



Timber Sale Appraisal  
Manzanita Woman  
Sale KL-341-2019-W00513-01

District: Klamath/Lake

Date: February 14, 2019

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**Cost Summary**

|                         | Conifer      | Hardwood          | Total         |
|-------------------------|--------------|-------------------|---------------|
| Gross Timber Sale Value | \$426,510.84 | \$0.00            | \$426,510.84  |
|                         |              | Project Work:     | (\$41,419.09) |
|                         |              | Advertised Value: | \$385,091.75  |



# Timber Sale Appraisal Manzanita Woman Sale KL-341-2019-W00513-01

**District: Klamath/Lake**

**Date: February 14, 2019**

## Timber Description

**Location:** Portions of Section 19, T32S, R7E, Portions of Sections 24 and 25, T32S, R7.5E, Portions of Sections 13 and 24, T33S, R7.5E Willamette Meridian, Klamath County, Oregon

**Stand Stocking:** 20%

| Specie Name    | AvgDBH | Amortization (%) | Recovery (%) |
|----------------|--------|------------------|--------------|
| Douglas - Fir  | 22     | 0                | 95           |
| White Fir      | 16     | 0                | 98           |
| Sugar Pine     | 18     | 0                | 95           |
| Ponderosa Pine | 20     | 0                | 98           |
| Lodgepole Pine | 12     | 0                | 95           |

| Volume by Grade | 2S  | 3S & 4S 6"-11" | 3S 12"+ | 6" - 11" | 12"-15" | 16"+ | Camprun | Total |
|-----------------|-----|----------------|---------|----------|---------|------|---------|-------|
| Douglas - Fir   | 10  | 3              | 6       | 0        | 0       | 0    | 0       | 19    |
| White Fir       | 600 | 533            | 47      | 0        | 0       | 0    | 0       | 1,180 |
| Sugar Pine      | 0   | 0              | 0       | 69       | 50      | 51   | 0       | 170   |
| Ponderosa Pine  | 0   | 0              | 0       | 183      | 154     | 310  | 0       | 647   |
| Lodgepole Pine  | 0   | 0              | 0       | 0        | 0       | 0    | 662     | 662   |
| <b>Total</b>    | 610 | 536            | 53      | 252      | 204     | 361  | 662     | 2,678 |

**Comments:** Pond Values Used: Local Pond Values, February 2019.

Log Markets: Klamath Falls and Medford.

Other Costs (with Profit & Risk to be added):

Dust Abatement: \$22,162.55

TOTAL Other Costs (with Profit & Risk to be added): \$22,162.55

### ROAD MAINTENANCE

Move-in: \$500.00

General Road Maintenance: 11.2 miles x \$.50 per mile = \$2,863.20

Total Road Maintenance: \$2,863.20, \$1.07 per Mbf



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**Logging Conditions**

**Combination#: 1**

|                |         |
|----------------|---------|
| White Fir      | 88.00%  |
| Sugar Pine     | 76.00%  |
| Ponderosa Pine | 62.00%  |
| Lodgepole Pine | 100.00% |

**Logging System:** Wheel Skidder **Process:** Feller Buncher

**yarding distance:** Medium (800 ft) **downhill yarding:** Yes

**tree size:** Small / Thinning 10in (90 Bft/tree), 18-20 logs/MBF

**loads / day:** 10 **bd. ft / load:** 3700

**cost / mbf:** \$102.61

**machines:** Log Loader (B)  
Stroke Delimber (B)  
Feller Buncher w/ Delimber  
Tire Skidder

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**Combination#: 2**

|                |         |
|----------------|---------|
| Douglas - Fir  | 100.00% |
| White Fir      | 12.00%  |
| Sugar Pine     | 24.00%  |
| Ponderosa Pine | 38.00%  |

**Logging System:** Track Skidder **Process:** Manual Falling/Delimbing

**yarding distance:** Medium (800 ft) **downhill yarding:** Yes

**tree size:** Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF

**loads / day:** 10 **bd. ft / load:** 4100

**cost / mbf:** \$107.58

**machines:** Log Loader (B)  
Track Skidder

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### Logging Costs

|                                   |                                       |
|-----------------------------------|---------------------------------------|
| <b>Operating Seasons:</b> 1.00    | <b>Profit Risk:</b> 10%               |
| <b>Project Costs:</b> \$41,419.09 | <b>Other Costs (P/R):</b> \$22,162.55 |
| <b>Slash Disposal:</b> \$0.00     | <b>Other Costs:</b> \$0.00            |

**Miles of Road**

**Road Maintenance:** \$1.07

| Dirt | Rock<br>(Contractor) | Rock<br>(State) | Paved |
|------|----------------------|-----------------|-------|
| 0.0  | 0.0                  | 0.0             | 0.0   |

### Hauling Costs

| Species        | \$ / MBF | Trips/Day | MBF / Load |
|----------------|----------|-----------|------------|
| Douglas - Fir  | \$0.00   | 2.0       | 4.2        |
| White Fir      | \$0.00   | 3.0       | 4.2        |
| Sugar Pine     | \$0.00   | 3.0       | 4.0        |
| Ponderosa Pine | \$0.00   | 3.0       | 4.0        |
| Lodgepole Pine | \$0.00   | 2.0       | 3.8        |



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### Logging Costs Breakdown

| Logging               | Road Maint | Fire Protect | Hauling  | Other P/R appl | Profit & Risk | Slash Disposal | Brand & Paint | Other  | Total    |
|-----------------------|------------|--------------|----------|----------------|---------------|----------------|---------------|--------|----------|
| <b>Douglas - Fir</b>  |            |              |          |                |               |                |               |        |          |
| \$107.58              | \$1.12     | \$1.64       | \$118.76 | \$8.28         | \$23.74       | \$0.00         | \$2.00        | \$0.00 | \$263.12 |
| <b>White Fir</b>      |            |              |          |                |               |                |               |        |          |
| \$103.21              | \$1.09     | \$1.64       | \$76.91  | \$8.28         | \$19.11       | \$0.00         | \$2.00        | \$0.00 | \$212.24 |
| <b>Sugar Pine</b>     |            |              |          |                |               |                |               |        |          |
| \$103.80              | \$1.12     | \$1.64       | \$83.13  | \$8.28         | \$19.80       | \$0.00         | \$2.00        | \$0.00 | \$219.77 |
| <b>Ponderosa Pine</b> |            |              |          |                |               |                |               |        |          |
| \$104.50              | \$1.09     | \$1.64       | \$80.75  | \$8.28         | \$19.63       | \$0.00         | \$2.00        | \$0.00 | \$217.89 |
| <b>Lodgepole Pine</b> |            |              |          |                |               |                |               |        |          |
| \$102.61              | \$1.12     | \$1.64       | \$131.25 | \$8.28         | \$24.49       | \$0.00         | \$2.00        | \$0.00 | \$271.39 |

| Specie         | Amortization | Pond Value | Stumpage | Amortized |
|----------------|--------------|------------|----------|-----------|
| Douglas - Fir  | \$0.00       | \$455.42   | \$192.30 | \$0.00    |
| White Fir      | \$0.00       | \$402.45   | \$190.21 | \$0.00    |
| Sugar Pine     | \$0.00       | \$328.79   | \$109.02 | \$0.00    |
| Ponderosa Pine | \$0.00       | \$343.85   | \$125.96 | \$0.00    |
| Lodgepole Pine | \$0.00       | \$420.00   | \$148.61 | \$0.00    |



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**Summary**

**Amortized**

| Specie         | MBF | Value  | Total  |
|----------------|-----|--------|--------|
| Douglas - Fir  | 0   | \$0.00 | \$0.00 |
| White Fir      | 0   | \$0.00 | \$0.00 |
| Sugar Pine     | 0   | \$0.00 | \$0.00 |
| Ponderosa Pine | 0   | \$0.00 | \$0.00 |
| Lodgepole Pine | 0   | \$0.00 | \$0.00 |

**Unamortized**

| Specie         | MBF   | Value    | Total        |
|----------------|-------|----------|--------------|
| Douglas - Fir  | 19    | \$192.30 | \$3,653.70   |
| White Fir      | 1,180 | \$190.21 | \$224,447.80 |
| Sugar Pine     | 170   | \$109.02 | \$18,533.40  |
| Ponderosa Pine | 647   | \$125.96 | \$81,496.12  |
| Lodgepole Pine | 662   | \$148.61 | \$98,379.82  |

