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CVS Inventory Plot Snag and Down Wood Data for the Blue Mountains Forest Plan Revision
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This paper will discuss the existing condition of, and the process for using current vegetation survey (CVS) (<http://www.fs.fed.us/r6/survey/document.htm>) plot data to calculate, snags and downwood information for various potential vegetation types for the Forest Plan Revision in the Blue Mountains of Eastern Oregon. Information will be displayed at the scale of the Blue Mountains, and for each National Forest (Malheur, Umatilla, Wallowa-Whitman). We will compare DecAID (Mellen 1999) reference values (unharvested plots) with Blue Mountain specific reference values as determined by local CVS unharvested plot data. We will make a recommendation for which set of reference conditions to use to inform our development of the desired conditions. We will display the difference between reference values and the existing condition. Summaries will be shown in several different ways including:

- Local Blues specific snag levels as compared to DecAID values based on Regional (Eastside) averages, using DeCAID tree per acre ranges and the original plot assignments from DeCAID about harvest history
- Blues snag levels using locally derived data about plot harvest history and new tree per acre categories

Trend information will be developed for the change in snag and down wood conditions that occurred between the 1994 initial installation of the CVS plots (occasion 1) and the re-measurement of the same plots from 1997-2005 (occasion 2).

The first step was to classify our CVS data into the potential vegetation groups that we used for Revision (Table 1). Approximately 500 individual plant associations were grouped into the 22 potential vegetation groups (appendix xx). Each plant association had already been classified into a temperature/moisture matrix by the Area Ecologist. Potential vegetation groups are aggregations of plant associations found in the Blue Mountains (Powell 1998, 2007 Johnson 1987, 1992, 2005) and represent a combination of temperature and moisture regimes. See Appendix A for a complete description.

TABLE 1 – Blues Potential Vegetation Groups	
Potential vegetation Group	Number of CVS points
Cold forest	1500
Moist forest	2500
Dry forest	5300

Each potential vegetation group was also cross-walked to Johnson/ONeil (O'Neil 2001) and DecAID classifications (Table 2). See appendix xxx for a complete list of potential vegetation groups and the associated DecAID, and Johnson/Oneil classification.

Table 2 Potential Vegetation Group, DecAID-Johnson/ONeil cross-walk

Blues Potential Veg Group	johnson_oneil	decaid_group
cold forest	lodgepole pine forest_woodland	lodgepole pine forest_woodland (LPP)
cold forest	montane mixed conifer forest	montane mixed conifer forest (MMC)
cold forest	subalpine parkland	NA
cool_cold riparian forest	lodgepole pine forest_woodland	lodgepole pine forest_woodland (LPP)
cool_cold riparian forest	montane coniferous wetlands	NA
dry forest	ponderosa pine forest woodland	ponderosa pine/Douglas-fir forest (PPDF)
juniper woodland	Western juniper woodland	NA
moist forest	eastside interior mixed conifer forest	eastside mixed conifer forest (EMC)
moist forest	lodgepole pine forest_woodland	lodgepole pine forest_woodland (LPP)
warm_hot riparian forest	montane coniferous wetlands	NA

Each group was also cross-walked to one of the 7 groups that was used to model successional development using the vegetation dynamics development tool (VDDT). See table 3

Table 3 VDDT cross-walk to DecAID and Blues potential vegetation groups

VDDT Model	Blues Potential Veg Group	decaid_group
Whitebark pine forest	Cold forest	na
Cold dry forest	Cold forest	montane mixed conifer forest
Cold dry forest	Cold forest	lodgepole pine forest_woodland
Cool moist forest	Moist forest	eastside mixed conifer forest
Cool moist forest	Moist forest	lodgepole pine forest_woodland
Dry grand fir forest	Dry forest	ponderosa pine/Douglas-fir forest
Dry ponderosa pine forest	Dry forest	ponderosa pine/Douglas-fir forest
Dry Douglas-fir forest	Dry forest	ponderosa pine/Douglas-fir forest
Hot dry ponderosa pine	Dry forest	ponderosa pine/Douglas-fir forest
Juniper	Juniper woodland	na

Each vegetation plot/point was classified into one of 6 structural stages (table 4). Structural stages are described in Powell (1996), O'Hara (1996), Oliver (1996), and Hessburg and others (1999) (PNW-GTR-458). See Appendix B for the data parameters that were used to classify each vegetation polygon into a structural stage.

TABLE 4 General forest plan Structural stages

STRUCTURAL STAGES
Stand initiation
Stem exclusion
Understory reinitiation
Young forest multi-story(combined with understory reinitiation)
Old forest multi-story
Old forest single story

Stand initiation (SI): Growing space is reoccupied following fire or other stand-replacing disturbances.

Stem exclusion (SE): Establishment of new trees is precluded by lack of sunlight or moisture. This stage generally consists of a continuous single layer of trees and can vary from small trees up to those approaching 21 inches in diameter.

Understory reinitiation (UR): A second tree layer is established under an older overstory. Overstory mortality has created growing space for new understory trees.

Young forest multi strata (YFMS): Three or more tree layers have become established, often following a disturbance. A mix of tree sizes is present, although large trees are absent or scarce.

Old forest single story (OFSS): A predominance of large trees is present in the stand. Only one canopy layer is present. The definition of a large tree varies depending on the productive potential of the site. This stage is often maintained by frequent and low intensity fires.

Old forest multi story (OFMS): A predominance of large trees is present in the stand. Two or more canopy layers are present. The definition of a large tree varies depending on the productive potential of the site.

