# Timber Sale Appraisal
# Huffed and Puffed
# Sale AT-341-2019-W00729-01

**District: Astoria**

**Date: September 28, 2018**

## Cost Summary

| | Conifer | Hardwood | Total |
|---|---|---|---|
| **Gross Timber Sale Value** | $561,786.21 | $343,947.34 | $905,733.55 |
| | | **Project Work:** | $0.00 |
| | | **Advertised Value:** | $905,733.55 |

# Timber Sale Appraisal
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# Sale AT-341-2019-W00729-01

**District: Astoria** **Date: September 28, 2018**

## Timber Description

**Location:** Section 12, T4N, R8W, W.M. Clatsop County, Oregon

**Stand Stocking:** 80%

| Specie Name | AvgDBH | Amortization (%) | Recovery (%) |
|---|---|---|---|
| Douglas - Fir | 24 | 0 | 97 |
| Western Hemlock / Fir | 26 | 0 | 96 |
| Sitka Spruce | 21 | 0 | 96 |
| Alder (Red) | 17 | 0 | 95 |
| Maple | 18 | 0 | 95 |

| Volume by Grade | 2S | 3S & 4S 6"-11" | 8" - 9" | 10" - 11" | 12"+ | 6" - 7" | Camprun | Total |
|---|---|---|---|---|---|---|---|---|
| **Douglas - Fir** | 923 | 148 | 0 | 0 | 0 | 0 | 0 | 1,071 |
| **Western Hemlock / Fir** | 295 | 36 | 0 | 0 | 0 | 0 | 0 | 331 |
| **Sitka Spruce** | 136 | 53 | 0 | 0 | 0 | 0 | 0 | 189 |
| **Alder (Red)** | 0 | 0 | 148 | 309 | 410 | 181 | 0 | 1,048 |
| **Maple** | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 50 |
| **Total** | 1,354 | 237 | 148 | 309 | 410 | 181 | 50 | 2,689 |

**Comments:** Pond Values: Local Pond Values, August 2018.

Expected Log Markets: Mist, Willamina, Banks, North Plains, Clatskanie, Tillamook, Garibaldi, Forest Grove, Warrenton,
Elama, WA, Longview, WA, Vancounver WA, and Chehalis, WA.

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
$907.07/MBF = $1300/MBF - $392.93/MBF

BRANDING AND PAINTING COST ALLOWANCE = $2.00/MBF

FUEL COST ALLOWANCE = $3.00/GALLON

HAULING COST ALLOWANCE
Hauling costs equvalent to $950 daily truck cost.

Other Costs (With Profit and Risk to be added):

Machine Washing for Invasive Weed Compliance = $2,000

Ditch Filters:
20 bales of straw @ $10/bale = $200
8 hours of labor @ $40/hour = $320

Equipment Access Trail Development = $5,166
(See attached Equipment Access Trail Development cost sheet.)
Additional log handling and equipment move-in for staged logging:Move in additional log loader/drum shovel $1,406
Move in additional log loader $1,406
Additional log handling 630MBF X $25/MBF = $15,750
Fuel Cell rental and fueling = 1 month rental $600

TOTAL Other Costs (with Profit & Risk to be added): $24,328

Other Costs (No Profit & Risk added):
None

ROAD MAINTENANCE
(See attached Road Maintenacnce Cost Summary Sheet)
TOTAL Road Maintenance: $15,245/2,689 = $5.67


# Timber Sale Appraisal
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**District: Astoria** **Date: September 28, 2018**

## Logging Conditions

**Combination#: 1**

| | |
|---|---|
| Douglas - Fir | 70.00% |
| Western Hemlock / Fir | 70.00% |
| Sitka Spruce | 70.00% |
| Alder (Red) | 70.00% |
| Maple | 70.00% |

**Logging System:** Cable: Large Tower >=70 **Process:** Manual Falling/Delimbing

**yarding distance:** Long (1,500 ft) **downhill yarding:** No

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

**loads / day:** 7 **bd. ft / load:** 4600

**cost / mbf:** $211.18

**machines:** Log Loader (A)
Tower Yarder (Large)

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**Combination#: 2**

| | |
|---|---|
| Douglas - Fir | 30.00% |
| Western Hemlock / Fir | 30.00% |
| Sitka Spruce | 30.00% |
| Alder (Red) | 30.00% |
| Maple | 30.00% |

**Logging System:** Cable: Medium Tower >40 - <70 **Process:** Manual Falling/Delimbing

**yarding distance:** Long (1,500 ft) **downhill yarding:** No

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

**loads / day:** 5 **bd. ft / load:** 4400

**cost / mbf:** $300.00

**machines:** Log Loader (A)
Tower Yarder (Medium)

# Timber Sale Appraisal
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# Sale AT-341-2019-W00729-01

**District: Astoria**

**Date: September 28, 2018**

## Logging Costs

| | | | |
|---|---|---|---|
| **Operating Seasons:** | 2.00 | **Profit Risk:** | 9% |
| **Project Costs:** | $0.00 | **Other Costs (P/R):** | $24,328.00 |
| **Slash Disposal:** | $2,170.00 | **Other Costs:** | $0.00 |

**Miles of Road**

**Road Maintenance:** $5.67

| Dirt | Rock (Contractor) | Rock (State) | Paved |
|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 |

**Hauling Costs**

| Species | $ / MBF | Trips/Day | MBF / Load |
|---|---|---|---|
| Douglas - Fir | $0.00 | 2.0 | 4.8 |
| Western Hemlock / Fir | $0.00 | 2.0 | 4.2 |
| Sitka Spruce | $0.00 | 2.0 | 4.5 |
| Alder (Red) | $0.00 | 2.0 | 3.2 |
| Maple | $0.00 | 2.0 | 3.8 |

"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal
# Huffed and Puffed
# Sale AT-341-2019-W00729-01

**District: Astoria** **Date: September 28, 2018**

## Logging Costs Breakdown

| Logging | Road Maint | Fire Protect | Hauling | Other P/R appl | Profit & Risk | Slash Disposal | Brand & Paint | Other | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Douglas - Fir** | | | | | | | | | |
| $237.83 | $5.84 | $3.26 | $101.93 | $9.05 | $32.21 | $0.81 | $2.00 | $0.00 | $392.93 |
| **Western Hemlock / Fir** | | | | | | | | | |
| $237.83 | $5.90 | $3.26 | $117.62 | $9.05 | $33.63 | $0.81 | $2.00 | $0.00 | $410.10 |
| **Sitka Spruce** | | | | | | | | | |
| $237.83 | $5.90 | $3.26 | $109.78 | $9.05 | $32.92 | $0.81 | $2.00 | $0.00 | $401.55 |
| **Alder (Red)** | | | | | | | | | |
| $237.83 | $5.95 | $3.26 | $155.86 | $9.05 | $37.08 | $0.81 | $2.00 | $0.00 | $451.84 |
| **Maple** | | | | | | | | | |
| $237.83 | $5.95 | $3.26 | $131.25 | $9.05 | $34.86 | $0.81 | $2.00 | $0.00 | $425.01 |

| Specie | Amortization | Pond Value | Stumpage | Amortized |
|---|---|---|---|---|
| Douglas - Fir | $0.00 | $800.00 | $407.07 | $0.00 |
| Western Hemlock / Fir | $0.00 | $698.37 | $288.27 | $0.00 |
| Sitka Spruce | $0.00 | $562.38 | $160.83 | $0.00 |
| Alder (Red) | $0.00 | $776.17 | $324.33 | $0.00 |
| Maple | $0.00 | $506.00 | $80.99 | $0.00 |

# Timber Sale Appraisal
# Huffed and Puffed
## Sale AT-341-2019-W00729-01

**District: Astoria** **Date: September 28, 2018**

## Summary

**Amortized**

| Specie | MBF | Value | Total |
|---|---|---|---|
| Douglas - Fir | 0 | $0.00 | $0.00 |
| Western Hemlock / Fir | 0 | $0.00 | $0.00 |
| Sitka Spruce | 0 | $0.00 | $0.00 |
| Alder (Red) | 0 | $0.00 | $0.00 |
| Maple | 0 | $0.00 | $0.00 |

**Unamortized**

| Specie | MBF | Value | Total |
|---|---|---|---|
| Douglas - Fir | 1,071 | $407.07 | $435,971.97 |
| Western Hemlock / Fir | 331 | $288.27 | $95,417.37 |
| Sitka Spruce | 189 | $160.83 | $30,396.87 |
| Alder (Red) | 1,048 | $324.33 | $339,897.84 |
| Maple | 50 | $80.99 | $4,049.50 |