**Gross Timber Sale Value**

**Recovery:** \$426,510.84

**Prepared By:** James Monteil

**Phone:** 541-883-5681

# Manzanita Woman

## KL-341-2019-W00513-01

### Other Costs

| <i>Road Maintenance</i>             |                   |
|-------------------------------------|-------------------|
| Move-in cost (grader):              | \$500.00          |
| Number of Miles to be Bladed:       | 11.2              |
| Number of Bladings:                 | 1                 |
| Total Miles                         | 11.2              |
| Miles / Hour for equipment:         | 0.5               |
| Cost / Hour (grader with operator): | \$105.50          |
| Total Grading Hours:                | 22                |
| Grading Cost:                       | \$2,363.20        |
|                                     | <b>\$2,863.20</b> |
| <b>Total Cost:</b>                  | \$2,863.20        |
| Cost / Mbf:                         | \$1.07            |

| <i>Dust Abatement (Profit &amp; Risk to be added in Appraisal)</i> |             |            |       |              |         |                    |            |
|--|-------------|------------|-------|--------------|---------|--------------------|------------|
| WF   | 1046        | Mbf        | 39.1% | Average Load | 4.2 Mbf | No. of Loads       | 249        |
| LP   | 662         | Mbf        | 24.7% | Average Load | 3.8 Mbf | No. of Loads       | 174        |
| PP   | 647         | Mbf        | 24.2% | Average Load | 4.0 Mbf | No. of Loads       | 162        |
| SP   | 170         | Mbf        | 6.3%  | Average Load | 4.0 Mbf | No. of Loads       | 43         |
| RF   | 134         | Mbf        | 5.0%  | Average Load | 4.0 Mbf | No. of Loads       | 34         |
| DF   | 19          | Mbf        | 0.7%  | Average Load | 4.2 Mbf | No. of Loads       | 5          |
| <b>Total:</b>  | <b>2678</b> | <b>Mbf</b> |       |              |         | <b>Total Loads</b> | <b>666</b> |

|         |                        |                                  |
|---------|------------------------|----------------------------------|
| Assume: | 4 Trucks/Day           |                                  |
|         | 2 Trips/Day            | 83 Days of Dust Abatement        |
|         | <b>8 Loads per Day</b> | 3 Hours/Day                      |
|         | <b>83 Hauling Days</b> | \$88.00 Cost/Hour                |
|         |                        | 250 Total Hours                  |
|         |                        | \$200.00 Move in for Water Truck |
|         |                        | \$22,162.55 Dust Abatement Cost  |
|         |                        | <b>\$22,162.55 Total Cost</b>    |
|         |                        | \$8.28 Cost/Mbf                  |

| <i>Other Costs Summary (Profit and Risk to be added in Appraisal)</i> |                       |
|---|-----------------------|
| <u>\$2,863.20</u> Total cost for Road Maintenance                     | \$1.07 per MBF        |
| <u>\$22,162.55</u> Total cost for Dust Abatement                      | \$8.28 per MBF        |
| <b>\$25,025.75 Total Other Costs</b>                                  | <b>\$9.34 per Mbf</b> |

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*Project Costs*

*Project #1 Road Improvement and Construction*

Move in Cost Cat:   \$500.00

**Improvement**

|                  | <b>Points</b> | <b>Distance (ft)</b> | <b>Feet/Hour</b> | <b>Hours</b> | <b>Cost/Hour</b> | <b>Cost</b> |
|------------------|---------------|----------------------|------------------|--------------|------------------|-------------|
| Open/Clear/Shape | C to D        | 576                  | 1000             | 0.6          | \$132.50         | \$76.32     |
| Open/Clear/Shape | E to F        | 1357                 | 1000             | 1.4          | \$132.50         | \$179.80    |
| Open/Clear/Shape | G to H        | 1683                 | 1000             | 1.7          | \$132.50         | \$223.00    |
|                  | <b>Total</b>  | 3616                 |                  | 3.6          |                  | \$479.12    |

**Construction**

|                  | <b>Points</b> | <b>Distance (ft)</b> | <b>Feet/Hour</b> | <b>Hours</b> | <b>Cost/Hour</b> | <b>Cost</b> |
|------------------|---------------|----------------------|------------------|--------------|------------------|-------------|
| Open/Clear/Shape | A to B        | 1022                 | 1000             | 1.0          | \$132.50         | \$135.42    |

*Project #1 Summary*

|                         |                          |
|-------------------------|--------------------------|
| Move In Costs           | \$500.00                 |
| Improvement Cost        | \$479.12                 |
| Construction Cost       | <u>\$135.42</u>          |
| <b>Project #1 Total</b> | <b><u>\$1,114.54</u></b> |
| per MBF                 | \$0.42                   |



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*Project Costs*

*Project #2 Felling, Skidding, and Piling of Submerchantable Trees*

Total Sub-Sawlog Volume: 127 MBF

Fell and Skid/MBF: \$50.00

Sort/MBF: \$10.00

**Total \$7,620.00**

per MBF \$2.85

*Landing Slash Piling*

Number of Landings: 20

Shovel Time: 1 Hour per Landing Cost per Hour: \$125.00 Total Cost \$2,500.00

Cat Time: 1 Hour per Landing Cost per Hour: \$132.50 Total Cost \$2,650.00

**Total \$5,150.00**  
per MBF \$1.92

*Project #2 Summary*

Fell/Pile/Skid: \$7,620.00

Landing Cleanup: \$5,150.00

**Total: \$12,770.00**

per Mbf: \$4.77

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*Project Costs*

*Project #3 Road Closures and Waterbarring*

**Road Closures**

|                 |  |
|-----------------|--|
| 3               | Number of Closure Points - Point A, B, and C |
| \$132.50        | Cost per Hour (Cat)                          |
| <b>\$397.50</b> | <b>Total</b>                                 |
| \$0.15          | per Mbf                                      |

**Skid Trail Waterbarring**

|                   |                     |
|-------------------|---------------------|
| 9                 | Number of Landings  |
| 2.5               | Hours per Landing   |
| \$132.50          | Cost per Hour (Cat) |
| <b>\$2,981.25</b> | <b>Total</b>        |
| \$1.11            | per Mbf             |

*Project #3 Summary*

|               |                          |
|---------------|--------------------------|
| Road Closure: | \$397.50                 |
| Waterbarring: | <u>\$2,981.25</u>        |
| <b>Total:</b> | <b><u>\$3,378.75</u></b> |
| per Mbf:      | \$1.26                   |

# Manzanita Woman

## KL-341-2019-W00513-01

### *Project Costs*

#### *Project #4 Spot Surfacing*

##### *Spot Rocking - Delivered*

|                   |                          |
|-------------------|--------------------------|
| 3/4 -             | Rock Size                |
| 180.00            | Cubic Yards              |
| 1.50              | Tons Per Yard            |
| 270.00            | Tons                     |
| \$15.00           | Cost Per Ton (Delivered) |
| <b>\$4,050.00</b> | <b>Total</b>             |
| \$1.51            | per Mbf                  |

##### *Rock Spreading (Grader)*

|                   |                             |
|-------------------|-----------------------------|
| 8                 | Total Grader Hours          |
| \$105.50          | Cost per Hour               |
| \$844.00          | Total                       |
| 8                 | Total Water Truck Hours     |
| \$88.00           | Cost per Hour               |
| \$704.00          | Total                       |
| <b>\$1,548.00</b> | <b>Total Rock Spreading</b> |
| \$0.58            | per Mbf                     |

#### *Project #4 Summary*

|                      |                   |
|----------------------|-------------------|
| Total cost Rock      | \$4,050.00        |
| Total cost Spreading | \$1,548.00        |
| <b>Total</b>         | <b>\$5,598.00</b> |
| per Mbf              | \$2.09            |

#### *Project #5 Fungicide Treatment*

##### **State to Provide Chemical Supplies**

|  |                   |
|--|-------------------|
| Acres to be treated:                   | 162               |
| Cutting Days (assume 5 acres per day): | 32.4              |
| Hours per Day:                         | 3                 |
| Cost per Hour:                         | \$24.00           |
| <b>Total Cost:</b>                     | <b>\$2,332.80</b> |
| Cost per Mbf:                          | \$0.87            |