The plots were classified into five inch diameter wildlife habitat groups based on the upper-most dominant overstory layer (Table 5). Classifications also include canopy closure, so that combinations of structure and stand density could be summarized.

TABLE 5 Wildlife structural classes

Classes (open vrs closed)	DBH range
Early	<10
mid	>=10 <15
Late-mid	>=15 <20
Late single/multi-story	>=20

Each plot was classified into a category of either “harvested” or “not harvested”. This was based on work by Ohmann (2002). The unharvested CVS plot data was used as background to develop the historical reference values.

Information could be summarized by any combination of the groupings described above. **All of the information summaries in the first section of this report were summarized by the same groups that appear in the DeCAID database**, which are a combination of forest type (Table 2), and the following diameter classes:

For **10 plus DBH trees** on **EMC, MMC, or LPP** decid types. 0tpa, 0-6tpa or 0-15tph, 6-12 tpa or 15-30tph, 12-18tpa or 30-45tph, 18-24tpa or 45-60tph, 24-30tpa or 60-75tph, 30-36tpa or 75-90tph, 36-42tpa or 90-105tph, 42-48tpa or 105-120tph, 48-54tpa or 120-135tph, 54-60tpa or 135-150tph, >60tpa or >150tph.

For **10 plus DBH trees** on **PPDF** decid types: 0tpa, 0-4tpa (0-10tph), 4-8tpa(10-20tph), 8-12tpa(20-30tph), 12-16tpa(30-40tph), 16-20tpa(40-50tph), 20-24tpa(50-60tph), 24-28tpa(60-70tph), 28-32tpa(70-80tph), 32-36tpa(80-90tph), >36tpa(>90tph)

For **20 plus DBH trees, PPDF, EMS, MMC, LPP** decid types: 0tpa, 0-2tpa (0-5tph), 2-4tpa (5-10tph), 4-6tpa (10-15tph), 6-8tpa (15-20tph), 8-10tpa (20-25tph), 10-12tpa (25-30tph), 12-14tpa (30-35tph), 14-16tpa (35-40tph), 16-18tpa (40-45tph), >18tpa (>45tph)

The number of CVS plots that fell into each group was used to derive the average percent that the group occupied on the landscape. See Appendix xx for a more complete description of the process. Reference values from DecAID are shown as a range of all structural classes. The tree per acre figure for the CVS data is an average for all structural classes.

SNAG Summary

Comparison of DecAID Reference Values to Local Blues Reference Values Derived From the Original DecAID List of Unharvested CVS Plots

This analysis assumes that the unharvested CVS plots represent reference (HRV) conditions.

The intent of this first exercise was to evaluate the difference between the DecAID reference values and local Blues specific values, and determine which would be used as the basis for developing desired conditions in the forest plan. The initial **comparison was completed using the original list of unharvested CVS plots that were used as the basis for DeCAID, and running summaries using just those CVS plots that fell within the Blues Forest Plan Revision project area (called Blues CVS average or local CVS)**. The Blues specific values were then compared to the DecAID unharvested plot values. The values for unharvested CVS DecAID and Blues plots are summarized in tables 6 and 7. Values were displayed for each of the four DecAID vegetation groups in the categories of all dead trees greater than 10 inches DBH, and for all dead trees greater than 20 inches DBH. Summaries are shown individually for the Malheur, Umatilla, and Wallowa-Whitman National Forests. Summaries are also shown for all three forests combined.

The DecAID values in the DecAID database, and in our tables, represent the average for all CVS plots in eastern Oregon and Eastern Washington, and are displayed as a range of averages for the different size class categories shown in DecAID. The values in the tables represent the percent of the CVS plots that fell into the different tree per acre categories. The DecAID values are based on the average of the CVS **plots**. The Blues values are based on the averages derived from the CVS **points**.

Results show a general trend in the Blues CVS data for the percent of the landscape in the zero tree per acre category and trees greater than 20 inches (table 6), being higher than the DecAID data. The zero to two TPA category for 20 DBH snags shows a lower percent for the Blues than for the DecAID data. The difference in the zero to two category could be due to the expansion factor for certain size tree in the CVS dataset being different depending on whether you summarize by CVS plot (as in DecAID) versus CVS point (as we did with the Blues data). While many Blues specific values were with the range of the CVS dataset, there were enough differences that we decided to continue on with the next stage in our analysis. The next step was to collapse down the number of tree per acre categories and further refine our unharvested plot data for the Blues.

Data in Tables 6-7 is derived from occasion 1 CVS data, DecAID unharvested plots, and Blues CVS averages from original DecAID list of unharvested plots. Tree per acre categories are the original ones used in DecAID.

Table 6
20 plus dbh summary of Blues unharvested CVS plots and DeCAID reference values.
Percent of the landscape in tree per acre categories

