

## ASCC/Little Jackson 2 “Resistance” Marking Guides

Experimental Unit (Cut Unit): T1B(U3/U4), T2B (U15), T3A (U10B/U10C), T4A (U7A/U8)

### Unit T1B Resistance (U3/U4)

**Goal:** Create a uniformly spaced, high canopy cover, fire and forest health pathogen resistant forest structure comprised of trees of the current species composition.

**Objectives:**

- Maintain species composition in current proportions of PP, DF, WF
- Reduce basal area by ~50% to 80ft<sup>2</sup>/ac.
- Maintain relatively uniform canopy cover and basal area throughout the stand.
- Reduce ladder fuels, small tree density
- Retain large PP/DF, keep old PP/DF/WF

#### ***Ponderosa Pine***

PP 5-10”: Retain all trees <10” (relatively rare within the unit).

PP 10-20”: Retain half 1 in 2 PP evenly spaced. Attempt to keep the best crown ratio, crown condition and form individuals, but not at the expense of relatively uniform spacing; Don’t retain seriously declining trees.

PP 20”+: Retain nearly all of the trees over 20”, especially large and yellow barked PP with old age characteristics. Only cut the rare heavily DM infested trees in this size class (DMR>4).

#### ***Douglas Fir***

Retain nearly all DF. Only cut the very most heavily broom rust infested or heavily defoliated individuals. Keep cutting to approximately 1-2% of all trees (~5-10 trees in entire stand).

#### ***White Fir***

WF 5-10”: Retain 1 in 10 of the very best crown ratio, crown condition and form individuals.

WF 10-20”: Retain 1 in 2 evenly spaced residual WF. Favor retention of healthy trees at the larger end of this diameter range (15-20”) over those at the smaller end (10-15”). Attempt to keep the best crown ratio, crown condition and form individuals, but not at the expense of relatively uniform spacing; Don’t retain seriously declining trees.

WF20”+: Generally retain all 20”+ WF unless declining or poor condition.

## Evaluation Criteria

Uniform average residual stand basal area of 65-95 ft<sup>2</sup>/ac.

Spacing is generally uniform; no attempt to select groups or clumps of trees.

Maintain pre-treatment species basal area distribution; approximately 75% PP, 10% DF, 15% WF.

Nearly all trees >20" retained; cutting is focused on very few, very poor condition large trees.

Very few WF<10" (~10%) retained only the very best form, condition and crown ratio trees from 5-10" retained.

## Decision Points/Remediation

### During marking if BA is low:

Retain more 10-20" PP or WF. As a last resort retain more smaller diameter WF, although the BA contribution will be minor with these trees. If BA is low, adding more PP should be an easy option.

### During marking if BA is high (>90 ft<sup>2</sup>/ac):

Mark fewer 10-20" PP. PP dominates the BA and reduction of 10-20" PP will be the easiest way to reduce it.

## Watch Outs

- Basal areas running too high or low or varying dramatically. Consistency in BA is a key feature of this treatment. Try to maintain a residual ~80 BA throughout the marking.
- Too much focus on tree characteristics in leave tree selection. Strive for a relatively evenly spaced residual stand over minor differences in residual tree quality.
- Declining leave trees. Don't stress over minor differences in residual tree quality but try not to leave any trees with crown ratios less than 30%, defoliation or obvious signs of internal rot, etc...
- Retention of too many small WF; Cut <15" WF fairly hard with this mark.
- Missed marking of large and old (>140 yo) DF and PP.
- Poor butt marks; trees not marked on two sides ("shoddiness")

If you are running into watch outs, discuss the situation with your crew lead and other timber markers ASAP. The silviculture prescription and marking guide are based on sound, but incomplete information. If you can't create the desired results on the ground, for whatever reason, describe why in the daily diary and communicate this information.

*You can always mark more trees to be retained, but you can't very easily unmark trees.*

## Unit T2B Resistance (U15 western half)

**Goal:** Create a uniformly spaced, high canopy cover, fire and forest health pathogen resistant forest structure comprised of trees of the current species composition.

**Objectives:**

- Maintain species composition in current proportions of PP, DF, WF
- Reduce basal area by ~45% to 80 ft<sup>2</sup>/ac.
- Maintain relatively uniform canopy cover and basal area throughout the stand.
- Reduce ladder fuels, small tree density
- Retain large PP/DF, keep old PP/DF/WF

### ***Ponderosa Pine***

PP 5-10": Retain all trees <10" (relatively rare within the unit).

PP 10-20": Retain half 1 in 2 PP evenly spaced. Attempt to keep the best crown ratio, crown condition and form individuals, but not at the expense of relatively uniform spacing; Don't retain seriously declining trees.

PP 20"+: Retain nearly all of the trees over 20", especially large and yellow barked PP with old age characteristics. Only cut the rare heavily DM infested trees in this size class (DMR>4).

### ***Douglas-fir***

DF 5-10" Retain all except seriously declining trees.