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*Project Costs*

*Project #6 Slash and Brush Piling*

Equipment Move In: \$500.00

|                   |                           |
|-------------------|---------------------------|
| Acres to be Piled | 60                        |
| Hours per Acre    | 2                         |
| Cost per Hour     | \$85.00                   |
| Cost of Piling    | <u>\$10,200.00</u>        |
| <b>Total Cost</b> | <b><u>\$10,700.00</u></b> |
| per Mbf           | \$4.00                    |

*Project #7 PreCommercial Thinning*

|                | Hours | Cost per Hour     | Total                    |
|----------------|-------|-------------------|--------------------------|
| Feller Buncher | 30    | \$130.00          | \$3,900.00               |
| Skidder        | 10    | \$100.00          | \$1,000.00               |
| Shovel         | 5     | \$125.00          | \$625.00                 |
|                |       | <b>Total Cost</b> | <b><u>\$5,525.00</u></b> |
|                |       | Cost per Mbf      | <u>\$2.06</u>            |

Manzanita Woman  
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*Project Costs*

*Cost Summary All Projects*

|   |                    |
|---|--------------------|
| Project No. 1 - Road Construction and Improvement             | \$1,114.54         |
| Project No. 2 - Fell, Skid, and Pile Submerchantable Material | \$12,770.00        |
| Project No. 3 - Road Closures, Vacating, and Water Barring    | \$3,378.75         |
| Project No. 4 - Spot Surfacing                                | \$5,598.00         |
| Project No. 5 - Fungicide Treatment                           | \$2,332.80         |
| Project No. 6 - Slash and Brush Piling                        | \$10,700.00        |
| Project No. 7 - PreCommercial Thinning                        | \$5,525.00         |
| <b>Total Cost</b>   | <b>\$41,419.09</b> |
| per Mbf   | \$15.47            |

## **Summary of Project Work**

### **Manzanita Woman KL-341-2019-W00513-01**



|   |                    |
|---|--------------------|
| <b>Project No. 1:</b> Road Construction and Improvement       | <b>\$1,114.54</b>  |
| <b>Project No. 2:</b> Fell, Skid, and Pile Submerch. Material | <b>\$12,770.00</b> |
| <b>Project No. 3:</b> Road closures and Waterbarring          | <b>\$3,378.75</b>  |
| <b>Project No. 4:</b> Spot Surfacing                          | <b>\$5,598.00</b>  |
| <b>Project No. 5:</b> Fungicide Treatment                     | <b>\$2,332.80</b>  |
| <b>Project No. 6:</b> Slash and Brush Piling                  | <b>\$10,700.00</b> |
| <b>Project No. 7:</b> PreCommercial Thinning                  | <b>\$5,525.00</b>  |

**Total: \$41,419.09**

# Manzanita Woman

KL-341-2019-W00513-01

## Cruise Report



"STEWARDSHIP IN FORESTRY"

**SALE NAME:** Manzanita Woman

**LEGAL DESCRIPTION:**

Township 32 South, Range 7 East, Portion of Section 19, and  
Township 32 South, Range 7.5 East, Portions of Sections 24 and 25, and  
Township 33 South, Range 7.5 East, Portions of Sections 13 and 24, Willamette  
Meridian, Klamath County, Oregon.

**ACREAGE:**

The timber sale is 338 acres and was cruised as three separate stands.

| Stand | Gross Acres | Exclusion | Net Acres |
|-------|-------------|-----------|-----------|
| 261   | 149         | 0         | 149       |
| 173   | 162         | 0         | 162       |
| 164   | 27          | 0         | 27        |
| Total | 338         | 0         | 338       |

Acreage was determined using data collected using GPS and compiled using ArcMap.

**TREATMENT:**

Stand 261 is a single tree selection cut with leave trees marked with orange paint for trees 5.0 inches dbh and larger. Stand 261 is referenced in the contract as Area 1.

Stand 173 is a selection cut based on prescription by description, and is referenced in the contract as Areas 2 and 3. Area 2 is a purchaser select cut with requirements listed in contract Section 2320, "Thinning Specifications". Area 3 is an overstory removal, with all trees greater than 12 inches DBH that contain at least 50% net sawlog volume to be cut.

Stand 164 is a selection cut with all lodgepole pine containing at least 20 board feet to be cut. Stand 164 is referenced in the contract as Area 4.

**CRUISE METHOD:**

Merchantable volume on the timber sale was sampled using a variable plot cruise with a ratio of one measure plot for every count plot. Submerchantable material (5.0" to 9.0" dbh) was measured with a 1/50 acre fixed plot in Stand 261.

**BASAL AREA FACTOR:**

| Stand | BAF       | Type Acreage |
|-------|-----------|--------------|
| 261   | 13.61 BAF | 149 acres    |
| 173   | 13.61 BAF | 162 acres    |
| 164   | 20 BAF    | 27 acres     |

**FIXED PLOT:**

| Stand | Radius | Type Acreage |
|-------|--------|--------------|
| 261   | 16.6   | 149 acres    |

**PLOT DESIGNATION:**

Plot centers were established at every plot with pin flags and candy stripe blue and white flagging attached to the nearest available tree branch listing the plot number.

**SAMPLE SIZE:**

Stand 261: 24 Plots

Stand 173: 25 Plots

Stand 164: 10 Plots

**Measurements and Grading:**

- DBH and Height were measured on all "in" trees for measure plots.
- Submerch volume and sawlog volume cruised.
- See attached species and grade tables for minimum requirements.



- All trees were graded using the segment system.

### **TREE HEIGHT:**

All trees were measured to a fixed diameter outside bark. This height is usually taken as high up the bole as possible, where the cruiser can clearly see the bole, and the taper remains constant (usually 6 or 8 inches). The log segments are broken out and graded accordingly.

### **MINIMUM D.B.H:**

9.5" dbh for sawlog volume. 5.0" dbh for submerchantable material.

### **DIAMETER STANDARDS:**

1" diameter class

### **BTR:**

Standard ratios were used. See attached species tables.

### **FORM FACTOR:**

Form factor was measured or estimated at 16' for each tree. Each tree was assigned its own form factor.

### **FORM POINT:**

All trees were sighted at D.B.H.

### **VOLUME COMPUTATION:**

All cruise data was compiled using SuperACE.

### **FINAL CRUISE RESULTS:**

| STAND    | CV%  | SE%  | Acres |
|----------|------|------|-------|
| 261      | 75.1 | 15.6 | 149   |
| 173      | 65.2 | 13.3 | 162   |
| 164      | 28.5 | 9.5  | 27    |
| Combined | 70.1 | 9.1  | 338   |

## **TIMBER DESCRIPTION**

### **SAWLOG VOLUME:**

All material graded camprun. See grade table for minimum standards.

#### **Stand 261**

| <b>Species</b> | <b>Average DBH</b> | <b>Gross Volume per acre (bf/acre)</b> | <b>Net Volume per acre (bf/acre)</b> | <b>Gross Volume per area (Mbf)</b> | <b>Net Volume per area (Mbf)</b> |
|----------------|--------------------|--|--------------------------------------|------------------------------------|----------------------------------|
| White fir      | 14.6               | 1,156                                  | 1,156                                | 172                                | 172                              |
| Ponderosa pine | 19.6               | 3,804                                  | 3,770                                | 567                                | 562                              |
| Douglas Fir    | 21.6               | 130                                    | 130                                  | 19                                 | 19                               |
| Lodgepole pine | 12.2               | 2,136                                  | 2,128                                | 318                                | 317                              |
| Sugar pine     | 19.2               | 877                                    | 866                                  | 131                                | 129                              |
| Combined       | 15.1               | 8,104                                  | 8,050                                | 1,207                              | 1,199                            |