Decaid group	forest	0 tpa %	0-2 tpa %	2-4 tpa %	4-6tpa %	6-8 tpa %	8-10 tpa %	10-12 tpa %	12-14 tpa %	14-16 tpa %	16-18 tpa %	18 plus tpa %
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EMC												
local CVS	604	53.2	0.0	10.1	20.3	0.0	3.8	6.3	0.0	3.8	1.3	1.3
	614	53.3	0.0	4.3	21.1	2.9	1.0	6.5	1.9	2.4	1.3	5.4
	616	66.8	0.0	6.2	14.4	1.1	0.1	5.8	0.5	3.0	0.1	1.9
EMC Blues cvs average		62.5	0.0	5.8	16.5	1.5	0.5	6.0	0.9	2.9	0.5	2.8
EMC decaid *	31-53	8-22	10-19	5-14	2-10	3-7	0-5	1	1-2	0-1	1-2	
LPP local CVS	604	86.5	0.0	0.0	7.9	4.5	0.0	1.1	0.0	0.0	0.0	0.0
	614	67.2	0.0	1.6	15.6	0.0	0.0	1.6	0.0	7.8	0.0	6.3
	616	96.7	0.0	0.0	2.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0
LPP Blues cvs average		90.5	0.0	0.2	5.5	0.9	0.0	0.9	0.0	1.1	0.0	0.9
LPP decaid *	71-84	6-10	9-10	1-6	0-1	<1	1	<1	0	0	0	
MMC local cvs	604	68.4	0.0	4.2	13.7	4.2	1.1	3.2	1.1	3.2	0.0	1.1
	614	63.3	0.0	0.8	10.9	4.7	0.0	14.1	1.6	1.6	0.0	3.1
	616	76.0	0.0	2.5	13.7	0.3	0.2	2.4	0.8	2.9	0.5	0.7
MMC Blues CVS average		74.3	0.0	2.5	13.4	1.0	0.2	3.5	0.9	2.8	0.4	0.9
MMC decaid *	3-66	7-16	10-23	3-14	1-15	1-14	1-13	0-6	0-3	0-5	0-7	
PPDF local cvs	604	74.8	0.0	5.3	10.6	1.6	0.5	3.2	0.8	2.0	0.2	1.1
	614	65.8	0.0	4.2	16.0	1.8	0.2	4.9	0.7	2.4	1.3	2.7
	616	76.7	0.0	3.0	12.1	2.0	0.3	3.4	0.1	0.7	0.3	1.4
PPDF Blues CVS average		74.1	0.0	3.9	12.4	1.9	0.3	3.6	0.5	1.4	0.5	1.5
PPDF decaid *	62-81	11-21	6-15	0-3	0-2	0-1	<1	0	>1	<1	0	
average all CVS		71.5	0.0	4.0	13.5	1.5	0.3	4.2	0.7	2.1	0.4	1.8

Forest 604 = Malheur, 614 = Umatilla, 616 = Wallowa-Whitman

*DeCaid values based on range of TPA values for small, medium, and large groups

Table 7
10 plus dbh summary of Blues unharvested CVS plots and DeCAID reference values.
EMC, LPP, and MMC groups
Percent of the landscape in tree per acre categories

DECAID TYPE	FOREST	0 tpa %	0-6 tpa %	6-12 tpa %	12-18 tpa %	18-24 tpa %	24-30 tpa %	30-36 tpa %	36-42 tpa %	42-48 tpa %	48-54 tpa %	54-60 tpa %	60 plus tpa %

EMC local CVS	604	16.5	17.7	13.9	10.1	10.1	13.9	6.3	2.5	3.8	2.5	2.5	0.0
	614	25.6	13.7	11.9	7.8	7.3	4.6	7.9	4.6	4.3	1.4	1.3	9.5
	616	36.2	16.3	7.8	6.6	7.7	6.0	6.1	3.7	2.6	1.5	0.5	5.0
EMC Blues cvs average		32.5	15.6	9.2	7.1	7.7	5.9	6.6	3.9	3.2	1.5	0.8	6.1
EMC Decaid		26-45	30-37	12-18	5-10	3-5	1-6	1-5	1-2	0-3	0-1	0-1	1-5
LPP local cvs	604	57.3	7.9	1.1	0.0	7.9	5.6	2.2	1.1	0.0	9.0	2.2	5.6
	614	54.7	14.1	3.1	7.8	4.7	1.6	1.6	0.0	3.1	0.0	0.0	9.4
	616	50.7	7.3	2.0	5.3	18.0	2.0	4.7	2.7	0.0	0.0	0.0	7.3
LPP Blues cvs average		52.5	8.4	2.0	4.6	14.1	2.6	3.8	2.0	0.4	1.8	0.4	7.3
LPP Decaid		33-52	21-22	13-21	6-9	3	4-8	2-4	1-2	3	0-4	0-3	<1
MMC local cvs	604	36.8	16.8	11.6	6.3	5.3	4.2	2.1	2.1	7.4	0.0	0.0	7.4
	614	28.9	7.0	10.9	5.5	18.0	9.4	4.7	3.9	0.8	4.7	0.0	6.3
	616	50.7	11.9	6.9	4.1	5.1	5.4	3.6	2.2	2.9	1.4	0.3	5.6
MMC Blues cvs average		47.8	11.8	7.6	4.3	6.3	5.7	3.6	2.3	3.0	1.6	0.3	5.8
MMC Decaid		2-43	17-30	10-28	6-26	3-15	2-10	3-6	3-5	0-3	0-2	0-2	0-4
PPDF local cvs	604	59.6	16.1	5.4	4.2	4.3	2.9	2.6	1.5	0.5	0.4	0.4	2.1
	614	45.8	17.3	8.2	4.2	5.1	5.8	3.3	1.6	1.8	1.8	1.5	3.6
	616	59.5	17.4	6.7	2.9	3.8	1.9	2.6	0.7	0.8	1.1	0.7	2.0
PPDF Blues cvs average		56.9	17.0	6.6	3.5	4.2	3.0	2.7	1.1	0.9	1.0	0.7	2.4
PPDF Decaid (NA)		-	-	-	-	-	-	-	-	-	-	-	-
Average all CVS		47.0	14.9	7.3	4.9	6.4	4.4	4.2	2.3	2.0	1.3	0.6	4.6

10 plus dbh summary of Blues unharvested CVS plots and DecAID reference values.

