

# PSICC CFLRP MONITORING FIELD TRIP 2014



August 20, 2014  
9:30 – 3:30

Meeting Location: Hayden Divide Community Park, Divide, CO

**Please bring your own lunch**

## AGENDA

- 9:30 Welcome and Introductions. Travel to project site.
- 10:15 Ponderosa (Unit 4): Review **an in progress but inactive site** (mechanized logging is complete, no mastication to date). The primary forest types are Ponderosa Pine & Dry Mixed Conifer. Clumpiness/variable tree spacing was a key prescription/marketing guide component. The treatment was implemented via **ITM - Cut Tree Marking** (sawtimber & pole size classes), **DxP** for biomass (mastication).
- 11:45 Ryan Quinlan (Unit 11): Review **a post-treatment site**. The primary forest types are Ponderosa Pine and Dry Mixed Conifer. This project was implemented via a

combination of **ITM – Cut Tree Marking** (sawtimber) and **DxP** for pole sized material. We will review an opening enhancement treatment.

12:30      **Lunch**

1:15      Ryan Quinlan (Unit 4): Review **a post-treatment site**. We will discuss the residual density, the regeneration potential of Douglas-fir, and the need for subsequent maintenance treatments.

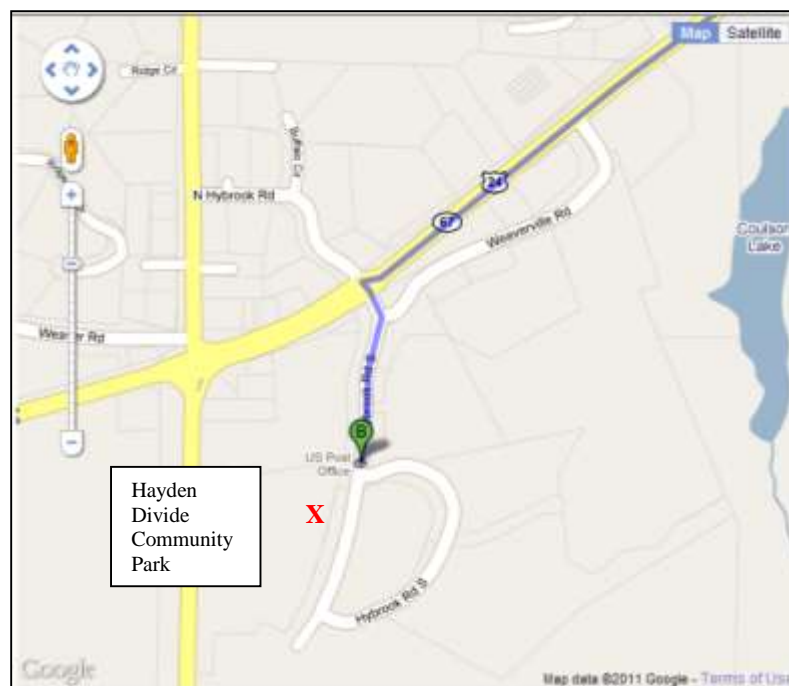
2:30      Crystal Creek (Units 4, 8 and/or 15): Review **an active project**. Mechanized logging is complete, mastication is in progress. The primary forest types are planted ponderosa pine, Douglas-fir, and limber pine. This project includes **opening creation via boundary designation** and clumpiness/variable tree spacing via DxP.