#### **Stand 173**

| <b>Species</b> | <b>Average DBH</b> | <b>Gross Volume per acre (bf/acre)</b> | <b>Net Volume per acre (bf/acre)</b> | <b>Gross Volume per area (Mbf)</b> | <b>Net Volume per area (Mbf)</b> |
|----------------|--------------------|--|--------------------------------------|------------------------------------|----------------------------------|
| White fir      | 16.3               | 5,421                                  | 5,397                                | 878                                | 874                              |
| Ponderosa pine | 22.2               | 544                                    | 524                                  | 88                                 | 85                               |
| Shasta red fir | 21.4               | 840                                    | 829                                  | 136                                | 134                              |
| Sugar pine     | 17.6               | 277                                    | 251                                  | 45                                 | 41                               |
| Lodgepole pine | 12.2               | 284                                    | 284                                  | 46                                 | 46                               |
| Combined       | 16.7               | 7,366                                  | 7,286                                | 1,193                              | 1,180                            |

### Area 3

| Species        | Average DBH | Gross Volume per acre (bf/acre) | Net Volume per acre (bf/acre) | Gross Volume per area (Mbf) | Net Volume per area (Mbf) |
|----------------|-------------|---------------------------------|-------------------------------|-----------------------------|---------------------------|
| Lodgepole pine | 11.6        | 11,062                          | 11,062                        | 299                         | 299                       |

### TOTAL SAWLOG VOLUME

| Species        | Average DBH | Gross Volume (Mbf) | Net Volume (Mbf) |
|----------------|-------------|--------------------|------------------|
| White fir      | 16.0        | 1,050              | 1,046            |
| Ponderosa pine | 19.9        | 655                | 647              |
| Douglas fir    | 21.6        | 19                 | 19               |
| Sugar pine     | 17.6        | 176                | 170              |
| Lodgepole pine | 11.9        | 663                | 662              |
| Shasta red fir | 21.4        | 136                | 134              |
| Combined       | 14.8        | 2,699              | 2,678            |

**TOTAL NET SAWLOG VOLUME: 2,678 MBF**

### GREEN PULP VOLUME:

#### Submerchantable Material

This volume was obtained from the fixed plot cruise (5.0" – 9.0" DBH) combined with all material graded as green pulp during the variable plot cruise. All material was graded green pulp, see grade table for minimum standards.

| Species   | Average DBH | Trees per Acre | Gross Volume (mbf) |
|-----------|-------------|----------------|--------------------|
| Submerch. | 7.1         | 52             | 127                |



# Species Table Report

TblSpecies

Date: 05/29/2018

Page: 1

Table Name: SUNPASS

| Code | Abrv | Description | Bark<br>Ratio | ASub<br>Const | Form<br>Factor | Wood<br>Type | Comp-<br>onent | Yield Table   | Min<br>Log<br>Dia | Min<br>Log<br>Len | Max<br>Log<br>Len | Log<br>Trim | Max<br>Tree<br>Dia | Max<br>Tree<br>Hgt. | BdFt<br>Rule | CuFt<br>Rule | Weight |
|------|------|-------------|---------------|---------------|----------------|--------------|----------------|---------------|-------------------|-------------------|-------------------|-------------|--------------------|---------------------|--------------|--------------|--------|
| 1    | PP   | PPINE       | .87           | PP            | .85            | P            | C              | PP--EQUA--100 | 3                 | 9                 | 20                | 1.0         | 99                 | 200                 | E            | 1            | 4800   |
| 2    | WF   | WHITE F     | .94           | NF            | .87            | W            | C              | DF--EQUA--050 | 3                 | 9                 | 20                | 1.0         | 99                 | 200                 | E            | 1            | 5000   |
| 3    | LP   | LP PINE     | .96           | DF            | .90            | P            | C              | LP--EQUA--100 | 3                 | 9                 | 20                | 1.0         | 99                 | 200                 | E            | 1            | 4800   |
| 4    | DF   | DOUG-FIR    | .92           | DF            | .87            | D            | C              | DF--EQUA--050 | 3                 | 9                 | 20                | 1.0         | 99                 | 200                 | E            | 1            | 5700   |
| 5    | SP   | SUG PINE    | .87           | PP            | .84            | P            | C              | DF--EQUA--100 | 3                 | 9                 | 20                | 1.0         | 99                 | 200                 | E            | 1            | 4800   |
| 6    | IC   | INC CED     | .90           | SS            | .80            | C            | C              | DF--EQUA--050 | 3                 | 9                 | 20                | 1.0         | 99                 | 200                 | E            | 1            | 4500   |
| 7    | RF   | SH FIR      | .924          | DF            | .89            | W            | C              | DF--EQUA--050 | 3                 | 9                 | 20                | 1.0         | 99                 | 200                 | E            | 1            | 5000   |

TblSortGrade

Sort/Grade Table

Table Name: SUNPASS Date: 05/29/2018

| Sort | Grd | Abr | Desc    | Fbr | Min Dia | Max Dia | Max B Butt | Min I Len | Max Len | Defect | Min Vol | Vol Type | Min Rings | Knot S Size | Knot Freq | Str | Sap | Min Age | Lbs | Lbs Type | Cords | Cords Type |
|------|-----|-----|---------|-----|---------|---------|------------|-----------|---------|--------|---------|----------|-----------|-------------|-----------|-----|-----|---------|-----|----------|-------|------------|
| 0    | 0   | CU  | CULL    | G   | 1       | 0       | 0          | 1         | 99      | 0      | 0       | M        | 0         | 0           | 0         |     |     | 0       | 0   | 0        |       |            |
|      | 1   | CR  | CAMPRU  | G   | 6       | 0       | 0          | 10        | 99      | 0      | 0       | M        | 0         | 0           | 0         |     |     | 0       | 0   | 0        |       |            |
|      | 7   | GP  | GRNPULP | G   | 3       | 0       | 0          | 10        | 99      | 0      | 0       | M        | 0         | 0           | 0         |     |     | 0       | 0   | 0        |       |            |
|      | 8   | DP  | DEADPLP | G   | 3       | 0       | 0          | 10        | 99      | 0      | 0       | M        | 0         | 0           | 0         |     |     | 0       | 0   | 0        |       |            |
|      | 9   | UT  | UTILITY | G   | 3       | 0       | 0          | 12        | 99      | 0      | 0       | M        | 0         | 0           | 0         |     |     | 0       | 0   | 0        |       |            |
|      |     | CU  | CULL    | G   | 1       | 0       | 0          | 1         | 99      | 0      | 0       | M        | 0         | 0           | 0         |     |     | 0       | 0   | 0        |       |            |