PPDF group (Note: The TPA categories for the 10 DBH PPDF type are different than the MMC, EMC, and LPP groups) Percent landscape in tree per acre categories

Decaid group	For est	0 tpa %	0-4 tpa %	4-8 tpa %	8-12 tpa %	12-16 tpa %	16-20 tpa %	20-24 tpa %	24-28 tpa %	28-32 tpa %	32-36 tpa %	36 plus tpa %
PPDF local CVS	604	59.6	3.1	14.3	4.1	3.5	0.8	4.2	2.8	1.5	1.2	4.8
	614	45.8	2.7	16.4	6.4	3.8	0.4	5.1	5.5	1.8	1.8	10.4
	616	59.5	2.2	17.0	4.9	2.4	0.5	3.7	1.9	1.4	1.2	5.3
PPDF cvs avg		56.9	2.5	16.1	4.9	3.0	0.6	4.1	2.9	1.5	1.3	6.1
PPDF Decaid		57-71	15-26	7-9	2-4	1-2	0-2	0-1	0-1	0	0-1	0-1

Comparison of Forest Plan Revision Snag Diameter group Summaries to DeCAID Summaries Using Local Harvest Data to Stratify out Unharvested Plots

After review of this initial report by Blues and RO staff specialists, it was decided that we could reduce the number of snag tree per acre groups down to 6 for Forest Plan Revision. The tree per acre groups would also be consistent between vegetation groups. The following groups were developed.

20 Plus DBH SNAGS

0-2 tpa	2-6 tpa	6-10 tpa	10-14 tpa	14-18 tpa	18+ tpa
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10 Plus DBH SNAGS

0-4 tpa	4-12 tpa	12-24 tpa	24-36 tpa	36-48 tpa	48+ tpa
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After the initial analysis of the difference between the Blues specific CVS unharvested plot data and the DecAID reference values, it **was decided that we would refine the analysis of Blues unharvested plots** (based on advice from Janet Ohmann) **to include the harvest history data from our own local records.** The original stratification of unharvested plots used as the basis for DecAID was an office exercise that made assessments of plot harvest history based on stump records or notes in the plot data.

The Blues revision team intersected the CVS plots GIS layer with each forest's harvest activity map. We then stratified the plots into harvested or unharvested based on this information. The date of the harvest activity was compared to the date of the CVS inventory data, and if the date of harvest was prior to the date of inventory the plot was coded as harvested. Only those plots that showed no harvest activity, or harvest date later than inventory date, were classified as unharvested and subsequently used as the Blues baseline for unharvested (reference) values.

Results of the analysis based on local timber harvest records appear in tables 8-9 and 12-15. The 20 DBH (Table 8) 0-2 TPA values for DecAID are similar to the local CVS data based on our harvest history information, except for the PPDF group which shows a much lower percent for DecAID than local CVS. Most of the 20 DBH greater than two trees per acre groups for CVS are lower than the DecAID values. In the 10 DBH (Table 9) 0-2 TPA group most of the local CVS results are lower than DecAID. The 10 DBH 2-18 TPA groups show generally higher values for CVS than DecAID.

Considering that our local harvest history information is more detailed and localized than what is in DecAID, and the results from Tables 8-9, **our recommendation is that we use the local CVS data and the Blues values for unharvested plots as our "starting point" reference values for the forest plan desired conditions.**

Unharvested CVS Occasion 1 Snag Summary (Using new collapsed tree per acre groups and Blues Harvest Data to Identify Unharvested Plots)

Table 8

Unharvested occasion 1 CVS snag data (percent of landscape in each snag TPA category) **20 Plus DBH snags**

decadid group new	forest	0-2 tpa%	2-6 tpa %	6-10 tpa%	10-14 tpa%	14-18 tpa%	18+ %
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EMC Local CVS	604	62.4	23.5	4.0	4.7	4.7	0.7
	614	55.1	21.5	6.0	8.2	4.5	4.8
	616	69.0	18.3	1.1	7.0	3.2	1.5
EMC Blues CVS average		62.1	20.1	3.6	7.4	3.9	3.0
EMC DeCAID avg		57	24	11	3	2	1
LPP local CVS	604	85.2	11.0	1.9	1.0	1.0	0.0
	614	67.7	14.6	0.0	6.3	7.3	4.2
	616	94.0	5.2	0.0	0.8	0.0	0.0
LPP Blues CVS average		86.2	9.0	0.7	1.8	1.6	0.7
LPP DeCAID avg		86	12	1	1	0	0
MMC	604	66.3	20.9	3.5	3.5	4.7	1.2
	614	67.3	11.3	3.8	13.8	1.3	2.5
	616	75.8	15.0	1.1	3.0	3.2	2.0
MMC Blues CVS average		73.0	15.4	1.8	4.7	3.1	1.9
MMC DeCAID avg		45	24	15	10	3	3
PPDF	604	78.9	14.5	1.7	3.1	1.2	0.6
	614	69.8	18.7	2.5	4.6	2.2	2.1
	616	83.2	12.0	1.2	2.3	0.5	0.7
PPDF Blues CVS average		78.5	14.5	1.7	3.1	1.2	1.0
PPDF DeCAID average		88	12	2	<1	<1	0
Average all CVS		73.7	15.8	2.2	4.4	2.2	1.6

