

Tonka Timber Sale DXPRE Post Harvest Monitoring Results

Manual/ Handbook Direction

2409.12 Timber Cruising Handbook:

Ch. 70 Designating Timber for Cutting

71.4 -Designating Without Marking Individual Trees;

Use designation by clear cut units, overstory or understory removal, or similar designations to reduce sale layout costs when such methods will accomplish the sale objectives.

2409.19 Renewable Resources Handbook:

60.5 – Definitions

Designation by Prescription;

A method of designating trees for removal by describing the desired end results of the treatment; for example, retain 60 percent basal area. Designation by prescription may be used for noncommercial material or for commercial material when, **for payment purposes, the quantity of products removed is determined post-harvest.** See section 61.3 for further direction.

61.3 - Designation without Marking;

Title 16, United States Code, section 2104 Note (c) (4) (sec. 60.1) allows for the use of designation of trees by description and designation of trees by prescription. **These methods must be used in a manner that ensures that the amount of material removed is verifiable and accountable.**

Designation by Prescription;

Designation by prescription (DxP) may be used for noncommercial material or for low value commercial material when, for payment purposes, the quantity of products removed can be determined post-harvest. When leave tree marking, the authorized officer shall ensure that the contractor marks leave trees with non-tracer paint and shall inspect and approve the marking prior to cutting. Clearly identify the boundaries of the area from which material is to be removed in accordance with FSH 2409.12, section 71.22. Washington Office special provision or regional special provisions approved by the Washington Office must be used for all designation of trees by prescription. Examples of appropriate use of DxP include:

- Thinning a stand to a 120 basal area factor.
- Leaving 10 scattered wildlife trees greater than 21 inches DBH, identified by species, per acre.
- Thinning to a 15' x 15'+ 2' spacing, always retaining healthy larger trees when selecting the leave tree.

In DxP, the contractor selects the trees to be cut or left. This type of tree designation requires close on-the-ground monitoring by the contract administrator.

Post-Harvest Monitoring Basal Area Results:

A total of 358 post-harvest Basal Area recon plots have been established in the Tonka Stewardship Helicopter Units using the same basal area factor as the Tonka cruise (1084 Acres = one plot per 3 acre grid).

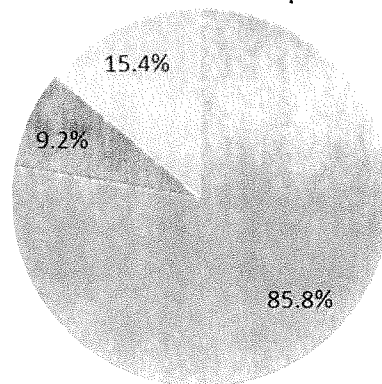
The post-harvest helicopter basal area cruise results confirm the purchaser removed only 14.2% of the prescribed Western Hemlock (WH) basal area (BA), 90% of Sitka Spruce (SS) basal area, and 84.6% of Alaska Yellow Cedar (AYC) basal area that was identified in the harvest prescription, cruise, appraisal and timber sale contract.

The Contract basal area provisions are written with a plus/minus 10% tolerance in basal area. In Tonka, neither WH nor AYC met the basal area targets in NEPA, prescription, appraisal or contract. It is important to note that on a unit-by-unit level, over harvest and under harvest of basal area occurred in both SS and AYC and those basal area departures are very significant at the unit level. In some cases, exceeding 100% of prescribed basal area for one or both species.

Cut/Removed BA Percentages			Uncut BA Percentages		
WH	SS	AYC	WH	SS	AYC
14.2%	90.8%	84.6%	85.8%	9.2%	15.4%

Table 1. Cut/ Removed and Uncut Basal Area Percentages

Percent of Basal Area Prescription Uncut



Western Hemlock Sitka Spruce Alaska Yellow Cedar

Implemented Contract Volume Results:

For the Helicopter Units as a whole, the volume results show that the purchaser removed 12.5% of prescribed and contracted deficit Western Hemlock (WH), over cut the Sitka Spruce (SS volume by 1%), and harvested 96.7% of Alaska Yellow Cedar (AYC) prescription volume.