**Gross Timber Sale Value**

**Recovery:** $905,733.55

**Prepared By:** Bryce Rodgers **Phone:** 503-325-5451

## Road Maintenance Cost Summary (Interim and Post Harvest)

| | | | |
|---|---|---|---|
| **Sale:** | **Huffed and Puffed** | **MBF:** | 2,689.00 |
| **Date:** | July 19, 2018 | **$$/MBF:** | $5.67 |
| **By:** | Cody Valencia | | |

| Type | Equipment/Rationale | Move-in Rate | Times | Hours | Rate | Cost | |
|---|---|---|---|---|---|---|---|
| | Grader 14G | $778 | 1 | 13 | $100 | $2,078 | |
| Interim | Dump Truck 12CY | $163 | 1 | 4 | $79 | $479 | |
| Operations | FE Loader C966 | $778 | 1 | 2 | $83 | $944 | |
| | Grader 14G | $778 | 1 | 27 | $100 | $3,478 | |
| | Dump Truck 12CY | $163 | 1 | 10 | $79 | $953 | |
| Final | FE Loader C966 | $778 | 1 | 4 | $83 | $1,110 | |
| Road | Vibratory Roller | $778 | 1 | 27 | $77 | $2,857 | |
| Maintenance | Water Truck 2,500 gallon | $190 | 1 | 16 | $89 | $1,614 | |
| | Rubber Tired Backhoe-small | $321 | 1 | 10 | $77 | $1,091 | |
| | Labor | | | 8 | $40 | $641 | |
| **Total** | | | | | | | **$15,245** |

Interim Operations Road Maintenance

| Production Rates | Miles/day | Distance (miles) | Days | Hours |
|---|---|---|---|---|
| Grader | 3.0 | 5.01 | 1.7 | 13 |

Final Road Maintenance

| Production Rates | Miles/day | Distance (miles) | Days | Hours |
|---|---|---|---|---|
| Grader | 1.5 | 5.01 | 3.3 | 27 |
| Vibratory Roller | 1.5 | 5.01 | 3.3 | 27 |

Process and compact: All crushed rock roads

Huff-N-Puffed Road 1.12 miles

Cougar Mountain Road 3.85 miles

Unamed spurs 0.04 miles

Grade & Process Total = 5.0

# Huffed and Puffed
# FY 2019
# TIMBER CRUISE REPORT

1. **Sale Area Location:** Area 1 is located in portions of Section 12 T4N, R8W, W.M., Clatsop County, Oregon

2. **Fund Distribution: Fund:** BOF 100% CSL 0%
   **Tax Code:** 8-01 100%

3. **Sale Acreage by Area:**

| Area | Treatment | Gross Acres | Stream Buffer Acres | Existing RW Acres | Green Tree Retention Area | Net Acreage | Survey Method |
|---|---|---|---|---|---|---|---|
| 1 | Modified Clearcut | 90 | 11 | 1 | 2 | 76 | GIS |
| **TOTALS** | | **90** | **11** | **1** | **2** | **76** | |

4. **Cruisers and Cruise Dates:** Area 1 was cruised by Bryce Rodgers, John Choate, Cody Valencia, and Ella Salkeld on July 10, 11, and 17.

5. **Cruise Method and Computation:** Area 1 is a modified clearcut unit. A variable plot cruise with a 40 BAF was used for this area. The plots were located on a 3 chain by 4 chain grid, with a count/grade plot ratio of 2:1. A total of 62 plots were sampled.

   Cruisers used Allegro 2 data collectors that were downloaded to the Atterbury Super A.C.E. program at the Astoria District for computing. See the attached Cruise Design for more details on the cruise method. The cruise calculations were processed in the Astoria District office.

| AREA | PROJECT | TRACT | CRUISE TYPE |
|---|---|---|---|
| 1 | HP | A1 | 00MC, TK |

**Timber Description:** **Area 1** is approximately a 60 year old stand of Douglas-fir and red alder, with some western hemlock, Sitka Spruce, and bigleaf maple. The average take Douglas-fir tree size is approximately 24 inches DBH, with an average merchantable tree height of 78 feet. The average red alder take tree size for harvest is approximately 17 inches DBH, with an average merchantable tree height of 59 feet .The average hemlock take tree size is approximately 26 inches in DBH, with an average merchantable tree height of 68 feet. The average Sitka Spruce take tree size is approximately 21 inches in DBH, with an average merchantable tree height of 54 feet. The average Bigleaf maple take tree size for harvest is approximately 18 inches DBH, with an average merchantable tree height of 46 feet. The average volume per acre to be harvested (net) is approximately 35 MBF. All trees were cruised to a merchantable top of 6 inch DIB or 40% of form point.

Cedar is a reserved species.

6. **Statistical Analysis: (See also "Statistics Reports," attached.)**

| Area | Target CV | Target SE% | Actual CV | Actual SE% |
|---|---|---|---|---|
| 1 | 55 | 9 | 56.7 | 7.2 |

The statistics are for all areas and Take and Leave trees combined based on Net BF/Acre.

7. **Take Volumes by Species and Log Grades for All Sale Areas by MBF:** (See "Species, Sort Grade-Board Feet Volumes (Project)", "Statistics (Project)", and the "Stand Table Summary" attached). Volumes do not include "in-growth." The majority of defect and breakage was taken out during the cruise.

**Conifer**

| Species | DBH | Net Vol. MBF | 2 Saw | 3Saw | 4 Saw | % D & B | % Sale |
|---|---|---|---|---|---|---|---|
| Douglas-fir | 24 | 1,071 | 923 | 126 | 22 | 0.5 | 40 |
| Western Hemlock | 26 | 331 | 295 | 34 | 2 | - | 12 |
| Sitka Spruce | 21 | 189 | 136 | 47 | 6 | - | 7 |

**Hardwoods**

| Species | DBH | Net Vol. MBF | 12"+ | 10-12" | 8-10" | 6-8" | % D & B | % Sale |
|---|---|---|---|---|---|---|---|---|
| Red Alder | 17 | 1,048 | 410 | 309 | 148 | 181 | 0.2 | 39 |
| Bigleaf Maple | 18 | 50 | 21 | 0 | 13 | 16 | 0.3 | 2 |

| TOTAL NET VOLUME | 2,689 MBF |
|---|---|

8. **Prepared by:** Cody Valencia **Date:** 07/20/2018

10. **Approved by:** [signature] **Date:** 8/15/18

11. **Attachments:**
Cruise Plans & Maps (3 pages)
Species, Sort, Grade Report (1 page)
Statistics Reports (3 pages)
Log Stock Table Report MBF (2 pages)
Stand Table Report (2 pages)

Revised August, 2002

# CRUISE DESIGN
# ASTORIA DISTRICT

**Sale Name:** Huffed and Puffed **Area** 1

**Harvest Type:** (MC) Modified Clearcut

**Approx. Cruise Acres:** 78 **Estimated CV%** 55 Net BF/Acre **SE% Objective** 9 Net BF/Acre

**Planned Sale Volume :** 2.7 MMBF **Estimated Sale Area Value/Acre:** $16,200/Acre
(36 MBF/Ac. @ $450/Acre)

**A. Cruise Goals:** (a) Grade minimum 50 conifer and 50 hardwood trees (b) Sample 62 cruise plots ( 22 grade/ 40 count); (c) Other goals (____ Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes.

**B. Cruise Design:**

1. **Plot Cruises:** BAF **40** (Full point)
   Cruise Line Directions: 165°/345°
   Cruise Line Spacing 4 (chains) 264 (Feet)
   Cruise Plot Spacing 3 (chains) 198 (Feet)
   Grade/Count Ratio 1:2

Take plots as marked on cruise map. All cedar will be reserved. Record all snags as SN.

DO NOT RECORD 12', 22' and 32' (for Hardwoods).

DO NOT RECORD 22' LENGTHS.

All hardwood will be measured to a G, or as appropriate.

**C. Tree Measurements:**

1. **Diameter:** Minimum DBH to cruise is 8" for conifers and 8" for hardwoods. Record dbh to nearest ½" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.

2. **Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.

3. **Top Cruise Diameter (TCD):** Minimum top outside bark is 7" for conifers and 7" for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for conifer trees > 18" dbh.

4. **Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.

5. **Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch. segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree. Hardwoods shall be recorded in 8' and 10' multiples.

6. **Species, Sort, and Grade Codes:**

A. Species: Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple). For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DL, HL, CL, etc.)

B. Sort: Use code "1" (Domestic).

C. Grade: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; R = Camp Run; 0 = Cull
Hardwoods: Alder Grades: 12" + = 1 Sawmill; 10"-12" = 2 Sawmill; 10"-8" = 3 Sawmill; and 8"-6" 4 Sawmill, or R = Camp Run; 0 = Cull.
All Maple Camp Run = R

7. **Deductions:** Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally results in higher breakage percentages than gentler topography, and hemlock generally breaks more than D-fir and spruce.

8. **Standard Field Procedures:** Plot Type Cruises: Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden stake marking plot center. On each yellow flagging, write the plot identification number. Between plots, along the cruise line, tie blue flagging at inter-visible points, not to exceed 100' apart. On "measure/grade" plots write the tree number and/or tree diameter on at least the first measured tree (clockwise from the line direction) in yellow paint. All trees on the plot may be marked this way, if the cruiser chooses.