| TC PSTATS  |      |       |       | PROJECT STATISTICS |        |           |         | PAGE            | 1         |           |       |
|--|------|-------|-------|--------------------|--------|-----------|---------|-----------------|-----------|-----------|-------|
|  |      |       |       | PROJECT            | MANZWO |           |         | DATE            | 5/29/2018 |           |       |
| TWP  | RGE  | SC    | TRACT | TYPE               | ACRES  |           | PLOTS   | TREES           | CuFt      | BdFt      |       |
| 032  | 007  | 19    | 173   | ORIG               | 338.00 |           | 59      | 302             | 1         | E         |       |
| 033  | 007  | 24    | 164   | ORIG               |        |           |         |                 |           |           |       |
| 033  | 007  | 24    | 261   | VARI               |        |           |         |                 |           |           |       |
|  |      |       |       | TREES              |        | ESTIMATED | PERCENT |                 |           |           |       |
|  |      |       |       | TOTAL              |        |           | SAMPLE  |                 |           |           |       |
|  |      |       |       | PLOTS              | TREES  | PER PLOT  | TREES   | TREES           |           |           |       |
| TOTAL  |      |       |       | 59                 | 302    | 5.1       |         |                 |           |           |       |
| CRUISE   |      |       |       | 29                 | 147    | 5.1       | 19,919  | .7              |           |           |       |
| DBH COUNT  |      |       |       |                    |        |           |         |                 |           |           |       |
| REFOREST   |      |       |       |                    |        |           |         |                 |           |           |       |
| COUNT  |      |       |       | 26                 | 144    | 5.5       |         |                 |           |           |       |
| BLANKS   |      |       |       | 4                  |        |           |         |                 |           |           |       |
| 100 %  |      |       |       |                    |        |           |         |                 |           |           |       |
| STAND SUMMARY  |      |       |       |                    |        |           |         |                 |           |           |       |
| SAMPLE   |      |       |       | TREES              | AVG    | BOLE      | REL     | BASAL           | GROSS     | NET       | GROSS |
| TREES  |      |       |       | /ACRE              | DBH    | LEN       | DEN     | AREA            | BF/AC     | BF/AC     | CF/AC |
| LP PINE  |      |       |       | 59                 | 30.8   | 11.9      | 39      | 6.9             | 23.9      | 1,962     | 1,958 |
| WHITE F  |      |       |       | 42                 | 18.1   | 16.0      | 44      | 6.3             | 25.1      | 3,108     | 3,096 |
| PPINE  |      |       |       | 27                 | 6.3    | 19.9      | 56      | 3.0             | 13.6      | 1,938     | 1,913 |
| SUG PINE   |      |       |       | 13                 | 2.6    | 18.7      | 46      | 1.2             | 5.1       | 520       | 502   |
| SH FIR   |      |       |       | 4                  | .9     | 21.4      | 58      | 0.5             | 2.3       | 402       | 397   |
| DOUG-FIR   |      |       |       | 2                  | .2     | 21.6      | 57      | 0.1             | .5        | 57        | 57    |
| TOTAL  |      |       |       | 147                | 58.9   | 14.8      | 43      | 18.3            | 70.5      | 7,987     | 7,924 |
| CONFIDENCE LIMITS OF THE SAMPLE                                  |      |       |       |                    |        |           |         |                 |           |           |       |
| 68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR |      |       |       |                    |        |           |         |                 |           |           |       |
| CL   | 68.1 | COEFF |       | SAMPLE TREES - BF  |        |           |         | # OF TREES REQ. |           | INF. POP. |       |
| SD:  | 1.0  | VAR.% | S.E.% | LOW                | AVG    | HIGH      | 5       | 10              | 15        |           |       |
| LP PINE  |      | 55.0  | 7.2   | 65                 | 70     | 75        |         |                 |           |           |       |
| WHITE F  |      | 134.2 | 20.7  | 288                | 363    | 438       |         |                 |           |           |       |
| PPINE  |      | 93.8  | 18.4  | 483                | 592    | 701       |         |                 |           |           |       |
| SUG PINE   |      | 116.8 | 33.7  | 235                | 354    | 473       |         |                 |           |           |       |
| SH FIR   |      | 81.5  | 46.6  | 361                | 675    | 989       |         |                 |           |           |       |
| DOUG-FIR   |      | 37.2  | 34.8  | 186                | 285    | 384       |         |                 |           |           |       |
| TOTAL  |      | 146.3 | 12.1  | 259                | 294    | 330       | 854     | 214             | 95        |           |       |
| CL   | 68.1 | COEFF |       | SAMPLE TREES - CF  |        |           |         | # OF TREES REQ. |           | INF. POP. |       |
| SD:  | 1.0  | VAR.% | S.E.% | LOW                | AVG    | HIGH      | 5       | 10              | 15        |           |       |
| LP PINE  |      | 47.4  | 6.2   | 16                 | 17     | 18        |         |                 |           |           |       |
| WHITE F  |      | 111.7 | 17.2  | 58                 | 70     | 82        |         |                 |           |           |       |
| PPINE  |      | 81.4  | 16.0  | 93                 | 111    | 128       |         |                 |           |           |       |
| SUG PINE   |      | 88.3  | 25.5  | 53                 | 72     | 90        |         |                 |           |           |       |
| SH FIR   |      | 77.9  | 44.5  | 68                 | 123    | 177       |         |                 |           |           |       |
| DOUG-FIR   |      | 14.8  | 13.8  | 58                 | 67     | 76        |         |                 |           |           |       |
| TOTAL  |      | 123.0 | 10.1  | 52                 | 58     | 63        | 605     | 151             | 67        |           |       |
| CL   | 68.1 | COEFF |       | TREES/ACRE         |        |           |         | # OF PLOTS REQ. |           | INF. POP. |       |
| SD:  | 1.0  | VAR.% | S.E.% | LOW                | AVG    | HIGH      | 5       | 10              | 15        |           |       |
| LP PINE  |      | 120.8 | 15.7  | 26                 | 31     | 36        |         |                 |           |           |       |
| WHITE F  |      | 150.5 | 19.6  | 15                 | 18     | 22        |         |                 |           |           |       |
| PPINE  |      | 181.7 | 23.6  | 5                  | 6      | 8         |         |                 |           |           |       |
| SUG PINE   |      | 339.0 | 44.1  | 1                  | 3      | 4         |         |                 |           |           |       |
| SH FIR   |      | 361.5 | 47.0  | 0                  | 1      | 1         |         |                 |           |           |       |
| DOUG-FIR   |      | 768.1 | 99.9  | 0                  | 0      | 0         |         |                 |           |           |       |
| TOTAL  |      | 58.3  | 7.6   | 54                 | 59     | 63        | 136     | 34              | 15        |           |       |
| CL   | 68.1 | COEFF |       | BASAL AREA/ACRE    |        |           |         | # OF PLOTS REQ. |           | INF. POP. |       |
| SD:  | 1.0  | VAR.% | S.E.% | LOW                | AVG    | HIGH      | 5       | 10              | 15        |           |       |
| LP PINE  |      | 117.2 | 15.2  | 20                 | 24     | 28        |         |                 |           |           |       |
| WHITE F  |      | 148.0 | 19.3  | 20                 | 25     | 30        |         |                 |           |           |       |
| PPINE  |      | 166.8 | 21.7  | 11                 | 14     | 17        |         |                 |           |           |       |