The uncut, yet appraised for mandatory removal volume in WH highlighted in Table 2, reflects 87.5% of the WH volume in helicopter units. The 4426.3 Net MBF/ 10,988.71 Gross MBF correlate to an estimated 35,353 trees, or 25% of the total estimated number of trees in the total sale volume. It is important to note that on a unit-by-unit level, over harvest and under harvest of RX volume occurred in both SS and AYC.

Species	Rx Volume			Uncut (-)/ Overcut (+) Volume		
	WH	SS	AYC	WH	SS	AYC
NMBF	5,060.50	2,244.48	768.34	-4426.3	+20.06	-25.35
GMBF	12,563.26	3,496.60	1868.32	-10988.71	+30.97	-61.64

Table 2: Helicopter Prescription Volume per Species compared to uncut/overcut per species volume.

RV Appraisal and Advertised Rate impacts Results/ Volume Adjustment Results:

The Appraisal of Record (AOR) appraised the Tonka Stewardship (original volume) at \$837,021.00. Adjusting Net/Gross, Grade, and Helicopter Setting Volumes, including adjusting the number of days to logs the sale and the Camp & Tow Costs to reflect actually removed volume increased sale value to \$2,108,172.00.

The Re-Appraised Residual Value (RV) Appraisal shows the dollar value lost to the government of difference \$1,271,151 for not harvesting the contracted deficit WH basal area/volume. We also lost the additional target volume associated with the contract total over run.

The Tonka AOR helicopter volume logging cost originally appraised to \$3,104,406.67, while helicopter actually removed/harvest logging cost appraised to \$1,396,773.65. Camp Costs, number of days to log, and Tow Costs were adjusted to reflect the volume uncut and reduced the camp costs by \$32,890, days to log by 143 Days, and \$706,887 in reduced tow costs.

Advertised Rates:

The original indicated advertised rates per MBF for SS (\$57.72), AYC (\$78.55), and WH (\$2.00) as noted in the Table 3 below set the foundation for the advertised rates and contract value.

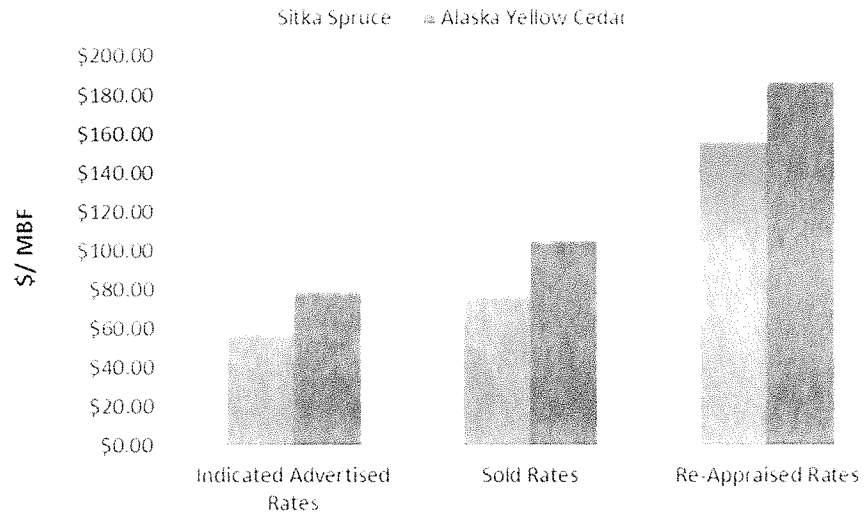
The sale was awarded to Viking Lumber Company at a total bid value of \$1,111,155.61, locking rates per MBF accordingly at WH \$2.66/MBF, SS \$76.89/MBF, and AYC \$104.64/MBF as noted below in Table 3.

