

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

Experimental Unit (Cut Unit): T1C (U3/U4), T2C (U16), T3B (U10A), T4B (U7A)

### Unit T1C Resilience (U3/U4)

**Goal:** Create an open, fire-resistant forest structure comprised of thick barked, long-lived and shade intolerant species (PP/DF) with a range of tree age and sizes and variability in tree spatial patterns.

**Objectives:** Retain low basal area of drought and fire adapted species (PP/DF) across the diameter range; Focus on cutting of white fir and Douglas-fir.

- Target Basal Area: 85 ft<sup>2</sup>/ac (range 0-120)
- Retention Priority: PP DF WF (ignore aspen and juniper)
- Retain groups of trees with interlocking crowns ranging from 2-40 trees (8 on average).
- Create small openings up to 2 acres in size.

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

PP 5-15”: Retain 1 in 5 of these trees. Retain the best form and crown ratio individuals, ideally in groups with other size classes or species.

PP15-20”: Retain 4 in 5 of these trees ideally in groups with other size classes or species. Cut the worst trees, with low crown ratios, crown damage or high height to diameter ratios (tall skinny trees susceptible to windthrow).

PP20”+: Retain all except for mistletoe infested trees (DMR >4).

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

DF 5-15”: Retain 1 in 5 of these trees ideally in groups with other trees.

DF15-20”+: Retain all but the most seriously declining, chlorotic (yellowish needles), budworm affected (defoliated) or beetle infested trees.

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

All diameters: Retain 1 in 10 across all size classes of the best form, condition trees ideally in groups with other species. You may need to primarily retain individuals that are contained within groups of residual DF or PP that cannot be removed unless the surrounding trees are cut.

#### **Evaluation Criteria**

- Basal area between 75 ft<sup>2</sup> - 95 ft<sup>2</sup>/ac.
- At least 75% of trees associated with groups comprised of other trees.

- Tree groups average around 8 trees in size.
- Leave trees are predominantly PP and DF; WF rarely marked within this stand.
- 95%+ of PP and DF >20" retained

### **Decision Points/Remediation**

#### During marking if BA is low:

Using diameter retention guides above, BA is unlikely to be low. Retain PP over DF or WF where necessary.

#### During marking if BA is low because of large homogenous (>1.5ac) WF patches being cut:

Record cut patch location and estimated size (in acres or 1/10ths of acres) in unit diary. Continue marking using a running average BA. Report to presale forester or silviculturist ASAP.

#### During marking if BA is high:

Cut additional PP especially in 10-20" range. These trees provide the bulk of the basal area in this stand and will probably be the most available option to reduce basal area.

### **Watch Outs**

- Basal Area too high (>95 ft<sup>2</sup>/ac).
- Too much or too little retention of DF and WF. Basal area of these species will be reduced about 80% with this treatment.
- Poor spatial structure. Patches of trees interspersed with openings is a primary objective. Keep this in mind when selecting leave trees.
- Many large >1.5 acre treeless openings. Report this issue to presale forester or silviculturist ASAP.
- 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.

*When marking always remember, what you mark or don't mark will be your legacy on this piece of ground for literally a lifetime.*

*also*

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

## Unit T2C Resilience (U16)

**Goal:** Create an open, fire-resistant forest structure comprised of thick barked, long-lived and shade intolerant species (PP/DF) with a range of tree age and sizes and variability in tree spatial patterns.

**Objectives:** Retain low basal area of drought and fire adapted species (PP/DF) across the diameter range; Focus on cutting of white fir and Douglas-fir.

- Target Basal Area: ~60 ft<sup>2</sup>/ac (range 0-120)
- Retention Priority: PP DF WF (ignore aspen and juniper)
- Retain groups of trees with interlocking crowns ranging from 2-40 trees (8 on average).
- Create small openings up to 2 acres in size.

### *Ponderosa Pine*

PP 5-15": Retain just about all of these trees. Cut only seriously declining, poor form or condition or mistletoe infested trees, but strive to maintain this diameter class as much as possible-rare.

PP15-20"+: Retain all.

