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|  **F2 Unit 45 – PRESCRIPTION & IMPLEMENTATION GUIDE**  | **WRITTEN and CERTIFIED BY: *K. Zimlinghaus 10/1/2018*** |
|  **ENVIRONMENTAL ANALYSIS:** Forsythe II Project | **DECISION DATE: 7/10/2017** | **NEPA ACRES: 131****GIS ACRES: 118** | **BASE FISCAL YEAR: 2018** |
| **EXISTING HSS:** 3A-12%; 3B-42%; 4A-39%; 4B-3%; 4C-4%**DESIRED HSS:** 1M-15%; 3A-35%; 3B-12%; 4A-34%; 4C-4% |  |
| **COVER TYPE:** Existing Overstory DF 37%, PP 35%, LPP 10%, AS 5%, Bare ground 10% Desired Overstory DF 25%, PP 35%, LPP 2%, AS 8% Bare ground 30% | **EXISTING BASAL AREA = 53 ft2/ac** **DESIRED BASAL AREA = 32-40 ft2/ac** |
| Existing ConditionThe unit is predominantly located on an easterly aspect with forested areas and a canopy cover between 10 to 70+ percent. Douglas-fir and ponderosa pine are the dominant species with patches of pure lodgepole pine mixed to a lesser extent. Aspen is a minor component in small clones or ones that are competing with conifers for growing space. Patches dominated with ponderosa pine and dominated with Douglas-fir are mixed throughout the unit and are generally aspect and site dependent. Small meadows and clones of aspen are isolated among the immediate conifer dominated landscape. In the absence of fire, Douglas-fir regeneration has converted growing space on flat and south aspects, evidenced with the presence of Douglas-fir mixed with Rocky Mtn. juniper associations. Overall, the tree structure arrangement of conifers is well distributed through various size classes with the exception of seedling regeneration. Over 30% of the overstory trees are greater than 12” DBH. Some areas exhibit light to moderate levels of dwarf mistletoe that have infested adjacent trees. The spatial arrangement and density of conifers is varied in the unit. Desired ConditionThe desired stand conditions would exhibit characteristics of a dry and mesic ponderosa pine site where stand heterogeneity is diverse and sustainable over time. The majority of the unit would exhibit ponderosa pine and Douglas-fir with a subsequent tree arrangement and conifer structural diversity that would be resilient to stand replacing natural disturbances and temporally sustainable. A combination of individual trees and groups of ponderosa pine would provide both horizontal and vertical stand structure in a mosaic pattern. South aspects would be dominated with open ponderosa pine, and Douglas-fir mixed with ponderosa pine would occur on north aspects and in the drainages. Spatially, the tree arrangement would feature a resilient stand structure that is resistant to stand replacing natural disturbances. Objectives* Reduce the severity and intensity of a wildfire within the WUI.
* Restore ponderosa pine/mixed conifer stands, aspen, and meadow/shrublands toward their characteristic species composition, structure, and spatial patterns in order to increase resistance and resiliency to future natural disturbance.
* Maintain Douglas-fir dominant aggregations on north aspects.
* Old growth tree component: retain ponderosa pine greater than 12” DBH or ponderosa pine greater than 10” DBH with flat top crowns and/or bark that is orange over 50% of the bole of the tree.
* Emphasize grouped ponderosa pine spacing where conditions allow and individual spacing where conditions aren’t conducive or for other conifer species in order to meet the basal area reduction.

**Note:** This unit will be manually cut and the slash will be lopped and scattered to facilitate prescribed broadcast burning. The desired condition is intended to be realized once the cutting and prescribed broadcast burn have been completed. |