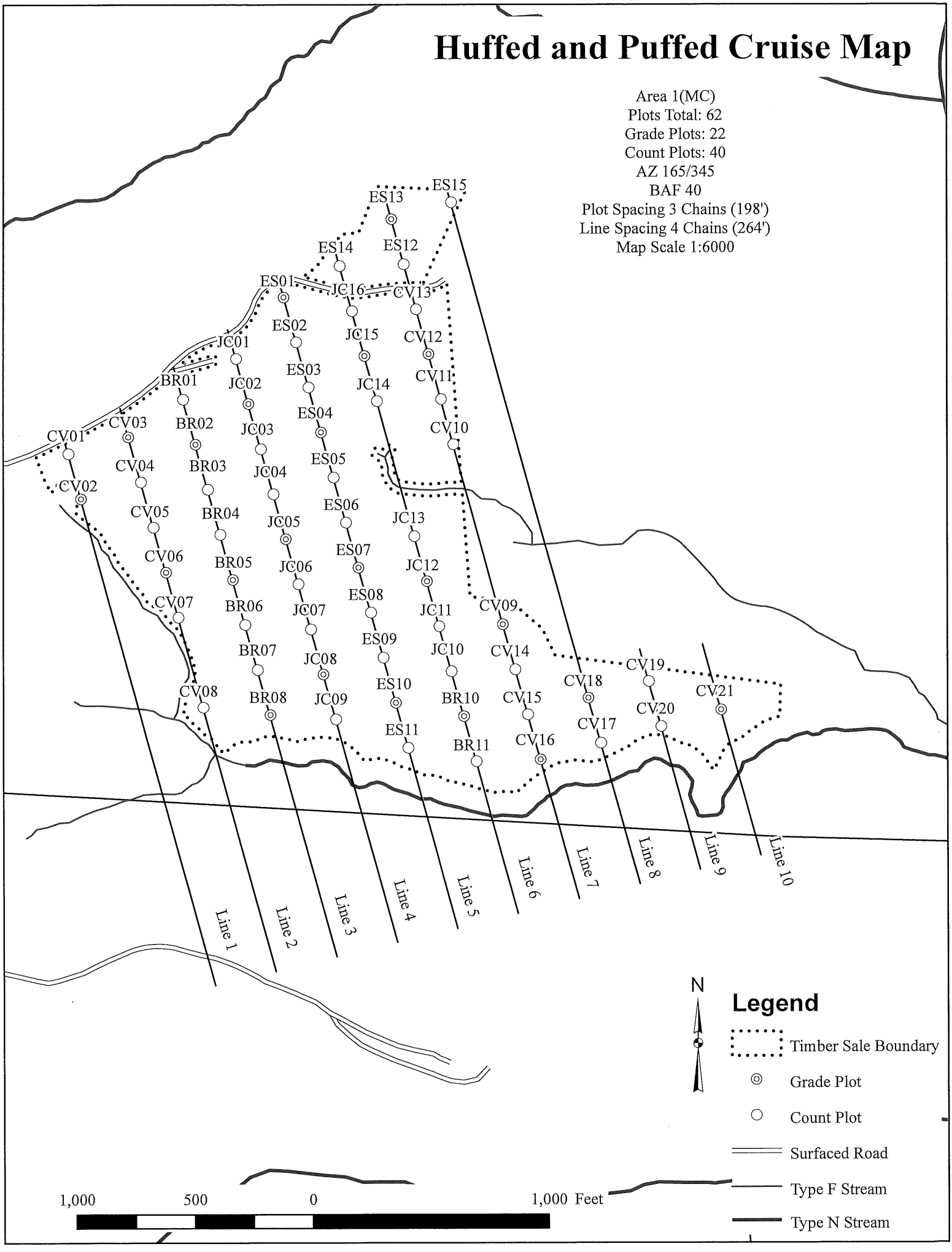
9. **Cruising Equipment:** Relaskop, Rangefinder, Logger's Tape (with dbh on back) Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.

10. **Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: Cody Valencia
Approved by: [signature]
Date: 7/3/18

# Huffed and Puffed Cruise Map

Area 1(MC)
Plots Total: 62
Grade Plots: 22
Count Plots: 40
AZ 165/345
BAF 40
Plot Spacing 3 Chains (198')
Line Spacing 4 Chains (264')
Map Scale 1:6000



T TSPCSTGR

# Species, Sort Grade - Board Foot Volumes (Type)

Project: HP

Page 1
Date 7/19/2018
Time 10:57:31AM

**T04N R08W S12 TTK**

| Twp | Rge | Sec | Tract | Type | Acres | Plots | Sample Trees | CuFt | BdFt |
|---|---|---|---|---|---|---|---|---|---|
| 04N | 08W | 12 | A1 | TK | 76.00 | 62 | 126 | 1 | W |

T04N R08W S12 TTK

| Spp | ST | So rt | Gr ad | % Net BdFt | Bd. Ft. per Acre Def% | Gross | Net | Total Net MBF | Percent Net Board Foot Volume: Log Scale Dia. 4-5 | 6-11 | 12-16 | 17+ | Log Length 12-20 | 21-30 | 31-35 | 36-99 | Average Log Ln Ft | Dia In | Bd Ft | CF/ Lf | Logs Per /Acre |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | | DO | CU | | | | | | | | | | | | | | 11 | 15 | | 0.00 | 1.9 |
| A | | DO | 1S | 39 | .5 | 5,420 | 5,395 | 410 | | | 96 | 4 | 3 | 5 | 7 | 85 | 38 | 14 | 262 | 1.85 | 20.6 |
| A | | DO | 2S | 29 | | 4,067 | 4,067 | 309 | | 76 | 24 | | 1 | 7 | | 92 | 38 | 11 | 164 | 1.15 | 24.8 |
| A | | DO | 3S | 14 | | 1,947 | 1,947 | 148 | | 100 | | | 3 | 23 | 10 | 65 | 34 | 8 | 88 | 0.79 | 22.2 |
| A | | DO | 4S | 18 | | 2,376 | 2,376 | 181 | | 100 | | | 26 | 37 | 12 | 25 | 26 | 6 | 36 | 0.54 | 66.5 |
| **A** | **Totals** | | | 39 | .2 | 13,810 | 13,785 | 1,048 | | 54 | 45 | 1 | 6 | 14 | 6 | 74 | 31 | 9 | 101 | 0.96 | 136.0 |
| D | | DO | CU | | | | | | | | | | | | | | 8 | 22 | | 0.00 | 1.3 |
| D | | DO | 2S | 86 | .6 | 12,226 | 12,151 | 923 | | | 27 | 73 | 0 | 2 | 5 | 93 | 38 | 17 | 471 | 2.63 | 25.8 |
| D | | DO | 3S | 11 | | 1,657 | 1,657 | 126 | | 91 | | 9 | 17 | 16 | 32 | 35 | 32 | 9 | 101 | 0.96 | 16.4 |
| D | | DO | 4S | 3 | | 286 | 286 | 22 | | 100 | | | 60 | 40 | | | 20 | 7 | 29 | 0.49 | 10.0 |
| **D** | **Totals** | | | 40 | .5 | 14,169 | 14,094 | 1,071 | | 13 | 24 | 64 | 3 | 4 | 8 | 84 | 32 | 13 | 263 | 1.86 | 53.5 |
| H | | DO | CU | | | | | | | | | | | | | | 6 | 25 | | 0.00 | 1.6 |
| H | | DO | 2S | 89 | | 3,881 | 3,881 | 295 | | | 8 | 92 | 2 | | 38 | 60 | 34 | 19 | 609 | 3.49 | 6.4 |
| H | | DO | 3S | 10 | | 450 | 450 | 34 | | 48 | 52 | | 21 | | 40 | 39 | 30 | 8 | 81 | 1.02 | 5.6 |
| H | | DO | 4S | 1 | | 28 | 28 | 2 | | 100 | | | 100 | | | | 16 | 7 | 30 | 0.69 | .9 |
| **H** | **Totals** | | | 12 | | 4,359 | 4,359 | 331 | | 6 | 13 | 82 | 5 | | 38 | 58 | 28 | 15 | 301 | 2.28 | 14.5 |
| S | | DO | CU | | | | | | | | | | | | | | 12 | 37 | | 0.00 | .1 |
| S | | DO | 2S | 72 | | 1,783 | 1,783 | 136 | | | 49 | 51 | | | 24 | 76 | 36 | 16 | 401 | 2.64 | 4.4 |
| S | | DO | 3S | 24 | | 614 | 614 | 47 | | 70 | 30 | | 8 | 23 | 6 | 64 | 35 | 9 | 97 | 0.96 | 6.3 |
| S | | DO | 4S | 4 | | 78 | 78 | 6 | | 100 | | | 100 | | | | 14 | 7 | 22 | 0.63 | 3.6 |
| **S** | **Totals** | | | 7 | | 2,475 | 2,475 | 189 ~~188~~ | | 20 | 43 | 37 | 5 | 6 | 18 | 71 | 30 | 11 | 171 | 1.54 | 14.5 |
| M | | DO | CU | | | | | | | | | | | | | | 12 | 13 | | 0.00 | 1.7 |
| M | | DO | 1S | 41 | | 276 | 276 | 21 | | | 50 | 50 | | 50 | | 50 | 36 | 17 | 425 | 2.77 | .6 |
| M | | DO | 3S | 27 | | 177 | 177 | 13 | | 100 | | | | 14 | | 86 | 38 | 8 | 91 | 1.01 | 2.0 |
| M | | DO | 4S | 32 | | 212 | 212 | 16 | | 100 | | | 43 | 5 | | 52 | 26 | 7 | 41 | 0.69 | 5.1 |
| **M** | **Totals** | | | 2 | | 665 | 665 | 50 ~~51~~ | | 59 | 21 | 21 | 14 | 26 | | 60 | 27 | 9 | 71 | 0.92 | 9.4 |
| **Type Totals** | | | | | .3 | 35,477 | 35,377 | 2,689 | | 29 | 32 | 39 | 5 | 8 | 11 | 76 | 31 | 10 | 155 | 1.29 | 227.8 |