3:15      Next steps and Wrap Up

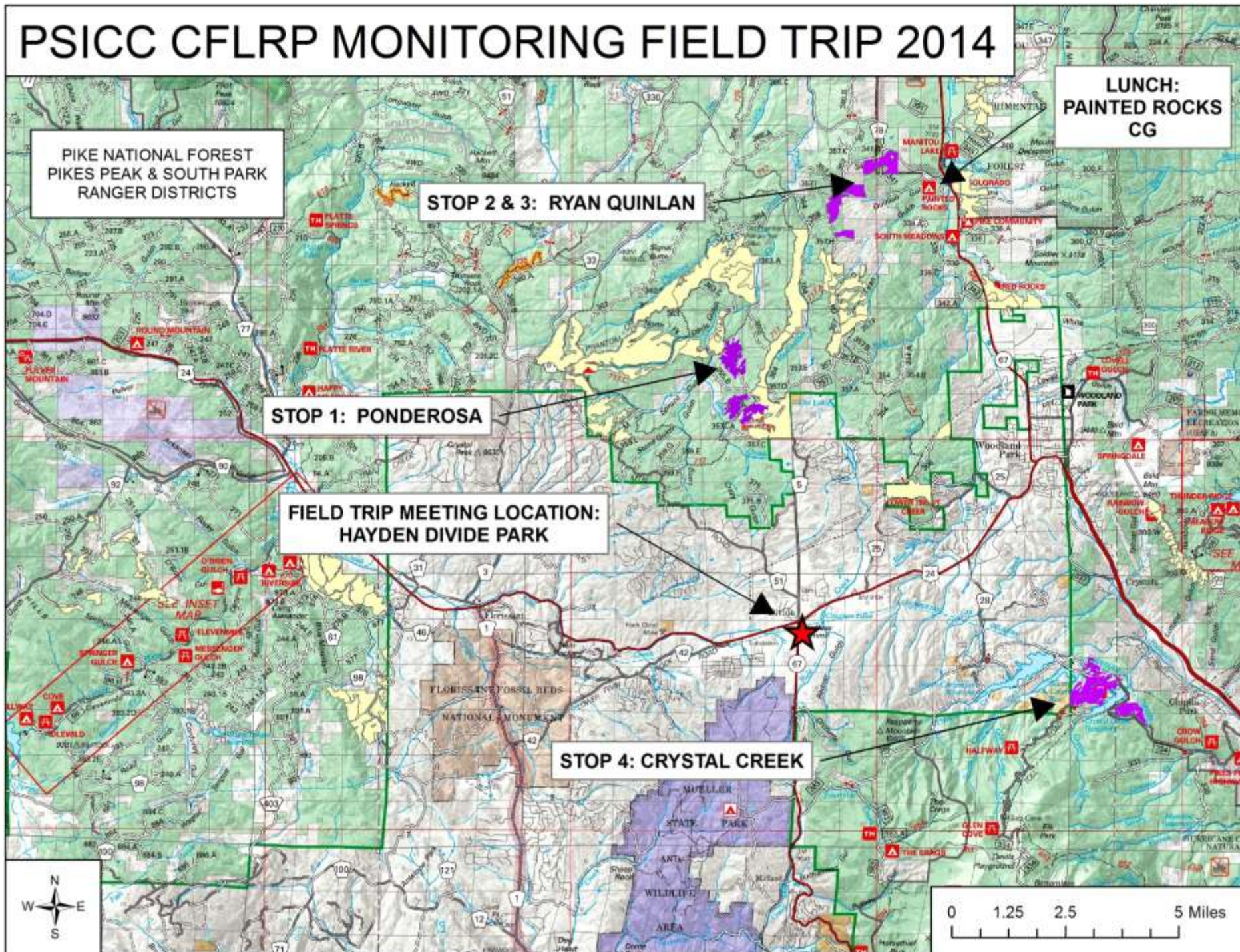
3:30      Adjourn

Directions:

- From Colorado Springs (I-25): take exit #141, US-24 West to Divide, CO. (approx. 25 miles)
- In Divide, turn left: south onto Weaverville Rd.
- Weaverville Rd turns slightly right and becomes Hybrook Rd. (200 feet).
- Go past the Post Office to Hayden Divide Community Park.



# PSICC CFLRP MONITORING FIELD TRIP 2014



## STOP 1: PONDEROSA

### PROJECT SPECIFICATIONS

- NEPA: Trout West
- 229 acres of ground based logging, sawtimber and non-sawtimber size classes and mastication of biomass.
- This project is adjacent to the Big Elk task order, 225 acres of ground based logging, no biomass treatment.
- Thinning project with an objective to achieve variable spacing (groupy/clumpy)
- Marking of sawtimber/non-sawtimber via Cut Tree Marking.
- The biomass treatment was implemented via Designation by Prescription (DxP).

### Prescription Summary

#### **Prescription #1: Mixed Conifer Thinning**

*Desired Condition:* Reduce basal area of residual stand to an average **basal area of 60**. Favor ponderosa pine and aspen where appropriate.

#### *Management Objectives:*

1. Reduce the likelihood of crown fire within the stands by reducing canopy closure.
2. Promote PP and aspen retention and regeneration.
3. Reduce susceptibility of residual stands to insects and disease.