Table 9

Unharvested occasion 1 CVS snag data (percent of landscape in each snag TPA category) **10 Plus DBH snags ***

decid group new	forest	0-4 tpa%	4-12 tpa%	12-24 tpa%	24-36 tpa%	36-48 tpa%	48+ tpa%
EMC cvs local	604	34.2	25.5	16.8	12.8	4.7	6.0
	614	28.5	26.4	15.2	11.6	7.4	10.7
	616	39.4	23.2	14.0	12.3	5.6	5.5

decaid group new	forest	0-4 tpa%	4-12 tpa%	12-24 tpa%	24-36 tpa%	36-48 tpa%	48+ tpa%
EMC Blues CVS average		34.0	24.9	14.8	12.0	6.4	8.0
EMC DeCAID average		68	15	11	6	2	2
LPP local CVS	604	64.1	15.3	6.2	5.3	1.0	8.1
	614	56.3	15.6	11.5	3.1	3.1	10.4
	616	59.5	9.5	17.5	4.0	4.4	5.2
LPP Blues CVS avg		60.7	12.7	12.2	4.3	2.9	7.2
LPP DeCAID average		64	17	8	9	2	3
MMC local CVS	604	44.2	20.9	15.1	7.6	6.4	5.8
	614	32.7	19.5	20.8	13.2	3.8	10.1
	616	49.4	16.9	10.1	10.0	5.8	7.8
MMC Blues CVS average		46.1	17.9	12.5	10.1	5.6	7.8
MMC DeCAID avg		46	19	25	10	5	4
PPDF local CVS	604	66.7	19.0	6.5	4.2	1.5	2.1
	614	53.0	22.6	8.3	7.6	3.3	5.2
	616	68.2	18.3	7.4	3.2	1.0	1.9
PPDF Blues CVS average		64.3	19.5	7.2	4.6	1.7	2.7
PPDF DeCAID average		84	10	2	1	1	1
Average all CVS		53.4	20.4	10.3	7.3	3.6	5.1

* Decaid break for 10dbh is 0-6 and 6-12 TPA, so comparison with the new categories may not be completely valid.

Unharvested and Harvested CVS Occasion 1 Snag Summary

Table 10

Unharvested and Harvested occasion 1 CVS snag data (percent of landscape in each snag TPA category) **20 Plus DBH snags**

decaid group new	forest	0-2 tpa %	2-6 tpa %	6-10 tpa %	10-14 tpa %	14-18 tpa %	18+ tpa %
EMC local cvs	604	65.1	22.1	3.6	4.6	4.1	0.5
	614	59.3	20.7	5.1	7.3	3.6	4.0
	616	71.4	17.3	1.0	6.2	2.9	1.3
EMC Blues cvs average		65.1	19.3	3.2	6.6	3.3	2.5
LPP local cvs	604	85.9	9.6	1.4	2.1	1.0	0.0
	614	71.9	14.0	0.0	5.0	5.8	3.3
	616	94.6	4.8	0.0	0.6	0.0	0.0
LPP Blues cvs average		87.5	8.2	0.5	1.9	1.3	0.5
MMC local cvs	604	68.1	20.3	2.9	3.4	3.9	1.4
	614	70.2	11.7	3.2	11.7	1.1	2.1
	616	76.7	14.5	1.0	3.0	3.0	1.8

decid group new	forest	0-2 tpa %	2-6 tpa %	6-10 tpa %	10-14 tpa %	14-18 tpa %	18+ tpa %
MMC Blues cvs average		74.3	15.1	1.6	4.4	2.9	1.8
PPDF local cvs	604	81.6	13.5	1.4	2.4	0.8	0.4
	614	73.9	16.8	2.0	4.2	1.7	1.5
	616	84.6	11.5	0.9	1.9	0.5	0.7
PPDF Blues cvs average		80.9	13.5	1.4	2.6	0.9	0.7
Average all cvs		76.7	14.8	1.8	3.7	1.7	1.3

Table 11

Unharvested and Harvested occasion 1 CVS snag data (percent of landscape in each snag TPA category) **10 Plus DBH snags**

decid group new	forest	0-4 tpa %	4-12 tpa %	12-24 tpa %	24-36 tpa %	36-48 tpa %	48+ tpa %
EMC local cvs	604	37.9	23.1	16.4	11.8	4.1	6.7
	614	32.7	26.4	14.0	10.9	6.7	9.4
	616	42.7	22.2	13.4	11.2	5.3	5.2
EMC Blues cvs average		37.5	24.3	13.9	11.1	5.9	7.3
LPP local cvs	604	68.4	14.8	6.2	4.1	0.7	5.8
	614	62.0	14.9	9.1	3.3	2.5	8.3
	616	67.0	9.0	13.2	3.6	3.3	3.9
LPP Blues cvs avg		66.7	12.2	9.8	3.8	2.1	5.4
MMC local cvs	604	48.3	20.3	14.0	6.3	6.3	4.8
	614	36.2	21.3	18.1	12.2	3.7	8.5
	616	50.2	17.5	9.5	9.6	5.6	7.6
MMC Blues cvs avg		47.7	18.6	11.6	9.4	5.5	7.2
PPDF local cvs	604	70.1	18.4	5.9	3.1	1.1	1.4
	614	57.2	22.5	7.7	6.2	2.4	4.0
	616	69.3	17.8	7.1	3.1	0.9	1.8
PPDF Blues cvs avg		67.1	19.1	6.7	3.8	1.3	2.1
Average all CVS		57.7	9.2	6.2	2.9	19.9	4.1

* Decaid break for 10dbh is 0-6 and 6-12 TPA, so comparison with the new categories may not be completely valid.

Existing Condition (Using Occasion 2 Data) and Comparison to Reference Values

The following tables (12-16) display the existing condition using the most current CVS (occasion 2) data, and compare it to occasion 1 unharvested CVS local data or to DecAID unharvested plot data.