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| **ACTIVITY** | **TIME**  | **AC** | **DESCRIPTION, MARKING GUIDES, MONITORING, ETC.**  |
| Douglas-fir Mixed Conifer Thin  | 2019 | 88 | Cutting Guides* Reduce the existing basal area by 30% (5’-15’ crown spacing between individual trees or groups of trees) on predominantly south aspects and by 20-25% (5’-10’ crown spacing between individual trees or groups of trees) on predominantly north aspects.
* Favor to retain the healthiest conifer (good vigor, at least 40% live crown ratio, insect/disease and damage free. regardless of size) and identified by the species preference.
* Species preference to retain: limber pine > ponderosa pine > Douglas-fir > lodgepole pine > Rocky Mtn. juniper.
* Retain all limber pine and blue spruce that do not pose a safety hazard.
* Retain all conifers > 12” DBH.
* Group and retain ponderosa pine identified as at least 2 to 10 ponderosa pine trees > 10” DBH with touching or intermingled crowns, or at least 3 to 7 ponderosa pine trees 5”- 8” DBH with intermingled crowns. Cut all ladder fuel trees within the dripline of the identified group regardless of species.
* Space the groups of ponderosa pine 10’-20’ crown dripline to the adjacent crown dripline of individual or group of trees.
* Retain all healthy (described above) ponderosa pine trees (2 - 8” DBH). Cut all overstory conifers regardless of health condition except healthy ponderosa pine 10 - 12” DBH, then cut the smaller tree.
* Cut all dwarf mistletoe infested ponderosa pine < 10” DBH, Hawksworth Rating of 3+ (see description below).
* Group and retain ponderosa pine identified as follows: 1) At least 2 to 10 ponderosa pine trees > 10” DBH with touching or intermingled crowns; 2) At least 3 to 7 ponderosa pine trees 5”- 8” DBH with intermingled crowns. Cut all ladder fuel trees within the dripline of the identified group, regardless of species, to the DBH of the smallest tree (that fits the aforementioned criteria) to be retained in the group.
* Cut ladder fuel conifers within and up to 5’ from the edge of the dripline on all leave ponderosa pine trees > 10” DBH.
* Where Rocky Mountain juniper occurs, leave an average of three large individual trees, or clump of three or more per acre if available. Cut Rocky Mountain juniper that are within 20’ of the crown of other residual conifer species.
* Retain healthy ponderosa pine seedlings and saplings located under the crowns of conifers (5” - 12” DBH), and cut overstory tree. If seedling/sapling is not healthy, cut the smaller tree.
* Cut lodgepole pine < 10” DBH. Retain lodgepole pine > 10” DBH in groups of 5+ trees. If a group of 5+ trees cannot be maintained, retain other conifer species in the vicinity to form the minimum group size; if this criteria doesn’t fit, cut the lodgepole pine regardless of size.
* In Douglas-fir dominated aggregations or on north aspects, thin from below by cutting trees < 6” DBH and/or crown space 5’ between residual trees.
* Retain all existing down woody material 5” in diameter or greater within and up to 100 feet of riparian areas for
* prebles habitat adjacent to unit 74.
* Retain 5 of the largest snags (dead trees) per acre (minimum 8” DBH for lodgepole pine and 10” DBH for both ponderosa pine and Douglas-fir). If the minimum number of snags is not available, then the largest available live, green replacement trees will be retained for future snags.
* Retain wildlife trees (trees with cavities, large squirrel middens, or Abert’s squirrel nest trees.
* Knolls (small rounded hilltops or rock outcrops) will be excluded from treatment. Exclusions extend from the top of a knoll to the point where mechanical equipment would be able to operate or at the point where the slope exceeds 40%.
* **Aspen:** Do not cut aspen. In aspen clones (identified as the number of aspen trees with diameters > 1” DBH that are greater than the number of conifers within the clone perimeter) cut all ponderosa pine and Douglas-fir < 12” DBH or lodgepole pine < 12” DBH. Extend out 30 feet from the edge of an aspen clone perimeter (diameter >1” DBH) and cut all conifers < 12”DBH.
* **Meadow:** In areas dominated with meadow/grass, cut all conifers regardless of species up to 12” DBH.
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| Goshawk Buffer Thin |  2019 | 30 | * Maintain a minimum of 50% crown closure (where applicable) within the 30-acre buffer.
* In the open area on the north side of the goshawk buffer, the crown closure is estimated at 10 to 20% with ponderosa pine that are infested with dwarf mistletoe. Cut all infested trees with a Hawksworth Rating of 3 or greater that are < 8 “DBH.
* Cut all Douglas-fir < 4” DBH and all conifers (except limber pine) up to 8” DBH that are within or extend out 10’ from the crowns of ponderosa pine > 8” DBH.
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| Unit Slash Treatment  | 2019 | 88 | * All cut material will be lopped and scattered to a depth no greater than 18 inches.
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| Goshawk Buffer Slash Treatment | 2019 | 30 | * Hand- pile existing and activity slash material < 6” diameter and 2’.
* Piles should be at least 6’ x 6’ in diameter, 15’ apart, & 10’ from residual tree boles. Cut conifers in order to create piles when needed.
* In aspen clone aggregations, construct piles outside of the aspen perimeter if enough material exists to establish the minimum pile size. Any slash that must be moved more than 50’ to meet minimum required pile size may be lopped and scattered to a maximum depth of 18”.
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| Rx Broadcast Burn | 2021 | 118 | * Retain 5 of the largest snags (dead trees) per acre (minimum 8” DBH for lodgepole pine and 10” DBH for both ponderosa pine and Douglas-fir). If the minimum number of snags is not available, then the largest available live, green replacement trees will be retained for future snags.
* Within treatment units where Rocky Mountain juniper occurs, leave an average of one large individual, or clump of three or more if available, Rocky Mountain Juniper per acre.
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| **BOUNDARY DESIGNATION AND TREE MARK** | * + Boundary trees marked with orange flagging and painted in orange (if needed).
* This is a cut-tree mark; cut-trees will be designated with either one vertical slash of blue paint on trees < 5” DBH or two vertical slashes on opposite sides of the bole of the tree and a butt mark.
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| **TIMING RESTRICTIONS** | * No operations from May 1 through August 10 in flammulated owl territories.
* Raptor nest areas, including species-specific buffers, will generally have no treatment activity from March 1 through September 15, depending on species, or until determined unoccupied by the wildlife biologist. Access through buffers during this period will be assessed by the wildlife biologist.
* No operations from December 1 through April 30 for elk, unless determined appropriate to treat by the wildlife biologist.
* Project operations will not be conducted on Memorial Day, 4th of July and Labor Day holiday weekends and on Sundays. Operating time for heavy equipment and chainsaws shall be limited to the hours of 7am to 7pm.
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| **MMG CONCERNS** | * Old Growth in drainage; Wildlife biologist and silviculturist visited and small habitat limited to drainage.
* Flammulated owl nest near boundary with unit 74; Wildlife biologists visited and determined not a nest.
* Spring located in drainage between units 45 and 74.
* Area with shady lodgepole pine preferred by ungulates.
* Variable locations to thin or not.
* Evidence of social or wildlife trail.
* Evidence of wildlife use in unit.
* Drainage in unit.
* Aspen and meadows present.
* Rocky knolls and/or outcrop.
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| **FOR MORE INFO:** | Forsythe II EA |



Hoffman, James T. “Management Guide for Dwarf Mistletoe”. Forest Health Protection and State Forestry Organizations, May 2004. Web.