TC TSTATS

# STATISTICS

PROJECT HP



DATE 7/19/2018

| TWP | RGE | SECT | TRACT | TYPE | ACRES | PLOTS | TREES | CuFt | BdFt |
|---|---|---|---|---|---|---|---|---|---|
| 04N | 08W | 12 | A1 | 00MC | 76.00 | 62 | 385 | 1 | W |

| | PLOTS | TREES | TREES PER PLOT | ESTIMATED TOTAL TREES | PERCENT SAMPLE TREES |
|---|---|---|---|---|---|
| TOTAL | 62 | 385 | 6.2 | | |
| CRUISE | 22 | 133 | 6.0 | 9,318 | 1.4 |
| DBH COUNT | | | | | |
| REFOREST | | | | | |
| COUNT | 40 | 252 | 6.3 | | |
| BLANKS | | | | | |
| 100 % | | | | | |

## STAND SUMMARY

| | SAMPLE TREES | TREES /ACRE | AVG DBH | BOLE LEN | REL DEN | BASAL AREA | GROSS BF/AC | NET BF/AC | GROSS CF/AC | NET CF/AC |
|---|---|---|---|---|---|---|---|---|---|---|
| R ALDER | 66 | 75.2 | 16.6 | 59 | 27.7 | 112.9 | 13,810 | 13,785 | 4,046 | 4,046 |
| DOUG FIR | 34 | 22.8 | 23.9 | 78 | 14.5 | 71.0 | 14,169 | 14,094 | 3,206 | 3,206 |
| WHEMLOCK | 5 | 6.3 | 26.1 | 68 | 4.5 | 23.2 | 4,359 | 4,359 | 937 | 937 |
| S SPRUCE | 13 | 8.7 | 20.6 | 54 | 4.4 | 20.0 | 2,475 | 2,475 | 674 | 674 |
| SNAG | 6 | 3.8 | 23.0 | 67 | 2.3 | 11.0 | | | | |
| BL MAPLE | 8 | 5.8 | 17.5 | 46 | 2.3 | 9.7 | 665 | 665 | 232 | 232 |
| WR CEDAR | 1 | .1 | 39.0 | 66 | 0.1 | .6 | 58 | 58 | 19 | 19 |
| **TOTAL** | *133* | *122.6* | *19.3* | *62* | *56.6* | *248.4* | *35,535* | *35,435* | *9,113* | *9,113* |

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

### SAMPLE TREES - BF

CL: 68.1 % SD: 1.0

| | COEFF VAR.% | S.E.% | LOW | AVG | HIGH | # OF TREES REQ. 5 | 10 | INF. POP. 15 |
|---|---|---|---|---|---|---|---|---|
| R ALDER | 52.4 | 6.4 | 215 | 230 | 245 | | | |
| DOUG FIR | 57.1 | 9.8 | 852 | 945 | 1,037 | | | |
| WHEMLOCK | 65.8 | 32.7 | 728 | 1,082 | 1,436 | | | |
| S SPRUCE | 97.1 | 28.0 | 376 | 522 | 668 | | | |
| SNAG | | | | | | | | |
| BL MAPLE | 108.8 | 41.0 | 104 | 176 | 249 | | | |
| WR CEDAR | | | | | | | | |
| **TOTAL** | *105.2* | *9.1* | *421* | *463* | *506* | *442* | *110* | *49* |

### TREES/ACRE

CL: 68.1 % SD: 1.0

| | COEFF VAR.% | S.E.% | LOW | AVG | HIGH | # OF PLOTS REQ. 5 | 10 | INF. POP. 15 |
|---|---|---|---|---|---|---|---|---|
| R ALDER | 103.1 | 13.1 | 65 | 75 | 85 | | | |
| DOUG FIR | 148.2 | 18.8 | 19 | 23 | 27 | | | |
| WHEMLOCK | 262.1 | 33.3 | 4 | 6 | 8 | | | |
| S SPRUCE | 207.7 | 26.4 | 6 | 9 | 11 | | | |
| SNAG | 242.0 | 30.7 | 3 | 4 | 5 | | | |
| BL MAPLE | 386.2 | 49.0 | 3 | 6 | 9 | | | |
| WR CEDAR | 787.4 | 99.9 | 0 | 0 | 0 | | | |
| **TOTAL** | *53.4* | *6.8* | *114* | *123* | *131* | *114* | *28* | *13* |

### BASAL AREA/ACRE

CL: 68.1 % SD: 1.0

| | COEFF VAR.% | S.E.% | LOW | AVG | HIGH | # OF PLOTS REQ. 5 | 10 | INF. POP. 15 |
|---|---|---|---|---|---|---|---|---|
| R ALDER | 94.4 | 12.0 | 99 | 113 | 126 | | | |
| DOUG FIR | 143.0 | 18.1 | 58 | 71 | 84 | | | |
| WHEMLOCK | 261.9 | 33.2 | 16 | 23 | 31 | | | |
| S SPRUCE | 200.8 | 25.5 | 15 | 20 | 25 | | | |
| SNAG | 220.7 | 28.0 | 8 | 11 | 14 | | | |
| BL MAPLE | 393.8 | 50.0 | 5 | 10 | 15 | | | |
| WR CEDAR | 787.4 | 99.9 | 0 | 1 | 1 | | | |
| **TOTAL** | *44.6* | *5.7* | *234* | *248* | *262* | *79* | *20* | *9* |

### NET BF/ACRE

CL: 68.1 % SD: 1.0

| | COEFF VAR.% | S.E.% | LOW | AVG | HIGH | # OF PLOTS REQ. 5 | 10 | INF. POP. 15 |
|---|---|---|---|---|---|---|---|---|

# STATISTICS

**PROJECT HP**



| TWP | RGE | SECT | TRACT | TYPE | ACRES | PLOTS | TREES | CuFt | BdFt |
|---|---|---|---|---|---|---|---|---|---|
| 04N | 08W | 12 | A1 | 00MC | 76.00 | 62 | 385 | 1 | W |

CL: 68.1 %
SD: 1.0

| | COEFF VAR. | S.E.% | NET BF/ACRE LOW | AVG | HIGH | # OF PLOTS REQ. 5 | 10 | INF. POP. 15 |
|---|---|---|---|---|---|---|---|---|
| R ALDER | 93.1 | 11.8 | 12,157 | 13,785 | 15,413 | | | |
| DOUG FIR | 143.9 | 18.3 | 11,521 | 14,094 | 16,667 | | | |
| WHEMLOCK | 264.5 | 33.6 | 2,896 | 4,359 | 5,823 | | | |
| S SPRUCE | 211.0 | 26.8 | 1,812 | 2,475 | 3,137 | | | |
| SNAG | | | | | | | | |
| BL MAPLE | 435.9 | 55.3 | 297 | 665 | 1,032 | | | |
| WR CEDAR | 787.4 | 99.9 | 0 | 58 | 115 | | | |
| **TOTAL** | *56.7* | *7.2* | *32,884* | *35,435* | *37,985* | *128* | *32* | *14* |

TC TSTATS

# STATISTICS

PROJECT HP



DATE 7/19/2018

| TWP | RGE | SECT | TRACT | TYPE | ACRES | PLOTS | TREES | CuFt | BdFt |
|---|---|---|---|---|---|---|---|---|---|
| 04N | 08W | 12 | A1 | TK | 76.00 | 62 | 367 | 1 | W |

| | PLOTS | TREES | TREES PER PLOT | ESTIMATED TOTAL TREES | PERCENT SAMPLE TREES |
|---|---|---|---|---|---|
| TOTAL | 62 | 367 | 5.9 | | |
| CRUISE | 22 | 126 | 5.7 | 9,024 | 1.4 |
| DBH COUNT | | | | | |
| REFOREST | | | | | |
| COUNT | 40 | 241 | 6.0 | | |
| BLANKS | | | | | |
| 100 % | | | | | |

## STAND SUMMARY

| | SAMPLE TREES | TREES /ACRE | AVG DBH | BOLE LEN | REL DEN | BASAL AREA | GROSS BF/AC | NET BF/AC | GROSS CF/AC | NET CF/AC |
|---|---|---|---|---|---|---|---|---|---|---|
| R ALDER | 66 | 75.2 | 16.6 | 59 | 27.7 | 112.9 | 13,810 | 13,785 | 4,046 | 4,046 |
| DOUG FIR | 34 | 22.8 | 23.9 | 78 | 14.5 | 71.0 | 14,169 | 14,094 | 3,206 | 3,206 |
| WHEMLOCK | 5 | 6.3 | 26.1 | 68 | 4.5 | 23.2 | 4,359 | 4,359 | 937 | 937 |
| S SPRUCE | 13 | 8.7 | 20.6 | 54 | 4.4 | 20.0 | 2,475 | 2,475 | 674 | 674 |
| BL MAPLE | 8 | 5.8 | 17.5 | 46 | 2.3 | 9.7 | 665 | 665 | 232 | 232 |
| **TOTAL** | *126* | *118.7* | *19.1* | *62* | *54.1* | *236.8* | *35,477* | *35,377* | *9,094* | *9,094* |