### *Douglas Fir:*

DF5-15": 1 in 2 of these trees, but the very worst form and condition trees of this species. Strive for 90%+ retention.

DF15-20"+: Retain 9 in 10 of these trees. Cut the worst condition individuals typically chlorotic (yellowish needles), budworm affected (defoliated) or beetle infested trees.

### *White Fir:*

WF5-15": Retain 1 in 5 of the very best form and condition trees, ideally in groups with other species.

WF15-20"+: Retain 1 in 2 to 1 in 3 of these trees ideally in groups with other species. Cut the worst form and condition individuals especially if not associated with groups of other trees. Retain individuals that are contained within groups of residual DF or PP and cannot be removed unless the surrounding trees are cut.

### **Evaluation Criteria**

- Basal area between 50 ft<sup>2</sup> - 70 ft<sup>2</sup>/ac.
- At least 75% of trees associated with groups comprised of other trees.
- Tree groups average around 8 trees in size.
- Leave trees are predominantly PP and DF; WF rarely marked within this stand.
- 95%+ of PP and DF >20" retained

## Decision Points/Remediation

### During marking if BA is low:

BA could be low depending on variation in WF within the stand. Retain PP and DF or WF where necessary. Adding WF will probably be the main option available to increase average BA.

### During marking if BA is low because of large homogenous (>1.5ac) WF patches being cut:

Record cut patch location and estimated size (in acres or 1/10ths of acres) in unit diary. Continue marking using a running average BA. Report to presale forester or silviculturist ASAP.

### During marking if BA is high:

Cut additional WF especially in 10-20" range. These trees provide the bulk of the basal area in this stand and will probably be the most available option to reduce basal area.

## Watch Outs

- Basal Area too high (>70 ft<sup>2</sup>/ac).
- Too much retention of WF. Basal area of WF should be reduced about 80-90% with this treatment.
- Too much PP cutting. PP only comprises ~12% of the BA in this stand pretreatment.
- Poor spatial structure. Patches of trees interspersed with openings is a primary objective. Keep this in mind when selecting leave trees.
- Many large >1.5 acre treeless openings. Report this issue to presale forester or silviculturist ASAP.
- 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.

*When marking always remember, what you mark or don't mark will be your legacy on this piece of ground for literally a lifetime.*

*also*

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

## Unit T3B Resilience (U10A)

**Goal:** Create an open, fire-resistant forest structure comprised of thick barked, long-lived and shade intolerant species (PP/DF) with a range of tree age and sizes and variability in tree spatial patterns.

**Objectives:** Retain low basal area of drought and fire adapted species (PP/DF) across the diameter range; Focus on cutting of white fir and Douglas-fir.

- Target Basal Area: ~60 ft<sup>2</sup>/ac (range 0-120)
- Retention Priority: PP DF WF (ignore aspen and juniper)
- Retain groups of trees with interlocking crowns ranging from 2-40 trees (8 on average).
- Create small openings up to 2 acres in size.

### ***Ponderosa Pine***

PP 5-15": Retain just about all of these trees. Cut only seriously declining, poor form or condition or mistletoe infested trees, but strive to maintain this diameter class as much as possible-rare.

PP15-20": Retain 1 of 2 of these trees. Retain the best form and condition trees in groups with other species

PP20"+: Retain all.

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

DF5-20"+: Retain all but the very worst form and condition trees of this species. Strive for 80-90%+ retention.

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

WF5-20"+: Retain about 1-2 in 10 of these trees. Only retain the best form and condition trees in groups with other species. Try to retain trees across the entire diameter range. Retain individuals that are contained within groups of residual DF or PP and cannot be removed unless the surrounding trees are cut.

### **Evaluation Criteria**

- Basal area between 50 ft<sup>2</sup> - 70 ft<sup>2</sup>/ac.
- At least 75% of trees associated with groups comprised of other trees.
- Tree groups average around 8 trees in size.
- Leave trees are predominantly PP and DF; WF rarely marked within this stand.
- 95%+ of PP and DF >20" retained

### **Decision Points/Remediation**

### During marking if BA is low:

BA could be low depending on variation in basal area within the stand. Retain PP and DF or WF where necessary. Adding WF will probably be the main option available to increase average BA.

