity:</u>*	Same as Alt. 1

Reconnect streams to their floodplains and reconnect off-channel habitat in streams segments where REI Channel Dynamics and Off-channel Habitat indicators have been identified as deficient (At Risk and Poor condition). Site specific opportunities have been identified in the *UWPP Habitat Assessment and Restoration Report, Appendix C,* to include opportunities to reconnect streams to their disconnected floodplains and to restore connections to off-channel habitat. Total miles of restoration could range from 15 miles of reaches improved on the low end to 63 miles on the high end, with actions spread throughout the project area subwatersheds showing deficiencies. 4. *Improve Riparian Condition:* Restore riparian sites through the decommissioning and relocation of valley bottom roads (see Roads below), replanting of currently degraded sites and the construction or placement of barriers (boulders, fences, and deterrent vegetation) to discourage driving and parking within 100 ft. of streams. Riparian restoration will focus on improving REI Riparian Vegetation Disturbance and Structure indicators that have been identified as deficient (At Risk and Poor condition). Riparian restoration will be beneficial by improving riparian functions to reduce sediment delivery from currently disturbed sites, increased stream canopy cover on smaller streams and to maintain optimal opportunities for LWD recruitment. Site specific opportunities have been identified in the *UWPP Habitat Assessment and Restoration Report, Appendix C,* to include opportunities to restore streamside cover on an incised stream channel and adjacent to developed campgrounds and a dispersed campsite. Total miles of riparian restoration could range from an estimated 20 miles of stream reaches on the low end to 82 miles on the high end. 5. *Reduce Road and Trail Related Impacts:* Decommissioning existing roads/ Reducing road densities Reduce road densities in subwatersheds where REI Effective Drainage Network and Watershed Road Density and Location indicators have been identified as At Risk and Poor condition. Road reductions would include only those roads identified in the project TAP. 6. Reconstructing and relocating existing roads or trails Site specific opportunities have been identified in the *UWPP Habitat Assessment and Restoration Report, Appendix C,* to include opportunities to relocate sections of road and redesign trails that may be contributing sediment loading into nearby streams within a dispersed site, developed campground and on existing motorized trails with stream crossings. Minor trail relocation or reconstruction actions could occur on as few as 4 sites, but could extend to as many as 10 sites. Each site estimated at <500 ft. of trail work. 7. Improve existing road condition through maintenance actions. Site specific opportunities have been identified in the *UWPP Habitat Assessment and Restoration Report, Appendix C (Tables C1-4)* for specific maintenance actions needed to reduce current erosion problems. Maintenance actions include: resurfacing roads to reduce erosion, stabilizing cutslopes and fill slopes, reconfigure drainage to minimize the delivery of sediment and water to streams, and rebuild or relocate steep roads to reduce gradient and the potential for erosion. Opportunities include up to approximately 18.5 miles of inventoried roads that had some level of damage delivering sediment off site.	
Roads • Decommissioning up to approximately 64 miles • Closing up to approximately 37 miles • Remove 22 miles unauthorized roads • Adds approximately 11 miles of road to the system	Same as Alt. 1