Unharvested CVS Occasion 2 Snag Summary Using Blues Harvest Data to Identify Unharvested Plots

Table 12 **Unharvested 10 plus DBH, Occasion 2** (percent of landscape in each snag TPA category)

decaid_group	forest	0-4 tpa%	4-12 tpa%	12-24 tpa%	24-36 tpa%	36-48 tpa%	48+ tpa%
EMC local cvs forest avg occ2	604	28.0	26.2	25.2	7.5	6.6	6.5
	614	23.3	24.2	17.7	12.0	7.2	15.6
	616	36.6	26.2	11.0	14.9	4.3	6.9
EMC local cvs Blues avg occ2		30.0	25.3	15.0	13.1	5.8	10.9
EMC occ1 unharvested avg		34.0	24.9	14.8	12.0	6.4	8.0
EMC DecAID avg unharvested		68	15	11	6	2	2
LPP local cvs forest avg occ2	604	68.3	9.5	1.6	9.5	0.0	11.1
	614	65.4	13.5	9.5	3.9	1.9	5.8
	616	78.6	8.7	1.6	4.7	0.0	6.3
LPP local cvs Blues avg occ2		73.1	10.0	3.3	5.8	0.4	7.5
LPP occ1 unharvested avg		60.7	12.7	12.2	4.3	2.9	7.2
LPP occ1 DecAID avg unharv		64	17	8	9	2	3
MMC local cvs forest avg occ2	604	50.5	19.1	5.9	12.7	1.0	10.8
	614	27.0	26.2	9.8	12.8	9.1	15.2
	616	44.3	19.5	7.2	11.9	5.7	11.4
MMC local cvs Blues avg occ2		42.6	20.6	7.3	12.3	5.3	11.9
MMC occ1 unharvested avg		46.1	17.9	12.5	10.1	5.6	7.8
MMC occ1 DecAID avg unharv		46	19	25	10	5	4
PPDF local cvs forest avg occ2	604	66.5	18.9	4.2	6.4	2.0	2.0
	614	49.1	23.6	7.6	7.7	4.1	7.9
	616	66.1	19.2	4.4	6.8	1.3	2.1
PPDF local cvs Blues avg occ2		62.5	20.0	5.0	6.9	2.2	3.4
PPDF occ1 unharvested average		64.3	19.5	7.2	4.6	1.7	2.7
PPDF DecAID avg unharv		84	10	2	1	1	1
Average all CVS		50.7	21.2	8.1	9.4	3.6	6.9

Table 13 **Unharvested 20 plus DBH, Occasion 2** (percent of landscape in each snag TPA category)

decaid_group	forest	0-2 tpa%	2-6 tpa%	6-10 tpa%	10-14 tpa%	14-18 tpa%	18plus tpa%
EMC local cvs forest avg occ2	604	57.0	19.7	7.5	10.2	3.7	1.9
	614	47.9	24.6	6.6	7.9	6.5	6.5
	616	64.3	20.0	2.1	6.9	3.5	3.2
EMC local cvs Blues avg occ2		56.3	22.1	4.5	7.6	4.9	4.6
EMC occ1 unharvested avg		62.1	20.1	3.6	7.4	3.9	3.0
EMC DecAID avg unharv		57	24	11	3	2	1
LPP local cvs forest avg occ2	604	87.4	9.5	0.0	3.2	0.0	0.0
	614	88.4	5.8	0.0	1.9	3.9	0.0
	616	92.9	7.1	0.0	0.0	0.0	0.0
LPP local cvs Blues avg occ2		90.5	7.5	0.0	1.2	0.8	0.0

decid_group	forest	0-2 tpa%	2-6 tpa%	6-10 tpa%	10-14 tpa%	14-18 tpa%	18plus tpa%
LPP occ1 unharvested avg		86.2	9.0	0.7	1.8	1.6	0.7
LPP DecAID avg unharv		86	12	1	1	0	0
MMC local cvs forest avg occ2	604	71.6	16.6	2.9	7.4	1.5	0.0
	614	55.6	22.5	0.0	10.9	4.9	6.0
	616	73.4	15.4	1.5	5.5	1.8	2.4
MMC local cvs Blues avg occ2		69.8	17.0	1.5	6.9	2.3	2.5
MMC occ1 unharvested avg		73.0	15.4	1.8	4.7	3.1	1.9
MMC DecAID avg unharv		45	24	15	10	3	3
PPDF local cvs forest avg occ2	604	77.8	14.8	1.6	3.5	1.3	1.1
	614	68.1	17.6	4.1	4.4	2.7	3.1
	616	82.8	11.9	1.8	1.7	0.8	1.0
PPDF local cvs Blues avg occ2		77.4	14.4	2.2	3.0	1.4	1.5
PPDF occ1 unharvested avg		78.5	14.5	1.7	3.1	1.2	1.0
PPDF DecAID avg unharv		88	12	2	<1	<1	0
Average all CVS		70.8	16.7	2.7	4.8	2.5	2.5

Unharvested and Harvested CVS Occasion 2 Snag Summary Using Blues Harvest Data to Identify Unharvested Plots