### During marking if BA is low because of large homogenous (>1.5ac) WF patches being cut:

Record cut patch location and estimated size (in acres or 1/10ths of acres) in unit diary. Continue marking using a running average BA. Report to presale forester or silviculturist ASAP.

### During marking if BA is high:

Cut additional PP or WF especially in 10-20" range. PP provides the bulk of the basal area in this stand and will probably be the most available option to reduce basal area.

### **Watch Outs**

- Basal Area too high (>70 ft<sup>2</sup>/ac).
- Very low cut trees per acre. We could be putting paint on about everything in this stand.
- Too much retention of WF. Basal area of WF should be reduced about 90% with this treatment.
- Too much DF cutting. Retain all but the very worst DF in this stand.
- Many large >1.5 acre treeless openings. Report this issue to presale forester or silviculturist ASAP.
- 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.

*When marking always remember, what you mark or don't mark will be your legacy on this piece of ground for literally a lifetime.*

*also*

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

## **Unit T4B Resilience (U7A)**

**Goal:** Create an open, fire-resistant forest structure comprised of thick barked, long-lived and shade intolerant species (PP/DF) with a range of tree age and sizes and variability in tree spatial patterns.

**Objectives:** Retain low basal area of drought and fire adapted species (PP/DF) across the diameter range; Focus on cutting of white fir and Douglas-fir.

- Target Basal Area: ~60 ft<sup>2</sup>/ac (range 0-120)
- Retention Priority: PP DF WF (ignore aspen and juniper)
- Retain groups of trees with interlocking crowns ranging from 2-40 trees (8 on average).
- Create small openings up to 2 acres in size.

### ***Ponderosa Pine***

PP 5-20"+: Retain just about all of these trees. This species is in relatively short supply. Cut only seriously declining, poor form or condition or mistletoe infested trees. Keep all of the largest diameter, old-age growth form (i.e. "presettlement") trees.

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

DF5-20": Retain nearly all of these trees, but the very worst form and condition trees of this species. Strive for 80-90%+ retention.

DF5-20"+: Retain all of these trees.

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

WF5-20": Retain about 1-2 in 10 of these trees. Only retain the best form and condition trees in groups with other species. Try to retain trees across the entire diameter range.

WF 20"+: Retain 1 in 10 of these trees. Retain individuals that are contained within groups of residual DF or PP and cannot be removed unless the surrounding trees are cut.

### **Evaluation Criteria**

- Basal area between 50 ft<sup>2</sup> - 70 ft<sup>2</sup>/ac.
- At least 75% of trees associated with groups comprised of other trees.
- Tree groups average around 8 trees in size.
- Leave trees are predominantly PP and DF; WF rarely marked within this stand.
- 95%+ of PP and DF >20" retained; Minimal WF >20" retained.

## Decision Points/Remediation

### During marking if BA is low:

BA could be low depending on variation in basal area within the stand. Retain WF where necessary and attempt to add it as part of a leave group of trees. Adding WF will probably be the main option available to increase average BA.

### During marking if BA is low because of large homogenous (>1.5ac) WF patches being cut:

Record cut patch location and estimated size (in acres or 1/10ths of acres) in unit diary. Continue marking using a running average BA. Report to presale forester or silviculturist ASAP.

### During marking if BA is high:

Cut additional WF especially in 10-20" range. WF provides the bulk of the basal area in this stand and will probably be the most available option to reduce basal area. At first, do not try and make up BA with DF or PP.

## Watch Outs

- Basal Area too high (>70 ft<sup>2</sup>/ac) or too low (<50 ft<sup>2</sup>/ac).
- Very low cut trees per acre. We could be putting paint on about everything in this stand.
- Too much retention of WF. Basal area of WF should be reduced 75% or more with this treatment.
- Too much DF or PP cutting. Retain all but the very worst DF and PP in this stand.
- Many large >1.5 acre treeless openings. Report this issue to presale forester or silviculturist ASAP.
- 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.

*When marking always remember, what you mark or don't mark will be your legacy on this piece of ground for literally a lifetime.*

*also*

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