*Prescriptions Considered:* Clearcut, group selection and single tree selection. Clearcut and large scale group selection cutting is not allowed under the selected alternative for the Trout West NEPA leaving single tree selection with limited group selection harvest as the only available method.

- Pre-treatment Basal Area = 94 sq. ft.

#### **Prescription #3- Ponderosa Pine Thinning**

*Desired Condition:* A more open ponderosa pine dominated stand with an irregular patchy and clumpy arrangement, average **basal area 40 sq. ft.** Douglas-fir and spruce are minimized in the future stand. Crown fires are unlikely to occur and opportunities for ponderosa pine to maintain dominance are increased.

#### *Management Objectives:*

1. Reduce live tree stocking of the project area to sustainable levels to where stand replacing crown fires are unlikely to occur.
2. Ensure that ponderosa pine remains the dominant species across the stands.
3. Reduce ponderosa pine stocking levels to promote greater resistance to mountain pine beetle attack.

*Prescriptions Considered:* Group selection and thinning. Large scale group selection cutting is not allowed under the selected alternative for the Trout West EIS leaving single tree selection with limited group selection harvest as the only available method.

Pre-treatment Basal Area = 108 sq. ft.

## Marking Guides: Prescription #3- Ponderosa Pine Thinning

### Goals:

- Reduce live tree stocking of the project area to sustainable levels to where stand replacing crown fires are unlikely to occur.
- Ensure that ponderosa pine remains the dominant species across the stands.
- Reduce ponderosa pine stocking levels to promote greater resistance to mountain pine beetle attack.

Leave tree mark the stands with orange paint for all conifer trees >5.0"DBH (aspen do not need to be leave tree marked and will not be cut) using the following marking guides:

**No Treatment-** Approximately 10% of the area should remain untreated in sizes ranging from a few trees to 5 acres acre. These may be centered on aberts squirrel feeding and nesting areas, areas of older play barked trees, other areas showing signs of wildlife use, rocky areas or areas unsuitable for treatment (may be left out of units) and areas designated as no treatment per the Trout West NEPA and to reach the 10%. Leave areas within treatment units 2 acres and greater, should be designated on the ground with boundaries, GPS'd and acres should be removed from the unit total (not included for payment). Using white paint for no treatment area boundaries has worked well on other districts. Some areas can simply be left out of treatment units. Layout and marking crew should use their judgment on smaller leave areas as to whether it would be more efficient to place boundaries around leave areas or simply mark all of the trees in an area as leave trees. These areas do not need to comprise 10% of each polygon, but rather cover a general area such as a drainage or task order.

**Thinnings-** Leave tree mark the remainder of the stand from below to a residual basal area of 40 for conifer trees greater than 5.0" DBH. Aspen will not count toward basal area goals and does not need to be leave tree marked. Due to the variability of the stand structure in terms of species composition a flexible strategy of thinning will be used based upon the dominant species mix of a particular site. Thinning should be done in a highly irregular manner resulting in a patchy and clumpy arrangement. In general, thinning will be from below, leaving the most vigorous trees is the goal. Thin to favor ponderosa pine and limber pine. Do not cut aspen or limber pine. Thinnings should remove 20%-50% of the basal area on any given site. Within the thinning, 5%-10% of the area can be comprised of small group selections of up to ½ acre. Cut all conifer trees within these group selections. Group selection cuts can be concentrated in areas of mistletoe infestation, adjacent to ponderosa pine dominated sites, areas that seemed to have openings in the past and additional areas across the landscape to reach 5%-10%. The purpose of the thinning is not necessarily to release stands for growth but to reduce fire intensity by disrupting canopy continuity, removing fuel ladders and creating landscape diversity.

Ponderosa pine sites- Where ponderosa pine is the dominant species or ponderosa pine exceeds 40 BA thinning will concentrate on maintaining ponderosa pine as the dominant tree species. Thin Douglas-fir and the spruces first and then thin ponderosa pine from below to an average of 40 BA average with a range of 20-60 BA resulting in a patchy, clumpy arrangement. Younger, smaller (<8" DBH) cohorts of ponderosa pine are underrepresented in these stands and where these groups of trees can be released, thinning from above is allowed. Douglas-fir plays a minor role in these situations and should generally comprise <10% of the residual BA. Exceptions may

be made for large Douglas-fir that has been on site for as long as the pine and for Douglas-fir that provide excellent cavity nesting habitat through dead panels and tops or in swales or slightly moister areas. The spruces play almost no role in these stands and should be removed. The only exception to this is where permanent or near permanent water sources such as springs and perennial streams are located and spruce may be left in minor amounts. Thinning should be done in a highly irregular manner where conditions allow. Residual BA on these sites may range from 20-60. Do not cut limber pine or aspen on these sites. Count limber pine towards the BA goal. Do not count aspen toward the BA goal.