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 |
| R ALDER | 52.4 | 6.4 | 215 | 230 | 245 | | | |
| DOUG FIR | 57.1 | 9.8 | 852 | 945 | 1,037 | | | |
| WHEMLOCK | 65.8 | 32.7 | 728 | 1,082 | 1,436 | | | |
| S SPRUCE | 97.1 | 28.0 | 376 | 522 | 668 | | | |
| BL MAPLE | 108.8 | 41.0 | 104 | 176 | 249 | | | |
| **TOTAL** | *101.3* | *9.0* | *440* | *483* | *527* | *409* | *102* | *45* |

| CL: 68.1 % | COEFF | | **TREES/ACRE** | | | # OF PLOTS REQ. | | INF. POP. |
|---|---|---|---|---|---|---|---|---|
| SD: 1.0 | VAR.% | S.E.% | LOW | AVG | HIGH | 5 | 10 | 15 |
| R ALDER | 103.1 | 13.1 | 65 | 75 | 85 | | | |
| DOUG FIR | 148.2 | 18.8 | 19 | 23 | 27 | | | |
| WHEMLOCK | 262.1 | 33.3 | 4 | 6 | 8 | | | |
| S SPRUCE | 207.7 | 26.4 | 6 | 9 | 11 | | | |
| BL MAPLE | 386.2 | 49.0 | 3 | 6 | 9 | | | |
| **TOTAL** | *56.0* | *7.1* | *110* | *119* | *127* | *125* | *31* | *14* |

| CL: 68.1 % | COEFF | | **BASAL AREA/ACRE** | | | # OF PLOTS REQ. | | INF. POP. |
|---|---|---|---|---|---|---|---|---|
| SD: 1.0 | VAR.% | S.E.% | LOW | AVG | HIGH | 5 | 10 | 15 |
| R ALDER | 94.4 | 12.0 | 99 | 113 | 126 | | | |
| DOUG FIR | 143.0 | 18.1 | 58 | 71 | 84 | | | |
| WHEMLOCK | 261.9 | 33.2 | 16 | 23 | 31 | | | |
| S SPRUCE | 200.8 | 25.5 | 15 | 20 | 25 | | | |
| BL MAPLE | 393.8 | 50.0 | 5 | 10 | 15 | | | |
| **TOTAL** | *46.3* | *5.9* | *223* | *237* | *251* | *86* | *21* | *10* |

| CL: 68.1 % | COEFF | | **NET BF/ACRE** | | | # OF PLOTS REQ. | | INF. POP. |
|---|---|---|---|---|---|---|---|---|
| SD: 1.0 | VAR.% | S.E.% | LOW | AVG | HIGH | 5 | 10 | 15 |
| R ALDER | 93.1 | 11.8 | 12,157 | 13,785 | 15,413 | | | |
| DOUG FIR | 143.9 | 18.3 | 11,521 | 14,094 | 16,667 | | | |
| WHEMLOCK | 264.5 | 33.6 | 2,896 | 4,359 | 5,823 | | | |
| S SPRUCE | 211.0 | 26.8 | 1,812 | 2,475 | 3,137 | | | |
| BL MAPLE | 435.9 | 55.3 | 297 | 665 | 1,032 | | | |
| **TOTAL** | *57.0* | *7.2* | *32,820* | *35,377* | *37,935* | *130* | *32* | *14* |

TC TLOGSTVB

# Log Stock Table - MBF

**Project:** HP

**T04N R08W S12 TTK**

| Twp | Rge | Sec | Tract | Type | Acres | Plots | Sample Trees |
|---|---|---|---|---|---|---|---|
| 04N | 08W | 12 | A1 | TK | 76.00 | 62 | 126 |

**T04N R08W S12 TTK**



**Date** 7/19/2018

**Time** 11:01:07AM

| Spp | S T | So Grt | Gr de | Log Len | Gross MBF | % Def | Net MBF | % Spc | Net Volume by Scaling Diameter in Inches: 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-19 | 20-23 | 24-29 | 30-39 | 40+ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | | DO | CU | 9 | | | | | | | | | | | | | | | | |
| A | | DO | CU | 15 | | | | | | | | | | | | | | | | |
| A | | DO | 1S | 20 | 12 | | 12 | 1.1 | | | | | | | 12 | | | | | |
| A | | DO | 1S | 30 | 20 | | 20 | 1.9 | | | | | | 11 | 9 | | | | | |
| A | | DO | 1S | 34 | 29 | | 29 | 2.8 | | | | | | | 14 | 15 | | | | |
| A | | DO | 1S | 36 | 14 | | 14 | 1.3 | | | | | | | 14 | | | | | |
| A | | DO | 1S | 38 | 46 | | 46 | 4.4 | | | | | | 14 | 17 | 16 | | | | |
| A | | DO | 1S | 40 | 291 | .7 | 289 | 27.6 | | | | | | 120 | 119 | 50 | | | | |
| A | | DO | 2S | 20 | 3 | | 3 | .3 | | | | | 3 | | | | | | | |
| A | | DO | 2S | 30 | 23 | | 23 | 2.2 | | | | | 23 | | | | | | | |
| A | | DO | 2S | 36 | 15 | | 15 | 1.4 | | | | | 15 | | | | | | | |
| A | | DO | 2S | 38 | 30 | | 30 | 2.8 | | | | | 30 | | | | | | | |
| A | | DO | 2S | 40 | 239 | | 239 | 22.8 | | | | 15 | 150 | 41 | 13 | 20 | | | | |
| A | | DO | 3S | 20 | 5 | | 5 | .4 | | | 2 | 2 | | | | | | | | |
| A | | DO | 3S | 30 | 34 | | 34 | 3.2 | | | 2 | 32 | | | | | | | | |
| A | | DO | 3S | 32 | 3 | | 3 | .3 | | | 3 | | | | | | | | | |
| A | | DO | 3S | 34 | 12 | | 12 | 1.1 | | | | 12 | | | | | | | | |
| A | | DO | 3S | 38 | 12 | | 12 | 1.1 | | | | 12 | | | | | | | | |
| A | | DO | 3S | 40 | 84 | | 84 | 8.0 | | | | 54 | 30 | | | | | | | |
| A | | DO | 4S | 16 | 2 | | 2 | .2 | | | 2 | | | | | | | | | |
| A | | DO | 4S | 18 | 12 | | 12 | 1.2 | | | 11 | 1 | | | | | | | | |
| A | | DO | 4S | 20 | 33 | | 33 | 3.1 | | | 31 | 2 | | | | | | | | |
| A | | DO | 4S | 24 | 22 | | 22 | 2.1 | | | 22 | | | | | | | | | |
| A | | DO | 4S | 26 | 8 | | 8 | .8 | | | 8 | | | | | | | | | |
| A | | DO | 4S | 28 | 22 | | 22 | 2.1 | | | 22 | | | | | | | | | |
| A | | DO | 4S | 30 | 15 | | 15 | 1.4 | | | 15 | | | | | | | | | |
| A | | DO | 4S | 32 | 13 | | 13 | 1.3 | | | 13 | | | | | | | | | |
| A | | DO | 4S | 34 | 8 | | 8 | .7 | | | 8 | | | | | | | | | |
| A | | DO | 4S | 36 | 3 | | 3 | .3 | | | 3 | | | | | | | | | |
| A | | DO | 4S | 38 | 19 | | 19 | 1.8 | | | 19 | | | | | | | | | |
| A | | DO | 4S | 40 | 23 | | 23 | 2.2 | | | 23 | | | | | | | | | |
| A | | Totals | | | 1,050 | | 1,048 | 39.0 | | | 184 | 129 | 250 | 186 | 198 | 100 | | | | |
| D | | DO | CU | 5 | | | | | | | | | | | | | | | | |
| D | | DO | CU | 10 | | | | | | | | | | | | | | | | |
| D | | DO | 2S | 20 | 2 | | 2 | .2 | | | | | | 2 | | | | | | |
| D | | DO | 2S | 22 | 16 | | 16 | 1.5 | | | | | | | | | 16 | | | |
| D | | DO | 2S | 24 | 3 | | 3 | .3 | | | | | | 3 | | | | | | |
| D | | DO | 2S | 32 | 42 | | 42 | 3.9 | | | | | | 20 | | 22 | | | | |
| D | | DO | 2S | 38 | 30 | | 30 | 2.8 | | | | | | 8 | | 22 | | | | |
| D | | DO | 2S | 40 | 836 | .7 | 830 | 77.5 | | | | | | 78 | 99 | 255 | 291 | 106 | | |
| D | | DO | 3S | 16 | 13 | | 13 | 1.2 | | | | 1 | | | | | | 12 | | |
| D | | DO | 3S | 18 | 4 | | 4 | .4 | | | | | 4 | | | | | | | |
| D | | DO | 3S | 20 | 4 | | 4 | .4 | | | | 2 | 2 | | | | | | | |
| D | | DO | 3S | 24 | 2 | | 2 | .2 | | | | | 2 | | | | | | | |
| D | | DO | 3S | 26 | 5 | | 5 | .5 | | | | 2 | 3 | | | | | | | |
| D | | DO | 3S | 30 | 13 | | 13 | 1.2 | | | | 3 | 10 | | | | | | | |
| D | | DO | 3S | 32 | 41 | | 41 | 3.8 | | | | 6 | 35 | | | | | | | |
| D | | DO | 3S | 38 | 7 | | 7 | .7 | | | | | 7 | | | | | | | |
| D | | DO | 3S | 40 | 36 | | 36 | 3.4 | | | 19 | 9 | 9 | | | | | | | |