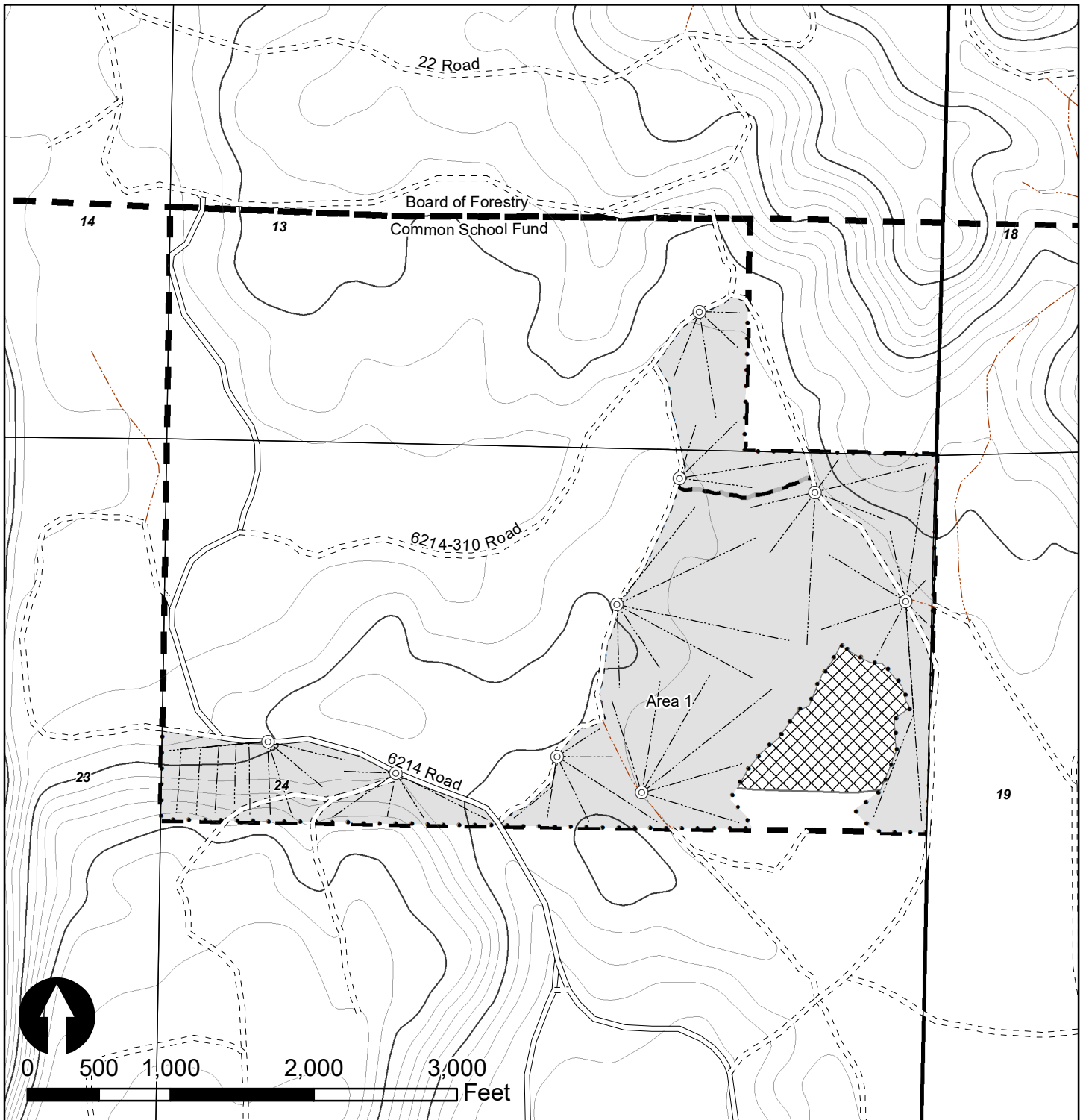
|              |            |           |              |                           |              |              |                 |             |             |           |
|--------------|------------|-----------|--------------|---------------------------|--------------|--------------|-----------------|-------------|-------------|-----------|
| TC PSTATS    |            |           |              | <b>PROJECT STATISTICS</b> |              |              |                 | PAGE        | <b>2</b>    |           |
|              |            |           |              | <b>PROJECT MANZWO</b>     |              |              |                 | DATE        | 5/29/2018   |           |
| <b>TWP</b>   | <b>RGE</b> | <b>SC</b> | <b>TRACT</b> | <b>TYPE</b>               | <b>ACRES</b> | <b>PLOTS</b> | <b>TREES</b>    | <b>CuFt</b> | <b>BdFt</b> |           |
| 032          | 007        | 19        | 173          | ORIG                      | 338.00       | 59           | 302             | 1           | E           |           |
| 033          | 007        | 24        | 164          | ORIG                      |              |              |                 |             |             |           |
| 033          | 007        | 24        | 261          | VARI                      |              |              |                 |             |             |           |
| CL           | 68.1       |           | COEFF        | <b>BASAL AREA/ACRE</b>    |              |              | # OF PLOTS REQ. |             | INF. POP.   |           |
| SD:          | 1.00       |           | VAR.         | S.E.%                     | LOW          | AVG          | HIGH            | 5           | 10          | 15        |
| SUG PINE     |            |           | 311.4        | 40.5                      | 3            | 5            | 7               |             |             |           |
| SH FIR       |            |           | 361.4        | 47.0                      | 1            | 2            | 3               |             |             |           |
| DOUG-FIR     |            |           | 768.1        | 99.9                      | 0            | 0            | 1               |             |             |           |
| <b>TOTAL</b> |            |           | <b>55.6</b>  | <b>7.2</b>                | <b>65</b>    | <b>71</b>    | <b>76</b>       | <b>123</b>  | <b>31</b>   | <b>14</b> |
| CL           | 68.1       |           | COEFF        | <b>NET BF/ACRE</b>        |              |              | # OF PLOTS REQ. |             | INF. POP.   |           |
| SD:          | 1.0        |           | VAR.%        | S.E.%                     | LOW          | AVG          | HIGH            | 5           | 10          | 15        |
| LP PINE      |            |           | 118.9        | 15.5                      | 1,655        | 1,958        | 2,261           |             |             |           |
| WHITE F      |            |           | 155.4        | 20.2                      | 2,471        | 3,096        | 3,722           |             |             |           |
| PPINE        |            |           | 183.5        | 23.9                      | 1,456        | 1,913        | 2,370           |             |             |           |
| SUG PINE     |            |           | 298.3        | 38.8                      | 307          | 502          | 697             |             |             |           |
| SH FIR       |            |           | 376.4        | 49.0                      | 203          | 397          | 592             |             |             |           |
| DOUG-FIR     |            |           | 768.1        | 99.9                      | 0            | 57           | 115             |             |             |           |
| <b>TOTAL</b> |            |           | <b>70.1</b>  | <b>9.1</b>                | <b>7,202</b> | <b>7,924</b> | <b>8,647</b>    | <b>196</b>  | <b>49</b>   | <b>22</b> |
| CL           | 68.1       |           | COEFF        | <b>NET CUFT FT/ACRE</b>   |              |              | # OF PLOTS REQ. |             | INF. POP.   |           |
| SD:          | 1.0        |           | VAR.%        | S.E.%                     | LOW          | AVG          | HIGH            | 5           | 10          | 15        |
| LP PINE      |            |           | 118.2        | 15.4                      | 411          | 485          | 560             |             |             |           |
| WHITE F      |            |           | 150.0        | 19.5                      | 541          | 672          | 804             |             |             |           |
| PPINE        |            |           | 175.7        | 22.9                      | 296          | 384          | 472             |             |             |           |
| SUG PINE     |            |           | 300.1        | 39.0                      | 71           | 117          | 163             |             |             |           |
| SH FIR       |            |           | 369.1        | 48.0                      | 38           | 74           | 109             |             |             |           |
| DOUG-FIR     |            |           | 768.1        | 99.9                      | 0            | 13           | 27              |             |             |           |
| <b>TOTAL</b> |            |           | <b>63.9</b>  | <b>8.3</b>                | <b>1,601</b> | <b>1,746</b> | <b>1,891</b>    | <b>163</b>  | <b>41</b>   | <b>18</b> |



|                     |        |     |       |  |       |       |              |  |            |     |     |                     |       |       |       |       |       |       |       |     |  |  |  |
|---------------------|--------|-----|-------|--|-------|-------|--------------|--|------------|-----|-----|---------------------|-------|-------|-------|-------|-------|-------|-------|-----|--|--|--|
| TC TLOGSTVB         |        |     |       | Log Stock Table - MBF<br>Project: MANZWO |       |       |              |  |            |     |     |                     |       |       |       |       |       |       |       |     |  |  |  |
| T033 R007 S24 TORIG |        |     |       |  |       |       |              |  |            |     |     | T033 R007 S24 TORIG |       |       |       |       |       |       |       |     |  |  |  |
| Twp                 | Rge    | Sec | Tract | Type                                     | Acres | Plots | Sample Trees | Page                                     | 1          |     |     |                     |       |       |       |       |       |       |       |     |  |  |  |
| 033                 | 007    | 24  | 164   | ORIG                                     | 27.00 | 10    | 32           | Date                                     | 5/29/2018  |     |     |                     |       |       |       |       |       |       |       |     |  |  |  |
|                     |        |     |       |  |       |       |              | Time                                     | 12:06:15PM |     |     |                     |       |       |       |       |       |       |       |     |  |  |  |
| S                   | So     | Gr  | Log   | Gross                                    | %     | Net   | %            | Net Volume by Scaling Diameter in Inches |            |     |     |                     |       |       |       |       |       |       |       |     |  |  |  |
| Spp                 | T      | rt  | de    | Len                                      | MBF   | Def   | MBF          | Spc                                      | 2-3        | 4-5 | 6-7 | 8-9                 | 10-11 | 12-13 | 14-15 | 16-19 | 20-23 | 24-29 | 30-39 | 40+ |  |  |  |
| LP                  | 1      | CR  | 16    | 45                                       |       |       | 45           | 15.0                                     |            |     | 31  | 14                  |       |       |       |       |       |       |       |     |  |  |  |
| LP                  | 1      | CR  | 20    | 5  |       |       | 5            | 1.6                                      |            |     | 5   |                     |       |       |       |       |       |       |       |     |  |  |  |
| LP                  | 1      | CR  | 22    | 9  |       |       | 9            | 3.0                                      |            |     |     | 9                   |       |       |       |       |       |       |       |     |  |  |  |
| LP                  | 1      | CR  | 26    | 94                                       |       |       | 94           | 31.5                                     |            |     | 7   | 67                  | 20    |       |       |       |       |       |       |     |  |  |  |
| LP                  | 1      | CR  | 28    | 14                                       |       |       | 14           | 4.5                                      |            |     | 14  |                     |       |       |       |       |       |       |       |     |  |  |  |
| LP                  | 1      | CR  | 30    | 29                                       |       |       | 29           | 9.8                                      |            |     | 17  | 13                  |       |       |       |       |       |       |       |     |  |  |  |
| LP                  | 1      | CR  | 32    | 75                                       |       |       | 75           | 25.2                                     |            |     | 75  |                     |       |       |       |       |       |       |       |     |  |  |  |
| LP                  | 1      | CR  | 34    | 28                                       |       |       | 28           | 9.3                                      |            |     | 28  |                     |       |       |       |       |       |       |       |     |  |  |  |
| LP                  | Totals |     |       | 299                                      |       |       | 299          | 100.0                                    |            |     | 176 | 103                 | 20    |       |       |       |       |       |       |     |  |  |  |
| Total All Species   |        |     |       | 299                                      |       |       | 299          | 100.0                                    |            |     | 176 | 103                 | 20    |       |       |       |       |       |       |     |  |  |  |