Mixed conifer sites- Limited portions of these polygons contain north and east aspects where Douglas-fir would be expected to play a larger role. Marking will favor ponderosa pine over Douglas-fir and the residual basal areas target will be 60 with a range of 50-70. Thinning will be in a less irregular manner than true ponderosa sites and the residual species composition will likely contain a higher percentage of Douglas-fir. Spruce should play a minor to almost no role in these stands and be left only on the moistest sites such as perennial streams and springs.

**Biomass-** For trees less than 5.0" DBH, designation by prescription shall be used. Leave a disease free, well formed, conifer biomass tree every 25-30 feet across the treatment area. Leave preference shall be limber pine and ponderosa pine. Do not leave Douglas-fir and spruce biomass trees on ponderosa pine sites. This equates to 50-75 TPA in ponderosa pine. Where ponderosa pine is dominant, all leave trees should be ponderosa pine. This may result in less than 50 TPA being left. For mixed conifer sites leave a biomass tree every 20-30 feet favoring limber and ponderosa pine, then Douglas-fir. This will result in 50-100 TPA. For all sites leave trees shall be disease free, well-formed and have good crown ratios (>40%).

**Snags-** Meet Forest Plan standards for snags by maintaining a minimum of 20-30 snags per 10 acres, well distributed; retain all soft snags, and in ponderosa pine, Douglas-fir and aspen stands provide hard snags where biologically feasible: 12" or larger with at least 5 per 10 acres; 10" diameter or larger at least 9 per 10 acres; and 6" diameter or larger with at least six per 10 acres. Trees and snags with existing cavities and lightning struck trees should be favored for cavity nester habitat. Except for safety hazards, snags should not be removed under these contracts. They do not need to be leave tree marked. Leaving all snags in the contract will allow the area to meet snag retention goals in the Forest Plan. Additional trees with existing cavities and lightning struck trees can be favored for retention and marked with orange paint to leave.

**Steep Slopes-** In areas where the slopes are too steep for mechanical treatment and removal of the cut trees, efforts to meet the prescription shall be confined to the Biomass and POL sized trees. Trees and slash should be piled in all areas for later burning.

### **Special Considerations-**

- Polygons 154 & 191 fall within the 30 acre Goshawk nest restriction area. No Operations March 15th to September 15th. Contact Wildlife Biologist Felix Quesada prior to starting implementation in these polygons.
- Abert's squirrel feeding areas should be targeted for retention. Look for clippings and nest trees.
- Do not cut limber pine.

- Numerous range improvements exists in the stands, protect tank, pipelines and fences as shown on greencards
- Forest Motorized Trail 717B intersects polygon 837. Work with recreation staff during and after implementation to devise rehab and screening standards for areas adjacent to the trail.
- Forest Motorized Trail 717 intersects polygons 177, 191, 917, 975 & 978. Work with recreation staff during and after implementation to devise rehab and screening standards for areas adjacent to the trail.
- Polygon 917 has had a recent fire that burned about 10 acres and created a 2-3 acre snag patch. Leave snag patch untreated and count as opening.

**STOP 2: RYAN QUINLAN**

PROJECT SPECIFICATIONS

- NEPA: Trout West
- 356 acres
- All units were treated via ground based logging of the sawtimber and non-sawtimber size classes.
- No biomass treatment was implemented.
- Cut tree designation was implemented via cut tree marking for the sawtimber and DxP for the non-sawtimber.
- An existing meadow with conifer encroachment was treated via an 8 acre clearcut. The trees in the area were also infested with dwarf mistletoe.

DESIRED FUTURE CONDITION: The "Uneven Aged System" (improvement cut) is proposed for this harvest entry and long term management of these sites. This system creates a forest patchwork of small openings, intermediate sized trees, and groups of large old trees.