TC TLOGSTVB

# Log Stock Table - MBF

**Project:** HP

**T04N R08W S12 TTK**

| Twp | Rge | Sec | Tract | Type | Acres | Plots | Sample Trees |
|---|---|---|---|---|---|---|---|
| 04N | 08W | 12 | A1 | TK | 76.00 | 62 | 126 |

**T04N R08W S12 TTK**



Date 7/19/2018

Time 11:01:07AM

| Spp | S T | So | Gr de | Log Len | Gross MBF | % Def | Net MBF | % Spc | Net Volume by Scaling Diameter in Inches: 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-19 | 20-23 | 24-29 | 30-39 | 40+ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | | DO | 4S | 12 | 4 | | 4 | .4 | | | 1 | 2 | 1 | | | | | | | |
| D | | DO | 4S | 14 | 1 | | 1 | .1 | | | 1 | | | | | | | | | |
| D | | DO | 4S | 16 | 6 | | 6 | .6 | | | 1 | 3 | 2 | | | | | | | |
| D | | DO | 4S | 18 | 1 | | 1 | .1 | | | | 1 | | | | | | | | |
| D | | DO | 4S | 28 | 9 | | 9 | .8 | | | 9 | | | | | | | | | |
| D | | Totals | | | 1,077 | | 1,071 | 39.8 | | | 31 | 30 | 75 | 112 | 99 | 299 | 308 | 118 | | |
| H | | DO | CU | 6 | | | | | | | | | | | | | | | | |
| H | | DO | 2S | 20 | 6 | | 6 | 1.9 | | | | | | 6 | | | | | | |
| H | | DO | 2S | 32 | 65 | | 65 | 19.5 | | | | | | | 18 | 47 | | | | |
| H | | DO | 2S | 34 | 47 | | 47 | 14.1 | | | | | | | | | 47 | | | |
| H | | DO | 2S | 40 | 177 | | 177 | 53.5 | | | | | | | | | 54 | 123 | | |
| H | | DO | 3S | 16 | 7 | | 7 | 2.1 | | | | 3 | | 4 | | | | | | |
| H | | DO | 3S | 32 | 14 | | 14 | 4.1 | | | | | | 14 | | | | | | |
| H | | DO | 3S | 38 | 13 | | 13 | 4.1 | | | 13 | | | | | | | | | |
| H | | DO | 4S | 16 | 2 | | 2 | .7 | | | 2 | | | | | | | | | |
| H | | Totals | | | 331 | | 331 | 12.3 | | | 16 | 3 | | 24 | 18 | 47 | 101 | 123 | | |
| S | | DO | CU | 12 | | | | | | | | | | | | | | | | |
| S | | DO | 2S | 32 | 32 | | 32 | 17.0 | | | | | | 9 | 10 | 13 | | | | |
| S | | DO | 2S | 36 | 10 | | 10 | 5.1 | | | | | | | 10 | | | | | |
| S | | DO | 2S | 40 | 94 | | 94 | 49.9 | | | | | | 10 | | 31 | 17 | 36 | | |
| S | | DO | 3S | 18 | 4 | | 4 | 1.9 | | | | | | 4 | | | | | | |
| S | | DO | 3S | 26 | 2 | | 2 | 1.3 | | | | | | 2 | | | | | | |
| S | | DO | 3S | 30 | 8 | | 8 | 4.3 | | | | | | 5 | 3 | | | | | |
| S | | DO | 3S | 32 | 3 | | 3 | 1.4 | | | | 3 | | | | | | | | |
| S | | DO | 3S | 36 | 5 | | 5 | 2.7 | | | 5 | | | | | | | | | |
| S | | DO | 3S | 40 | 25 | | 25 | 13.2 | | | 12 | | 12 | | | | | | | |
| S | | DO | 4S | 12 | 3 | | 3 | 1.4 | | | 2 | 1 | | | | | | | | |
| S | | DO | 4S | 14 | 1 | | 1 | .4 | | | 1 | | | | | | | | | |
| S | | DO | 4S | 16 | 3 | | 3 | 1.3 | | | 3 | | | | | | | | | |
| S | | Totals | | | 188 | | 188 | 7.0 | | | 23 | 3 | 12 | 30 | 23 | 44 | 17 | 36 | | |
| M | | DO | CU | 10 | | | | | | | | | | | | | | | | |
| M | | DO | CU | 20 | | | | | | | | | | | | | | | | |
| M | | DO | 1S | 30 | 10 | | 10 | 20.6 | | | | | | | | | 10 | | | |
| M | | DO | 1S | 40 | 11 | | 11 | 20.9 | | | | | | | 11 | | | | | |
| M | | DO | 3S | 30 | 2 | | 2 | 3.7 | | | | 2 | | | | | | | | |
| M | | DO | 3S | 40 | 12 | | 12 | 22.9 | | | | 12 | | | | | | | | |
| M | | DO | 4S | 14 | 2 | | 2 | 3.9 | | | 2 | | | | | | | | | |
| M | | DO | 4S | 20 | 5 | | 5 | 9.6 | | | 1 | 4 | | | | | | | | |
| M | | DO | 4S | 24 | 1 | | 1 | 1.6 | | | 1 | | | | | | | | | |
| M | | DO | 4S | 40 | 8 | | 8 | 16.7 | | | 8 | | | | | | | | | |
| M | | Totals | | | 51 | | 51 | 1.9 | | | 12 | 17 | | | 11 | | 10 | | | |
| Total All Species | | | | | 2,696 | | 2,689 | 100.0 | | | 265 | 183 | 338 | 351 | 348 | 490 | 436 | 278 | | |

TC TSTNDSUM

# Stand Table Summary

**Project HP**

**T04N R08W S12 TTK**

| Twp | Rge | Sec | Tract | Type | Acres | Plots | Sample Trees |
|---|---|---|---|---|---|---|---|
| 04N | 08W | 12 | A1 | TK | 76.00 | 62 | 126 |