| TC TLOGSTVB         |     |     |        | Log Stock Table - MBF |        |       |              |  |            |     |     |                     |       |       |       |       |       |       |       |     |
|---------------------|-----|-----|--------|-----------------------|--------|-------|--------------|--|------------|-----|-----|---------------------|-------|-------|-------|-------|-------|-------|-------|-----|
|                     |     |     |        | Project: MANZWO       |        |       |              |  |            |     |     |                     |       |       |       |       |       |       |       |     |
| T033 R007 S24 TVARI |     |     |        |                       |        |       |              |  |            |     |     | T033 R007 S24 TVARI |       |       |       |       |       |       |       |     |
| Twp                 | Rge | Sec | Tract  | Type                  | Acres  | Plots | Sample Trees | Page                                     | 1          |     |     |                     |       |       |       |       |       |       |       |     |
| 033                 | 007 | 24  | 261    | VARI                  | 149.00 | 24    | 64           | Date                                     | 5/29/2018  |     |     |                     |       |       |       |       |       |       |       |     |
|                     |     |     |        |                       |        |       |              | Time                                     | 12:10:42PM |     |     |                     |       |       |       |       |       |       |       |     |
| S                   | So  | Gr  | Log    | Gross                 | %      | Net   | %            | Net Volume by Scaling Diameter in Inches |            |     |     |                     |       |       |       |       |       |       |       |     |
| Spp                 | T   | rt  | de     | Len                   | MBF    | Def   | MBF          | Spc                                      | 2-3        | 4-5 | 6-7 | 8-9                 | 10-11 | 12-13 | 14-15 | 16-19 | 20-23 | 24-29 | 30-39 | 40+ |
| LP                  | 1   | CR  | 17     |                       | 93     |       | 93           | 29.3                                     |            |     | 21  | 39                  | 34    |       |       |       |       |       |       |     |
| LP                  | 1   | CR  | 26     |                       | 99     |       | 99           | 31.3                                     |            |     | 51  | 48                  |       |       |       |       |       |       |       |     |
| LP                  | 1   | CR  | 34     |                       | 126    | 1.0   | 125          | 39.4                                     |            |     | 46  | 35                  | 44    |       |       |       |       |       |       |     |
| LP                  |     |     | Totals |                       | 318    |       | 317          | 26.4                                     |            |     | 118 | 122                 | 77    |       |       |       |       |       |       |     |
| PP                  | 1   | CR  | 17     |                       | 23     |       | 23           | 4.0                                      |            |     | 11  | 6                   | 2     |       | 4     |       |       |       |       |     |
| PP                  | 1   | CR  | 26     |                       | 29     |       | 29           | 5.2                                      |            |     | 12  | 9                   | 4     | 4     |       |       |       |       |       |     |
| PP                  | 1   | CR  | 32     |                       | 275    | .8    | 273          | 48.6                                     |            |     |     |                     |       | 9     | 10    | 133   | 77    | 45    |       |     |
| PP                  | 1   | CR  | 34     |                       | 240    | 1.2   | 237          | 42.2                                     |            |     | 34  | 35                  | 40    | 41    | 53    | 34    |       |       |       |     |
| PP                  |     |     | Totals |                       | 567    |       | 562          | 46.8                                     |            |     | 56  | 50                  | 46    | 54    | 66    | 167   | 77    | 45    |       |     |
| WF                  | 1   | CR  | 17     |                       | 15     |       | 15           | 9.0                                      |            |     | 4   | 12                  |       |       |       |       |       |       |       |     |
| WF                  | 1   | CR  | 26     |                       | 30     |       | 30           | 17.5                                     |            |     | 30  |                     |       |       |       |       |       |       |       |     |
| WF                  | 1   | CR  | 34     |                       | 127    |       | 127          | 73.5                                     |            |     |     |                     | 60    | 67    |       |       |       |       |       |     |
| WF                  |     |     | Totals |                       | 172    |       | 172          | 14.4                                     |            |     | 34  | 12                  | 60    | 67    |       |       |       |       |       |     |
| SP                  | 1   | CR  | 17     |                       | 3      |       | 3            | 2.2                                      |            |     |     | 2                   | 1     |       |       |       |       |       |       |     |
| SP                  | 1   | CR  | 26     |                       | 11     |       | 11           | 8.7                                      |            |     | 5   |                     |       |       | 6     |       |       |       |       |     |
| SP                  | 1   | CR  | 34     |                       | 117    | 1.5   | 115          | 89.0                                     |            |     | 3   | 19                  | 11    | 8     | 23    | 16    | 35    |       |       |     |
| SP                  |     |     | Totals |                       | 131    | 1.3   | 129          | 10.8                                     |            |     | 8   | 20                  | 13    | 8     | 29    | 16    | 35    |       |       |     |
| DF                  | 1   | CR  | 17     |                       | 3      |       | 3            | 13.3                                     |            |     |     |                     | 3     |       |       |       |       |       |       |     |
| DF                  | 1   | CR  | 34     |                       | 17     |       | 17           | 86.7                                     |            |     |     |                     |       | 6     | 11    |       |       |       |       |     |
| DF                  |     |     | Totals |                       | 19     |       | 19           | 1.6                                      |            |     |     |                     | 3     | 6     | 11    |       |       |       |       |     |
| Total All Species   |     |     |        |                       | 1,207  |       | 1,199        | 100.0                                    |            |     | 216 | 205                 | 199   | 135   | 106   | 183   | 112   | 45    |       |     |