Table 14 Harvested and Unharvested 10 plus DBH, (percent of landscape in each snag TPA category)

decid_group	forest	0-4 tp%	4-12 tpa%	12-24 tpa%	24-36 tpa%	36-48 tpa%	48+ tpa%
EMC local cvs forest avg occ2	604	36.4	24.3	22.1	7.2	5.0	5.0
	614	28.8	24.8	15.8	11.1	6.0	13.3
	616	41.4	24.9	10.4	13.4	3.6	6.2
EMC local cvs Blues avg occ2		35.1	24.8	13.7	11.9	4.9	9.6
EMC occ1 harv and unharv		37.5	24.3	13.9	11.1	5.9	7.3
EMC occ1 unharvested avg		34.0	24.9	14.8	12.0	6.4	8.0
LPP local cvs forest occ2	604	78.3	6.5	1.1	6.5	0.0	7.6
	614	70.9	12.7	6.3	5.1	1.3	3.8
	616	81.6	8.6	1.2	4.0	0.0	4.6
LPP local cvs Blues avg occ2		78.3	9.0	2.3	4.9	0.3	5.2
LPP occ1 harv and unharv		66.7	12.2	9.8	3.8	2.1	5.4
LPP occ1 unharvested avg		60.7	12.7	12.2	4.3	2.9	7.2
MMC local cvs forest avg occ2	604	56.5	19.6	4.7	10.0	1.1	8.2
	614	35.4	24.8	9.4	10.8	7.0	12.6
	616	47.9	19.0	6.8	10.6	5.4	10.2
MMC local cvs Blues avg occ2		47.7	20.3	6.8	10.5	4.6	10.1
MMC occ1 harv and unharv		47.7	18.6	11.6	9.4	5.6	7.6
MMC occ1 unharvested avg		46.1	17.9	12.5	10.1	5.6	7.8
PPDF local cvs forest avg occ2	604	71.2	17.7	3.3	5.2	1.3	1.4
	614	53.8	23.6	6.2	6.9	3.2	6.2
	616	68.0	18.7	3.9	6.6	1.0	1.9
PPDF local cvs Blues avg occ2		66.4	19.3	4.1	6.0	1.6	2.6
PPDF occ1 harv and unharv		67.1	19.1	6.7	3.8	1.3	2.1

decid_group	forest	0-4 tpa%	4-12 tpa%	12-24 tpa%	24-36 tpa%	36-48 tpa%	48+ tpa%
PPDF occ1 unharvested avg		64.3	19.5	7.2	4.6	1.7	2.7
Average all CVS		56.6	20.4	6.8	8.0	2.8	5.4

Table 15 **Harvested and Unharvested 20 plus DBH**, (percent of landscape in each snag TPA category)

decid_group	forest	0-2 tpa%	2-6 tpa%	6-10 tpa%	10-14 tpa%	14-18 tpa%	18plus tpa%
EMC local cvs forest avg occ2	604	63.6	17.9	5.7	7.8	3.6	1.4
	614	54.1	23.3	5.3	7.2	5.2	5.0
	616	68.3	17.8	2.0	6.0	3.2	2.8
EMC local cvs Blues avg occ2		61.2	20.4	3.8	6.7	4.2	3.8
EMC occ1 harv and unharv		65.1	19.3	3.2	6.6	3.3	2.5
EMC occ1 unharvested avg		62.1	20.1	3.6	7.4	3.9	3.0
LPP local cvs forest avg occ2	604	91.3	6.5	0.0	2.2	0.0	0.0
	614	91.1	5.1	0.0	1.3	2.5	0.0
	616	92.0	7.5	0.0	0.6	0.0	0.0
LPP local cvs Blues avg occ2		91.6	6.7	0.0	1.2	0.6	0.0
LPP occ1 harv and unharv		87.5	8.2	.5	1.9	1.3	.5
LPP occ1 unharvested avg		86.2	9.0	0.7	1.8	1.6	0.7
MMC local cvs forest avg occ2	604	74.3	15.7	2.8	5.7	1.1	0.4
	614	61.2	21.1	0.5	8.4	4.2	4.6
	616	75.4	14.7	1.3	4.9	1.6	2.1
MMC local cvs Blues avg occ2		72.4	16.2	1.5	5.8	2.0	2.1
MMC occ1 harv and unharv		74.3	15.1	1.6	4.4	2.9	1.8
MMC occ1 unharvested avg		73.0	15.4	1.8	4.7	3.1	1.9
PPDF local cvs forest avg occ2	604	81.5	13.1	1.4	2.5	0.9	0.7
	614	73.0	16.1	2.9	4.1	1.9	2.1
	616	84.4	11.2	1.2	1.6	0.8	0.7
PPDF local cvs forest avg occ2		80.6	13.1	1.6	2.6	1.1	1.0
PPDF occ1 harv and unharv		80.9	13.5	1.4	2.6	0.9	0.7
PPDF occ1 unharvested average		78.5	14.5	1.7	3.1	1.2	1.0
Average all CVS		75.1	15.1	2.1	4.0	1.9	1.8

Table 16 **Harvested Plots 10 plus DBH**, (percent of landscape in each snag TPA category)

decid_group	ADMINFOR	0-4 tpa%	4-12 tpa%	12-24 tpa%	24-36 tpa%	36-48 tpa%	48+ tpa%
EMC occ2	604	64.5	19.4	9.7	6.5	0.0	0.0
	614	47.3	27.0	9.5	8.3	2.1	5.8
	616	66.9	18.1	6.9	5.6	0.0	2.5
EMC occ2		55.8	23.1	8.6	7.2	1.2	4.2
EMC occ1		35.1	24.8	13.7	11.9	4.9	9.6