**T04N R08W S12 TTK**



**Date: 07/19/20**

**Time: 11:02:58AM**

| Spc | S T | DBH | Sample Trees | FF 16' | Av Ht Tot | Trees/ Acre | BA/ Acre | Logs Acre | Average Log Net Cu.Ft. | Average Log Net Bd.Ft. | Tons/ Acre | Net Cu.Ft. Acre | Net Bd.Ft. Acre | Totals Tons | Totals Cunits | Totals MBF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | | 10 | 1 | 82 | 58 | 3.827 | 2.09 | 3.83 | 11.0 | 30.0 | | 42 | 115 | | 32 | 9 |
| D | | 14 | 1 | 83 | 62 | 1.953 | 2.09 | 1.95 | 24.0 | 60.0 | | 47 | 117 | | 36 | 9 |
| D | | 18 | 2 | 86 | 77 | 2.362 | 4.17 | 3.54 | 36.3 | 123.3 | | 129 | 437 | | 98 | 33 |
| D | | 20 | 2 | 89 | 114 | 1.913 | 4.17 | 4.78 | 38.8 | 146.0 | | 186 | 698 | | 141 | 53 |
| D | | 21 | 1 | 83 | 109 | .868 | 2.09 | 2.60 | 33.7 | 113.3 | | 88 | 295 | | 67 | 22 |
| D | | 22 | 1 | 88 | 113 | .791 | 2.09 | 2.37 | 39.3 | 166.7 | | 93 | 395 | | 71 | 30 |
| D | | 25 | 1 | 89 | 115 | .612 | 2.09 | 1.84 | 51.3 | 216.7 | | 94 | 398 | | 72 | 30 |
| D | | 26 | 4 | 86 | 117 | 2.264 | 8.35 | 6.79 | 53.5 | 223.3 | | 363 | 1,517 | | 276 | 115 |
| D | | 27 | 2 | 89 | 135 | 1.050 | 4.17 | 3.15 | 68.3 | 298.3 | | 215 | 940 | | 164 | 71 |
| D | | 28 | 1 | 86 | 128 | .488 | 2.09 | 1.46 | 69.7 | 293.3 | | 102 | 430 | | 78 | 33 |
| D | | 29 | 3 | 86 | 131 | 1.365 | 6.26 | 4.10 | 71.6 | 335.6 | | 293 | 1,374 | | 223 | 104 |
| D | | 30 | 2 | 86 | 129 | .850 | 4.17 | 2.55 | 80.0 | 360.0 | | 204 | 918 | | 155 | 70 |
| D | | 31 | 4 | 86 | 140 | 1.593 | 8.35 | 4.78 | 90.8 | 417.5 | | 434 | 1,995 | | 330 | 152 |
| D | | 32 | 1 | 89 | 146 | .374 | 2.09 | 1.12 | 102.0 | 506.7 | | 114 | 568 | | 87 | 43 |
| D | | 33 | 2 | 87 | 135 | .703 | 4.17 | 2.11 | 100.5 | 488.3 | | 212 | 1,030 | | 161 | 78 |
| D | | 34 | 1 | 88 | 157 | .331 | 2.09 | .99 | 123.3 | 643.3 | | 122 | 639 | | 93 | 49 |
| D | | 35 | 3 | 84 | 119 | .937 | 6.26 | 2.50 | 102.6 | 467.5 | | 256 | 1,168 | | 195 | 89 |
| D | | 36 | 1 | 89 | 133 | .295 | 2.09 | .89 | 121.3 | 626.7 | | 107 | 555 | | 82 | 42 |
| D | | 38 | 1 | 85 | 133 | .265 | 2.09 | .80 | 129.3 | 633.3 | | 103 | 504 | | 78 | 38 |
| D | | Totals | 34 | 86 | 104 | 22.842 | 70.97 | 52.16 | 61.5 | 270.2 | | 3,206 | 14,094 | | 2,437 | 1,071 |
| A | | 11 | 3 | 87 | 63 | 7.776 | 5.13 | 10.37 | 13.2 | 42.5 | | 137 | 441 | | 104 | 33 |
| A | | 12 | 4 | 87 | 80 | 8.712 | 6.84 | 13.07 | 17.7 | 55.0 | | 231 | 719 | | 175 | 55 |
| A | | 13 | 4 | 86 | 81 | 7.423 | 6.84 | 12.99 | 19.1 | 62.9 | | 249 | 817 | | 189 | 62 |
| A | | 14 | 1 | 87 | 90 | 1.600 | 1.71 | 3.20 | 21.5 | 75.0 | | 69 | 240 | | 52 | 18 |
| A | | 15 | 10 | 86 | 83 | 13.940 | 17.11 | 23.70 | 24.5 | 85.9 | | 580 | 2,035 | | 441 | 155 |
| A | | 16 | 5 | 86 | 87 | 6.126 | 8.55 | 12.25 | 27.9 | 100.0 | | 342 | 1,225 | | 260 | 93 |
| A | | 17 | 4 | 86 | 79 | 4.341 | 6.84 | 8.68 | 28.6 | 95.0 | | 249 | 825 | | 189 | 63 |
| A | | 18 | 4 | 86 | 82 | 3.872 | 6.84 | 7.74 | 33.3 | 112.5 | | 257 | 871 | | 196 | 66 |
| A | | 19 | 5 | 86 | 75 | 4.344 | 8.55 | 8.69 | 34.9 | 113.0 | | 303 | 982 | | 230 | 75 |
| A | | 20 | 6 | 86 | 74 | 4.705 | 10.26 | 8.63 | 40.0 | 123.6 | | 345 | 1,066 | | 262 | 81 |
| A | | 21 | 5 | 86 | 81 | 3.556 | 8.55 | 7.11 | 45.1 | 152.0 | | 321 | 1,081 | | 244 | 82 |
| A | | 22 | 5 | 86 | 92 | 3.240 | 8.55 | 6.48 | 54.2 | 202.0 | | 351 | 1,309 | | 267 | 99 |
| A | | 23 | 5 | 87 | 82 | 2.964 | 8.55 | 5.93 | 53.9 | 186.0 | | 320 | 1,103 | | 243 | 84 |
| A | | 24 | 4 | 87 | 83 | 2.178 | 6.84 | 4.36 | 54.0 | 197.5 | | 235 | 860 | | 179 | 65 |
| A | | 27 | 1 | 86 | 73 | .430 | 1.71 | .86 | 66.5 | 245.0 | | 57 | 211 | | 43 | 16 |
| A | | Totals | 66 | 86 | 80 | 75.209 | 112.90 | 134.06 | 30.2 | 102.8 | | 4,046 | 13,785 | | 3,075 | 1,048 |
| H | | 17 | 1 | 85 | 47 | 2.947 | 4.65 | 2.95 | 31.0 | 60.0 | | 91 | 177 | | 69 | 13 |
| H | | 29 | 1 | 85 | 111 | 1.013 | 4.65 | 3.04 | 71.7 | 323.3 | | 218 | 982 | | 165 | 75 |
| H | | 30 | 1 | 86 | 102 | .946 | 4.65 | 2.84 | 65.7 | 290.0 | | 186 | 823 | | 142 | 63 |
| H | | 35 | 1 | 91 | 117 | .695 | 4.65 | 2.09 | 114.0 | 616.7 | | 238 | 1,286 | | 181 | 98 |
| H | | 36 | 1 | 89 | 117 | .657 | 4.65 | 1.97 | 103.3 | 553.3 | | 204 | 1,091 | | 155 | 83 |
| H | | Totals | 5 | 86 | 81 | 6.258 | 23.23 | 12.88 | 72.7 | 338.4 | | 937 | 4,359 | | 712 | 331 |
| S | | 11 | 1 | 82 | 86 | 2.331 | 1.54 | 2.33 | 21.0 | 70.0 | | 49 | 163 | | 37 | 12 |
| S | | 16 | 1 | 83 | 46 | 1.102 | 1.54 | 1.10 | 29.0 | 60.0 | | 32 | 66 | | 24 | 5 |
| S | | 19 | 1 | 83 | 66 | .781 | 1.54 | 1.56 | 31.5 | 85.0 | | 49 | 133 | | 37 | 10 |
| S | | 20 | 1 | 82 | 59 | .705 | 1.54 | 1.41 | 30.0 | 90.0 | | 42 | 127 | | 32 | 10 |
| S | | 21 | 1 | 85 | 69 | .640 | 1.54 | 1.28 | 39.0 | 115.0 | | 50 | 147 | | 38 | 11 |
| S | | 23 | 1 | 85 | 76 | .533 | 1.54 | 1.07 | 48.5 | 205.0 | | 52 | 219 | | 39 | 17 |
| S | | 24 | 3 | 85 | 68 | 1.469 | 4.62 | 2.94 | 51.2 | 175.0 | | 150 | 514 | | 114 | 39 |
| S | | 25 | 1 | 86 | 103 | .451 | 1.54 | 1.35 | 53.0 | 210.0 | | 72 | 284 | | 55 | 22 |