Updating the re-appraised RV volumes to what was cut/removed in the helicopter units drastically reduced the volume of deficit WH and in turn increased the appraised rates for SS to \$155.67/MBF and AYC \$186.23/MBF as highlighted below.

This not only compounds the value lost in the appraisal, but also daylights the value lost by way of additional scaled volume after it was sold. Currently known sale over-run is estimated to be 8,000 MBF. Realizing the additional volume is surly not associated with WH volume and noting that the Re-Appraisal Advertised Rates of SS and AYC are within \$30.00 the difference in the additional volume at Sold vs Re-advertised rated daylights an additional value loss of \$620,000.00- \$640,000.00.

Species	Sold Contract Volume	Re-Appraised helicopter Cut Volume	Indicated Advertised Rates	Sold Rates	Re-Appraised Rates	Value at Indicated Advertised Rates	Value at Sold Rates	Value at Re-Appraised Rates
WH	17,811.00	13,385.77	\$2.00	\$2.66	\$2.00	\$35,622.00	\$47,377.26	\$35,622.00
SS	10,867.00	10,886.65	\$57.72	\$76.89	\$155.67	\$627,243.24	\$835,563.63	\$1,691,665.89
AYC	2,073.00	2,048.37	\$78.55	\$104.64	\$186.23	\$162,834.15	\$216,918.72	\$386,054.79
HU	4,453.00	4,453.00	\$2.00	\$2.00	\$2.00	\$8,906.00	\$8,906.00	\$8,906.00
SSU	1,195.00	1,195.00	\$2.00	\$2.00	\$2.00	\$2,390.00	\$2,390.00	\$2,390.00
Total	36,399.00	31,968.79				\$836,995.39	\$1,111,155.61	\$2,124,638.68

Table 3. Excel version: Appraised Rates and Value by volume of each species.



Lessons Learned:

Pre-Sale

- Need to cruise Rx take volume on the ground during implementation. This includes describing tree characteristics according to the intent of the RX/ NEPA and taking into account industry preferences.

Administration:

- Can't say enough about DXPRE and the need for basal area/acre plot inspection. The cost of not inspecting and not following the contract and RX was close to 2 million dollars (table 3) more than double the original stumpage.
- We can no longer rely on cutter reports on small pieces of paper, tallied on a tree by tree basis. All inspection need to be BA/Acre, like the cruise and RX.
- We need to hold the purchaser accountable to meet the intent of the Rx on all acres (Burt Burkhart of Columbia helicopter's) –has openly stated he is not held to the Rx or contract and only cuts what purchaser tells him to.
- Need to hold Sale Administration accountable not to accept a unit until leave Rx is met. S.O. Contracting Officer gets in the way of District Timber Staff and sale administration supervision in the administration of the contract and daily tasks.
- Sale administration needs to become more transparent in day to day operations and have transparent & informative inspection reports that can be routed for others to review (digital inspection forms posted in the O-drive) be accountable to everyone and meet the intent of the Timber Sale Contract and NEPA requirements.

- Contract modifications need to be timely, transparent and formal. Verbally altering the RX, logging system or contract roads or other “informal” altering of the contract should not occur.

NEPA

- Prescription is developed utilizing Timber Sale Cruise- We need to cruise the prescription (kind of cart in front of horse).
- We need prescription that identifies the removal specifics by unit (such as BA, species diameters etc.
- Prescriptions in helicopter units require a comprehensive look at the unit level basal area and species composition. The currently practiced 1 plot per 10 acres grid does not reliably capture the variability of the harvest unit or BA or species specifics.
- Stand exam current plots per acre (1/10) do not capture basal area and species variability of the individual harvest units and should be used only for sale area level analysis is not unit specific prescriptions.
- Stand exams need to estimate defect and net volumes. Planning volumes need to estimate net harvest volume; not estimated gross volume to reduce volume fall down.