DF 10-20": Retain 1 in 2 evenly spaced residual DF. Favor retention of healthy trees at the larger end of this diameter range (15-20") over those at the smaller end (10-15"). Attempt to keep the best crown ratio, crown condition and form individuals, but not at the expense of relatively uniform spacing; Don't retain seriously declining trees.

DF 20"+: Only cut the very most poor form, condition, broom rust infested or heavily defoliated individuals.

### ***White Fir***

WF 5-10": Retain 1 in 10 of the very best crown ratio, crown condition and form individuals.

WF 10-20": Retain slightly less than 1 in 2 evenly spaced residual WF. Favor retention of healthy trees at the larger end of this diameter range (15-20") over those at the smaller end (10-15"). Attempt to keep the best crown ratio, crown condition and form individuals, but not at the expense of relatively uniform spacing; Don't retain seriously declining trees.

WF 20"+: Retain only the very best 1 in 10 >20" WF.

## Evaluation Criteria

Uniform average residual stand basal area of 65-95 ft<sup>2</sup>/ac (+20%).

Spacing is generally uniform; no attempt to select groups or clumps of trees.

Maintain pre-treatment species basal area distribution; approximately 15% PP, 55% DF, 30% WF.

Nearly all trees >20" retained; cutting is focused on very few, very poor condition large trees.

Very few WF<10" (~10%) retained only the very best form, condition and crown ratio trees from 5-10" retained.

## Decision Points/Remediation

### During marking if BA is low:

Retain more 10-20" PP or WF. As a last resort retain more smaller diameter WF, although the BA contribution will be minor with these trees. If BA is low, adding more PP should be an easy option.

### During marking if BA is high (>90 ft<sup>2</sup>/ac):

Mark fewer 10-20" WF or PP. WF dominates the BA and reduction of 10-20" WF will be the easiest way to reduce it. PP should be a second choice. Generally do not cut DF.

## Watch Outs

- Basal areas running too high or low or varying dramatically. Consistency in BA is a key feature of this treatment. Try to maintain a residual ~80-85 BA throughout the marking.
- Too much focus on tree characteristics in leave tree selection. Strive for a relatively evenly spaced residual stand over minor differences in residual tree quality.
- Declining leave trees. Don't stress over minor differences in residual tree quality but try not to leave any trees with crown ratios less than 30%, defoliation or obvious signs of internal rot, etc...
- Retention of too many small WF; Cut <15" WF fairly hard with this mark.
- Missed marking of large and old (>140 yo) DF and PP.
- Poor butt marks; trees not marked on two sides ("shoddiness")

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## Unit T3A Resistance (U12)

**Goal:** Create a uniformly spaced, high canopy cover, fire and forest health pathogen resistant forest structure comprised of trees of the current species composition.

**Objectives:**

- Maintain species composition in current proportions of PP, DF, WF
- Reduce basal area by ~40% to 60 ft<sup>2</sup>/ac.
- Maintain relatively uniform canopy cover and basal area throughout the stand.
- Reduce ladder fuels, small tree density
- Retain large PP/DF, keep old PP/DF/WF

### *Ponderosa Pine*

PP 5-20": Retain nearly all of these trees. Cut only the most seriously mistletoe infected trees or trees with poor form or condition.

PP 20"+: Generally retain all except seriously mistletoe infested trees (DMR >4).

### *Douglas Fir*

DF 5-20"+: Only cut the very most heavily broom rust infested or heavily defoliated individuals. Keep cutting to approximately 1-2% of all trees (~5-10 trees in entire stand).

### *White Fir*

WF 5-10": Retain 1 in 10 of the very best crown ratio, crown condition and form individuals.

WF 10-20": Retain 1 in 2 evenly spaced residual WF. Favor retention of healthy trees at the larger end of this diameter range (15-20") over those at the smaller end (10-15"). Attempt to keep the best crown ratio, crown condition and form individuals, but not at the expense of relatively uniform spacing; Don't retain any seriously declining trees.

WF 20"+: Generally only the very best 1 in 3 >20" WF.

### **Evaluation Criteria**

Uniform average residual stand basal area of 55-75 ft<sup>2</sup>/ac.

Spacing is generally uniform; no attempt to select groups or clumps of trees.

Maintain approximate pre-treatment species basal area distribution; approximately 33% PP 66% WF and retain nearly all whatever DF is present.

Nearly all trees >20" retained; cutting is focused on very few, very poor condition large trees.

Very few WF<10" (~10%) retained only the very best form, condition and crown ratio trees from 5-10" retained.

### **Decision Points/Remediation**

#### During marking if BA is low:

Retain more 10-20" PP or WF or 20"+ WF. WF is more abundant in this stand and will be a more available option. As a last resort retain more smaller diameter WF, although the BA contribution will be minor with these trees. If BA is low, adding more PP should be an easy option.

#### During marking if BA is high (>90 ft<sup>2</sup>/ac):

Mark fewer 10-20" WF or PP. WF dominates the BA and reduction of 10-20" WF will be the easiest way to reduce it. PP should be a second choice. Generally do not cut DF.