TC TSTNDSUM

# Stand Table Summary

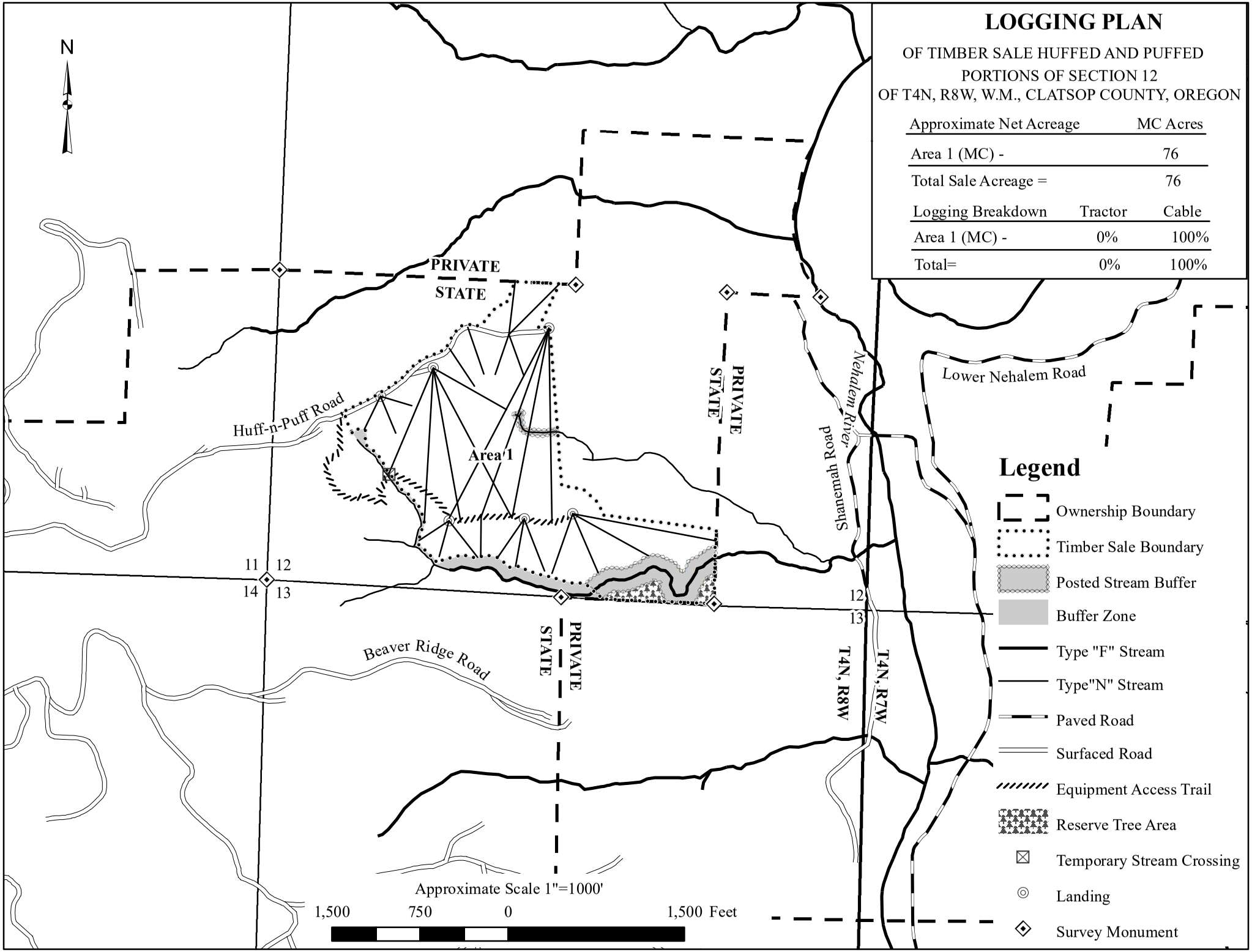
**Project HP**

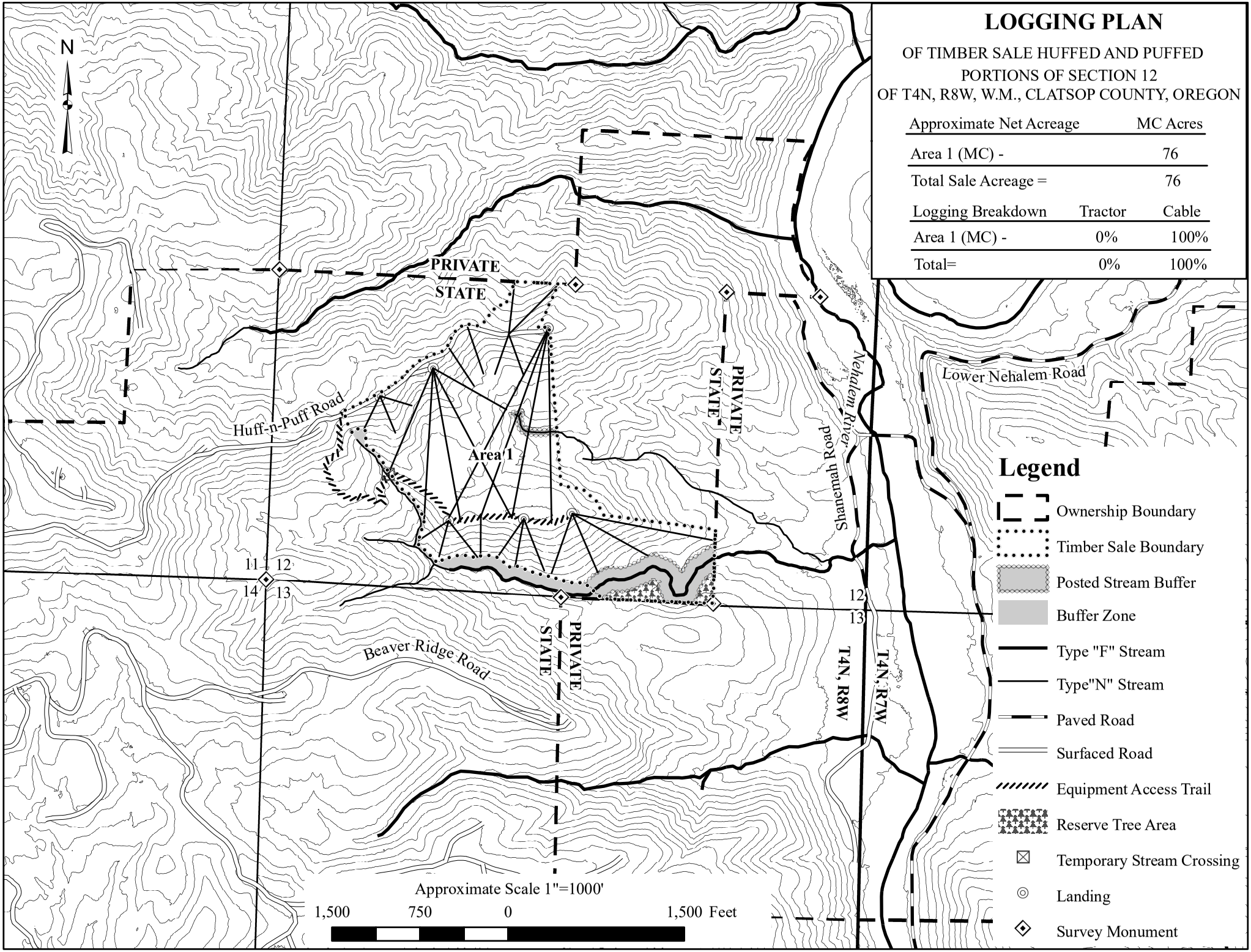
**T04N R08W S12 TTK**

| Twp | Rge | Sec | Tract | Type | Acres | Plots | Sample Trees |
|---|---|---|---|---|---|---|---|
| 04N | 08W | 12 | A1 | TK | 76.00 | 62 | 126 |


Date: 07/19/20
Time: 11:02:58AM

| Spc | S T | DBH | Sample Trees | FF 16' | Av Ht Tot | Trees/ Acre | BA/ Acre | Logs Acre | Average Log Net Cu.Ft. | Average Log Net Bd.Ft. | Tons/ Acre | Net Cu.Ft. Acre | Net Bd.Ft. Acre | Totals Tons | Totals Cunits | Totals MBF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | | 33 | 1 | 88 | 99 | .259 | 1.54 | .52 | 134.5 | 595.0 | | 70 | 308 | | 53 | 23 |
| S | | 34 | 1 | 89 | 82 | .244 | 1.54 | .49 | 121.5 | 535.0 | | 59 | 261 | | 45 | 20 |
| S | | 44 | 1 | 85 | 102 | .146 | 1.54 | .29 | 167.0 | 865.0 | | 49 | 252 | | 37 | 19 |
| S | | Totals | 13 | 84 | 73 | 8.662 | 20.00 | 14.34 | 47.0 | 172.6 | | 674 | 2,475 | | 512 | 188 |
| M | | 13 | 2 | 86 | 66 | 2.625 | 2.42 | 3.94 | 15.3 | 50.0 | | 60 | 197 | | 46 | 15 |
| M | | 15 | 1 | 87 | 52 | .986 | 1.21 | .99 | 30.0 | 60.0 | | 30 | 59 | | 22 | 4 |
| M | | 16 | 1 | 87 | 51 | .866 | 1.21 | .87 | 30.0 | 60.0 | | 26 | 52 | | 20 | 4 |
| M | | 24 | 1 | 86 | 72 | .385 | 1.21 | .77 | 54.5 | 195.0 | | 42 | 150 | | 32 | 11 |
| M | | 25 | 1 | 87 | 63 | .355 | 1.21 | .35 | 38.0 | 70.0 | | 13 | 25 | | 10 | 2 |
| M | | 28 | 1 | 86 | 47 | .283 | 1.21 | .28 | 84.0 | 120.0 | | 24 | 34 | | 18 | 3 |
| M | | 29 | 1 | 86 | 62 | .264 | 1.21 | .53 | 69.0 | 280.0 | | 36 | 148 | | 28 | 11 |
| M | | Totals | 8 | 86 | 60 | 5.763 | 9.68 | 7.72 | 30.0 | 86.0 | | 232 | 665 | | 176 | 51 |
| Totals | | | 126 | 86 | 83 | 118.734 | 236.77 | 221.16 | 41.1 | 160.0 | | 9094 | 35,377 | | 6,912 | 2,689 |


LOGGING PLAN
OF TIMBER SALE HUFFED AND PUFFED
PORTIONS OF SECTION 12
OF T4N, R8W, W.M., CLATSOP COUNTY, OREGON
Approximate Net Acreage MC Acres
Area 1 (MC) - 76
Total Sale Acreage = 76
Logging Breakdown Tractor Cable
Area 1 (MC) - 0% 100%
Total= 0% 100%
N
PRIVATE
STATE
PRIVATE
STATE
Huff-n-Puff Road
Area 1
Nehalem River
Lower Nehalem Road
Shanemah Road
11 12
14 13
12
13
PRIVATE
STATE
Beaver Ridge Road
T4N, R8W
T4N, R7W
Approximate Scale 1"=1000'
1,500 750 0 1,500 Feet
Legend
Ownership Boundary
Timber Sale Boundary
Posted Stream Buffer
Buffer Zone
Type "F" Stream
Type"N" Stream
Paved Road
Surfaced Road
Equipment Access Trail
Reserve Tree Area
Temporary Stream Crossing
Landing
Survey Monument


LOGGING PLAN
OF TIMBER SALE HUFFED AND PUFFED
PORTIONS OF SECTION 12
OF T4N, R8W, W.M., CLATSOP COUNTY, OREGON
Approximate Net Acreage MC Acres
Area 1 (MC) - 76
Total Sale Acreage = 76
Logging Breakdown Tractor Cable
Area 1 (MC) - 0% 100%
Total= 0% 100%
N
PRIVATE
STATE
Huff-n-Puff Road
Area 1
Nehalem River
Shanemah Road
Lower Nehalem Road
11
12
14
13
Beaver Ridge Road
T4N, R8W
T4N, R7W
Approximate Scale 1"=1000'
1,500 750 0 1,500 Feet
Legend
Ownership Boundary
Timber Sale Boundary
Posted Stream Buffer
Buffer Zone
Type "F" Stream
Type"N" Stream
Paved Road
Surfaced Road
Equipment Access Trail
Reserve Tree Area
Temporary Stream Crossing
Landing
Survey Monument