| TC TLOGSTVB         |     |     |        | Log Stock Table - MBF |        |       |              |  |           |                     |            |     |       |       |       |       |       |       |       |     |
|---------------------|-----|-----|--------|-----------------------|--------|-------|--------------|--|-----------|---------------------|------------|-----|-------|-------|-------|-------|-------|-------|-------|-----|
|                     |     |     |        | Project: MANZWO       |        |       |              |  |           |                     |            |     |       |       |       |       |       |       |       |     |
| T032 R007 S19 TORIG |     |     |        |                       |        |       |              |  |           | T032 R007 S19 TORIG |            |     |       |       |       |       |       |       |       |     |
| Twp                 | Rge | Sec | Tract  | Type                  | Acres  | Plots | Sample Trees | Page                                     | 1         |                     |            |     |       |       |       |       |       |       |       |     |
| 032                 | 007 | 19  | 173    | ORIG                  | 162.00 | 25    | 51           | Date                                     | 5/29/2018 |                     |            |     |       |       |       |       |       |       |       |     |
|                     |     |     |        |                       |        |       |              |  |           | Time                | 12:04:34PM |     |       |       |       |       |       |       |       |     |
| S                   | So  | Gr  | Log    | Gross                 | %      | Net   | %            | Net Volume by Scaling Diameter in Inches |           |                     |            |     |       |       |       |       |       |       |       |     |
| Spp                 | T   | rt  | de     | Len                   | MBF    | Def   | MBF          | Spc                                      | 2-3       | 4-5                 | 6-7        | 8-9 | 10-11 | 12-13 | 14-15 | 16-19 | 20-23 | 24-29 | 30-39 | 40+ |
| WF                  | 1   | CR  | 17     |                       | 73     |       | 73           | 8.3                                      |           |                     | 31         | 15  | 8     | 13    |       | 6     |       |       |       |     |
| WF                  | 1   | CR  | 26     |                       | 70     |       | 70           | 8.0                                      |           |                     | 24         | 24  | 23    |       |       |       |       |       |       |     |
| WF                  | 1   | CR  | 34     |                       | 735    | .5    | 732          | 83.7                                     |           |                     | 11         | 69  | 184   | 109   | 34    | 149   | 114   | 61    |       |     |
| WF                  |     |     | Totals |                       | 878    |       | 874          | 74.1                                     |           |                     | 66         | 108 | 215   | 122   | 34    | 155   | 114   | 61    |       |     |
| RF                  | 1   | CR  | 17     |                       | 3      |       | 3            | 2.3                                      |           |                     |            | 3   |       |       |       |       |       |       |       |     |
| RF                  | 1   | CR  | 34     |                       | 133    | 1.3   | 131          | 97.7                                     |           |                     |            |     | 36    |       | 22    | 47    |       | 26    |       |     |
| RF                  |     |     | Totals |                       | 136    | 1.3   | 134          | 11.4                                     |           |                     |            | 3   | 36    |       | 22    | 47    |       | 26    |       |     |
| PP                  | 1   | CR  | 26     |                       | 16     |       | 16           | 18.3                                     |           |                     | 4          |     | 12    |       |       |       |       |       |       |     |
| PP                  | 1   | CR  | 32     |                       | 24     |       | 24           | 28.7                                     |           |                     |            | 6   |       |       | 18    |       |       |       |       |     |
| PP                  | 1   | CR  | 34     |                       | 48     | 6.7   | 45           | 53.1                                     |           |                     |            |     | 9     |       | 16    | 21    |       |       |       |     |
| PP                  |     |     | Totals |                       | 88     | 3.7   | 85           | 7.2                                      |           |                     | 4          | 6   | 20    |       | 34    | 21    |       |       |       |     |
| LP                  | 1   | CR  | 26     |                       | 8      |       | 8            | 16.6                                     |           |                     |            | 8   |       |       |       |       |       |       |       |     |
| LP                  | 1   | CR  | 34     |                       | 38     |       | 38           | 83.4                                     |           |                     | 12         | 26  |       |       |       |       |       |       |       |     |
| LP                  |     |     | Totals |                       | 46     |       | 46           | 3.9                                      |           |                     | 12         | 34  |       |       |       |       |       |       |       |     |
| SP                  | 1   | CR  | 17     |                       | 3      |       | 3            | 8.5                                      |           |                     | 3          |     |       |       |       |       |       |       |       |     |
| SP                  | 1   | CR  | 26     |                       | 11     | 26.8  | 8            | 20.2                                     |           |                     |            | 8   |       |       |       |       |       |       |       |     |
| SP                  | 1   | CR  | 34     |                       | 30     | 3.8   | 29           | 71.3                                     |           |                     |            | 13  |       |       | 16    |       |       |       |       |     |
| SP                  |     |     | Totals |                       | 45     | 9.3   | 41           | 3.4                                      |           |                     | 3          | 21  |       |       | 16    |       |       |       |       |     |
| Total All Species   |     |     |        |                       | 1,193  | 1.1   | 1,180        | 100.0                                    |           |                     | 85         | 171 | 271   | 122   | 106   | 223   | 114   | 88    |       |     |

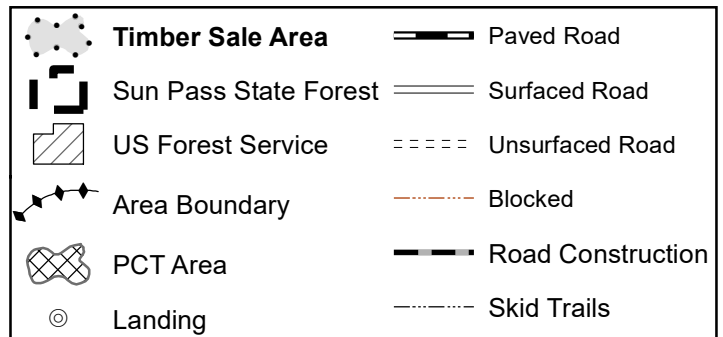


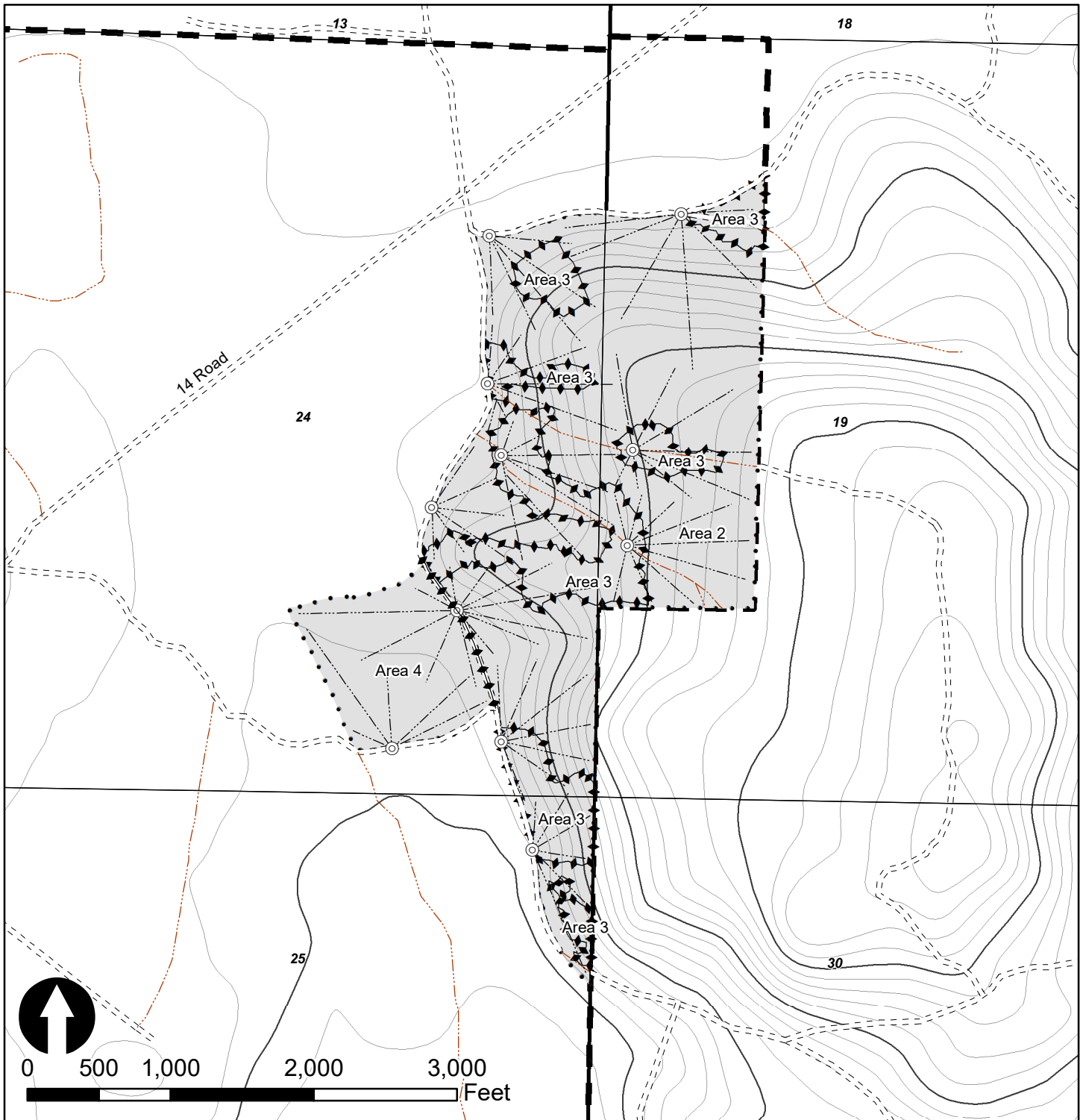
## LOGGING PLAN

Of Timber Sale Contract  
KL-341-2019-W00513-01  
Manzanita Woman

Portions of Section 19, T32S, R7E,  
Portions of Sections 24 and 25,  
T32S, R7.5E, Portions of Sections  
13 and 24, T33S, R7.5E, Willamette  
Meridian, Klamath County, Oregon  
338 acres

Created: May 16, 2018, KLD GIS





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Of Timber Sale Contract  
KL-341-2019-W00513-01  
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Portions of Section 19, T32S, R7E,  
Portions of Sections 24 and 25,  
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