### **Watch Outs**

- Basal areas running too high or low or varying dramatically. Consistency in BA is a key feature of this treatment. Try to maintain a residual ~60 BA throughout the marking.
- Too much focus on tree characteristics in leave tree selection. Strive for a relatively evenly spaced residual stand over minor differences in residual tree quality.
- Declining leave trees. Don't stress over minor differences in residual tree quality but try not to leave any trees with crown ratios less than 30%, defoliation or obvious signs of internal rot, etc...
- Cutting DF too heavy. Retain all but the very worst condition DF. This seed source is lacking in the stand.
- Retention of too many small WF; Cut <15" WF fairly hard with this mark.
- Missed marking of large and old (>140 yo) DF and PP.
- Poor butt marks; trees not marked on two sides ("shoddiness")

If you are running into watch outs, discuss the situation with your crew lead and other timber markers ASAP. The silviculture prescription and marking guide are based on sound, but incomplete information. If you can't create the desired results on the ground, for whatever reason, describe why in the daily diary and communicate this information.

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## Unit T4A Resistance (U8-U7A)

**Goal:** Create a uniformly spaced, high canopy cover, fire and forest health pathogen resistant forest structure comprised of trees of the current species composition.

**Objectives:**

- Maintain species composition in current proportions of PP, DF, WF
- Reduce basal area by ~50% to 70 ft<sup>2</sup>/ac
- Maintain relatively uniform canopy cover and basal area throughout the stand.
- Reduce ladder fuels, small tree density
- Retain large PP/DF, keep old PP/DF/WF

### ***Ponderosa Pine***

PP 5-10": Retain all trees <10" (relatively rare within the unit).

PP 10-20": Retain 1 in 2 PP evenly spaced residual DF. Attempt to keep the best crown ratio, crown condition and form individuals, but not at the expense of relatively uniform spacing; Don't retain seriously declining trees.

PP 20"+: Retain nearly all of the trees over 20", especially large and yellow barked PP with old age characteristics. Only cut the rare heavily DM infested trees in this size class (DMR>4).

### ***Douglas-fir***

DF 5-10" Retain all trees <10" except seriously declining trees.

DF 10-20": Retain 1 in 2 evenly spaced residual DF. Favor retention of healthy trees at the larger end of this diameter range (15-20") over those at the smaller end (10-15"). Attempt to keep the best crown ratio, crown condition and form individuals, but not at the expense of relatively uniform spacing; Don't retain seriously declining trees.

DF 20"+: Only cut the very most heavily broom rust infested or heavily defoliated individuals. Keep cutting to approximately 1-2% of all trees (~10 trees in entire stand).

### ***White Fir***

WF 5-10": Retain 1 in 10 of the very best crown ratio, crown condition and form individuals.

WF 10-20": Retain 1 in 2 evenly spaced residual WF. Favor retention of healthy trees at the larger end of this diameter range (15-20") over those at the smaller end (10-15"). Attempt to keep the best crown ratio, crown condition and form individuals, but not at the expense of relatively uniform spacing; Don't retain seriously declining trees.

WF 20"+: Retain only the very best 1 in 10 >20"+ WF.

**Blue Spruce**-Retain all blue spruce encountered.

## Evaluation Criteria

Uniform average residual stand basal area of 60-80 ft<sup>2</sup>/ac.

Spacing is generally uniform; no attempt to select groups or clumps of trees.

Maintain pre-treatment species basal area distribution; approximately 10% PP, 35% DF, 55% WF (also retain any BS encountered)

Nearly all trees DF & PP >20" retained; Only 10% of the best 20"+ WF retained.

Very few WF <10" (~10%) retained; only the very best form, condition and crown ratio trees are retained.

## Decision Points/Remediation

### During marking if BA is low:

Retain more 10-20" DF, PP then WF. WF is more abundant in this stand and will be a more available option. As a last resort retain more smaller diameter WF, although the BA contribution will be minor with these trees. If BA is low, adding more PP should be an easy option.

### During marking if BA is high (>90 ft<sup>2</sup>/ac):

Mark fewer 10-20" WF. WF dominates the BA of this class and reduction of 10-20" Marking fewer WF will be the easiest way to reduce it. PP should second choice to reduce, then DF.

## Watch Outs

- Basal areas running too high or low or varying dramatically. Consistency in BA is a key feature of this treatment. Try to maintain a residual ~70 BA throughout the marking.
- Too much focus on tree characteristics in leave tree selection. Strive for a relatively evenly spaced residual stand over minor differences in residual tree quality.
- Declining leave trees. Don't stress over minor differences in residual tree quality but try not to leave any trees with crown ratios less than 30%, defoliation or obvious signs of internal rot, etc...
- Retention of too many small WF; Cut <15" WF fairly hard with this mark.
- Missed marking of large and old (>140 yo) DF and PP.
- Poor butt marks; trees not marked on two sides ("shoddiness")

If you are running into watch outs, discuss the situation with your crew lead and other timber markers ASAP. The silviculture prescription and marking guide are based on sound, but incomplete information. If you can't create the desired results on the ground, for whatever reason, describe why in the daily diary and communicate this information.

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