**RX: Basal Area = 0-80 sq. ft.**

Post Treatment Results

Project <sup>1</sup>	Method <sup>2</sup>	Timing of Data	No. of plots	Live BA <sup>3</sup> (ft <sup>2</sup> /ac)	Live conifer BA (ft <sup>2</sup> /ac)	Live conifer BA range (ft <sup>2</sup> /ac)	Conifer canopy cover (%)	Proportion of ponderosa pine BA (%)
<b>Ryan Quinlan (PP = 61%, DMC = 36%)</b>	<b>Mech</b>	<b>Pre Post</b>	<b>. 40</b>	<b>. 41.7</b>	<b>. 39.6</b>	<b>. 10-68</b>	<b>. 19.2</b>	<b>. 64.5</b>



## Marking Guide

- Leave legacy trees (orange bark, flat topped pine) or trees with cavities
  - Leave clumps of healthy, isolated, young Ponderosa Pine trees within BA limits
  - Remove all trees infected with mistletoe; leave heavier Douglas-fir in these areas
  - Remove all conifers within 50 feet of the perimeter of aspen clumps containing more than 10 stems
1. Mark "cut trees" with Blue paint at the stump and on all sides of the tree at or above DBH. Retain 10-80 sqft. of Basal Area in leave trees. Preferred tree species is ponderosa pine but do not mark a superior Douglas-fir over a less desirable ponderosa pine and favor large diameter trees over small diameter trees. Trees selected for retention should have crown ratios greater than 40%, show good form and vigor and not have forked tops. The marking should be irregular, patchy and not 'tree farm' in nature. The marking should consider placement of openings on south and west exposures where openings historically would have persisted for decades. The areas targeted for openings are predominantly dense seedling and sapling stands or are adjacent to small openings that have shrunk from tree encroachment. Other areas targeted for openings would be dwarf mistletoe-infected trees, or pockets of trees infected with insects or other pathogens.
  2. In areas where mountain mahogany or other ground vegetation is crowded out, remove edge trees to invigorate the mahogany.
  3. In areas of dwarf mistletoe infection, favor noninfectious trees over infected trees. In heavily infected areas with Douglas Fir present favor the Douglas Fir. Use these areas as possible openings.
  4. Cut all merchantable conifer trees inside aspen clumps and within 1 1/2 tree height of the aspen. This is intended to encourage aspen sprouting in this area.
  5. Use a prism to help determine your "leave tree" BA.
  6. Merchantability standards  
Sawlogs 8.0"+ DBH containing at least one 8 foot log  
Note: Aspen trees are not classified as merchantable sawlogs
  7. Where the existing stand structure allows, maintain 20-30 snags in all stages of development on each 10 acres of harvested area. Retain 2 "hard" snags 12 inches DBH or larger per 10 acres. Retain all "soft" snags, except where they are safety hazards.
  8. Remove all live Mountain Pine beetle infested trees. This includes trees with old hits, new hits, or visible signs of dying trees such as thinning, browning crowns. Save snags which have already lost their needles for wildlife habitat.
  9. Protect or provide for a minimum of one Abert's squirrel nest tree clump (0.1 acre of 9" to 22" dbh ponderosa pine with a basal area of 180 to 220, and an interlocking canopy) where visible evidence of the squirrel nests exists. Evidence of Abert's squirrel feeding includes: clipped branches and stripped bark on terminal branches.
  10. Protect two turkey roost tree clumps (minimum 0.1 acre) if available, in the sale area.

## STOP 3: CRYSTAL CREEK

### PROJECT SPECIFICATIONS

- NEPA: Catamount
- 412 total acres:
  - 301 acres of ground based logging with mastication of biomass
  - 111 acres of mastication of non-sawtimber and biomass only.
- The project included opening creation/patch cuts on approximately 20% of the mechanized footprint.
- Openings were designated by cut tree marking – boundary paint.
- Openings were primarily located in/adjacent to aspen.
- Thinning was implemented via DXP

### PATCH CUT/OPENING DESIGNATION

This Task order has Patch cuts designated on the ground. These patch cuts are designated by a blue painted boundary. The boundary consists of blue ringed trees with three dots facing into the patch cut. All trees within this boundary except orange painted trees are designated as cut trees however not all trees within the boundary of the patch cut are painted.

### DESIGNATION BY PRESCRIPTION

**Units: 1,3,5,8,9,13,15**

Thin from below with Patch cuts. Residual Basal area should be **60-80 ft<sup>2</sup>**. With plots varying in density from 10 to 100 ft<sup>2</sup> except in patch cuts where the residual BA should be 0 unless orange leave marked trees are found within the plot. Patch cuts range in size from ¾ of an acre to 9 acres in size. Orange leave trees are found in some patch cuts to facilitate regeneration. **Cut all conifers within and up to 2 tree lengths of viable aspen clones. A tree length is defined in this case as 35 feet.**

- *Residual BA 60-80ft<sup>2</sup>*
- *Patch Cuts are found in units. These are marked with a Blue painted boundary. Boundary is a full band around the tree with 3 dots facing inward toward the patch cut.*
- *All trees within the patch cut are designated as a cut tree. Except trees painted with an orange band at or above DBH designating them as a leave tree.*
- *All conifers within and up to two tree lengths of viable aspen clones are to be cut.*
- *All Biomass trees 4.5' tall or more are designated for removal.*
- *In areas surrounding patch cuts leave a residual BA of 40-60ft<sup>2</sup>*

### Units: 4,7

Thin From below with patch cuts. Residual BA should be **40-60ft<sup>2</sup>** with plot level residual BA ranging from 10-100ft<sup>2</sup>. Patch cuts range in size from 1 acre to 3 acres and all trees within patch cuts are designated for removal unless leave tree marked with orange paint. Orange painted leave trees are found within some patch cuts.

- *Residual BA 40-60ft<sup>2</sup>*
- *Patch cuts are found in units. These are marked with blue painted boundary. Boundary is a full band around the tree with 3 dots facing inward toward the patch cut.*
- *All trees within the patch cut are designated as a cut tree. Except trees painted with and orange band at or above DBH designating them as a leave tree.*
- *All Biomass Trees 4.5' tall or more are designated for removal.*
- *All conifers within and up to two tree lengths of viable aspen clones are to be cut. A tree length is defined in this case as 35 feet.*

### Units: 2,6

Thin from below to a residual BA of **40-60ft<sup>2</sup>**. Plot level residual BA should range from 10-100 ft<sup>2</sup>. Thin trees to create clumps with small irregular openings throughout.

- *Residual BA 40-60 ft<sup>2</sup>*
- *All Biomass trees 4.5' tall or more are designated for removal.*

### Units: 10,11,12

Mastication unit.. Thin from below. Residual Basal area should be **60-80 ft<sup>2</sup>** With plots varying in density from 10 to 100 ft<sup>2</sup>. **Cut all conifers within and up to 2 tree lengths of viable aspen clones. A tree length is defined in this case as 35 feet.** This is a thin from below prescription. Smaller size classes should be targeted for removal first.

- *Residual BA 60-80ft<sup>2</sup>*
- *Specifications:*
  - *Remove Ponderosa Pine up to 9.9" DBH and Douglas fir and others up to 9.9" DBH*
  - *Leave tree preference should be limber pine, ponderosa pine, Douglas fir, and spruce.*

## Units: 14,14B

Mastication unit.. Thin from below. Residual Basal area should be **40-60 ft<sup>2</sup>** With plots varying in density from 10 to 100 ft<sup>2</sup>. **Cut all conifers within and up to 2 tree lengths of viable aspen clones. A tree length is defined in this case as 35 feet.** This is a thin from below prescription. Smaller size classes should be targeted for removal first.

- *Residual BA 40-60ft<sup>2</sup>*
- *All conifers within and up to two tree lengths of viable aspen clones are to be cut.*
- *Specifications:*
  - *Remove Ponderosa Pine up to 9.9" DBH and Douglas fir and others up to 9.9" DBH*
  - *Leave tree preference should be limber pine, ponderosa pine, Douglas fir, and spruce.*

## Units: All

Preferred Leave trees are Limber Pine followed by Ponderosa pine, Douglas Fir, and last Spruce.

The exception to the leave tree selection would be in areas that exhibit limber pine that shows planted characteristics leave ponderosa pine first. Planted characteristics would include those trees that are all nearly the same size and appear at a consistent spacing much like a plantation.

All Units are a thin from below prescription. The exception to this would be overstory trees showing signs on dwarf mistletoe infestation or other insect or disease infestations where overstory trees would be removed.