LPP occ2	604	100.0	0.0	0.0	0.0	0.0	0.0
	614	81.5	11.1	0.0	7.4	0.0	0.0
	616	89.6	8.3	0.0	2.1	0.0	0.0
LPP occ2		90.4	6.7	0.0	2.9	0.0	0.0
LPP occ1		78.3	9.0	2.3	4.9	0.3	5.2
MMC occ2	604	72.4	21.1	1.3	2.6	1.3	1.3
	614	63.3	20.3	8.2	4.1	0.0	4.1
	616	70.9	16.3	4.7	2.3	3.5	2.3
MMC occ2		69.7	18.9	4.3	2.8	1.9	2.4
MMC occ1		47.7	20.3	6.8	10.5	4.6	10.1
PPDF occ2	604	78.2	16.0	1.9	3.2	0.3	0.3
	614	63.8	22.9	3.5	5.5	1.4	3.0
	616	72.1	17.7	2.6	6.0	0.4	1.3
PPDF occ2		73.5	17.9	2.4	4.5	0.6	1.2
PPDF occ1		66.4	19.3	4.1	6.0	1.6	2.6
Blues average CVS occ2		70.9	18.4	3.5	4.7	0.7	1.7
Blues average CVS occ1		68.6	18.7	6.3	3.3	1.3	1.7

Table17 Harvested Plots 20 plus DBH, (percent of landscape in each snag TPA category)

decacid_group	ADMINFOR	0-2 tpa	2-6 tpa	6-10 tpa	10-14 tpa	14-18 tpa	18+ tpa
EMC occ2	604	87.1	9.7	0.0	0.0	3.2	0.0
	614	75.1	18.7	0.8	4.6	0.8	0.0
	616	89.4	6.3	1.3	1.3	1.3	0.6
EMC occ2		81.2	13.4	0.9	3.0	1.2	0.2
EMC occ1		61.2	20.4	3.8	6.7	4.2	3.8
LPP occ2	604	100.0	0.0	0.0	0.0	0.0	0.0
	614	96.3	3.7	0.0	0.0	0.0	0.0
	616	89.6	8.3	0.0	2.1	0.0	0.0
LPP occ2		94.2	4.8	0.0	1.0	0.0	0.0
LPP occ1		91.6	6.7	0.0	1.2	0.6	0.0
MMC occ2	604	81.6	13.2	2.6	1.3	0.0	1.3
	614	79.7	16.2	2.0	0.0	2.0	0.0
	616	88.4	10.5	0.0	1.2	0.0	0.0
MMC occ2		83.9	12.8	1.4	0.9	0.5	0.5
MMC occ1		72.4	16.2	1.5	5.8	2.0	2.1
PPDF occ2	604	87.1	10.5	1.0	1.1	0.2	0.0
	614	82.9	13.1	0.5	3.3	0.3	0.0
	616	88.1	9.5	0.0	1.5	0.9	0.0
PPDF occ2		86.5	10.7	0.6	1.7	0.4	0.0
PPDF occ1		80.6	13.1	1.6	2.6	1.1	1.0
Blues average occ 2		85.7	11.1	0.7	1.8	0.5	0.1
Blues average occ 1		84.2	12.2	0.8	2	0.5	0.4

Figure1. 10 DBH Plus, Occasion 2, Landscape Distribution of Snag Levels by Harvest History

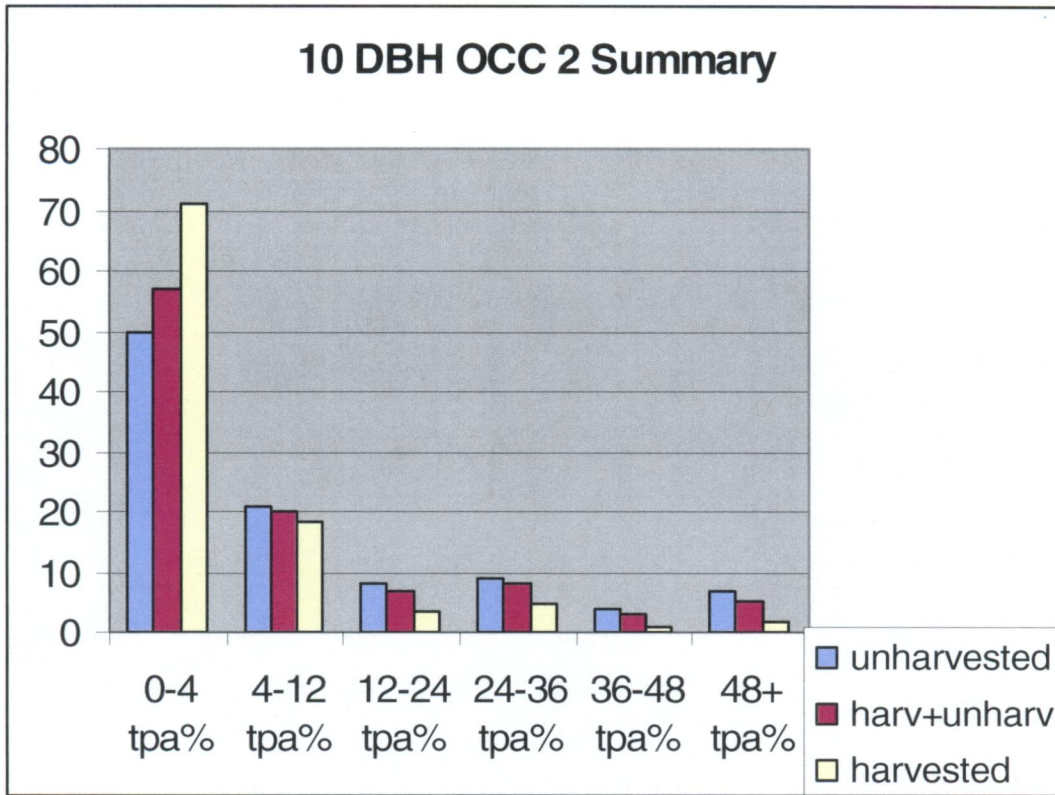
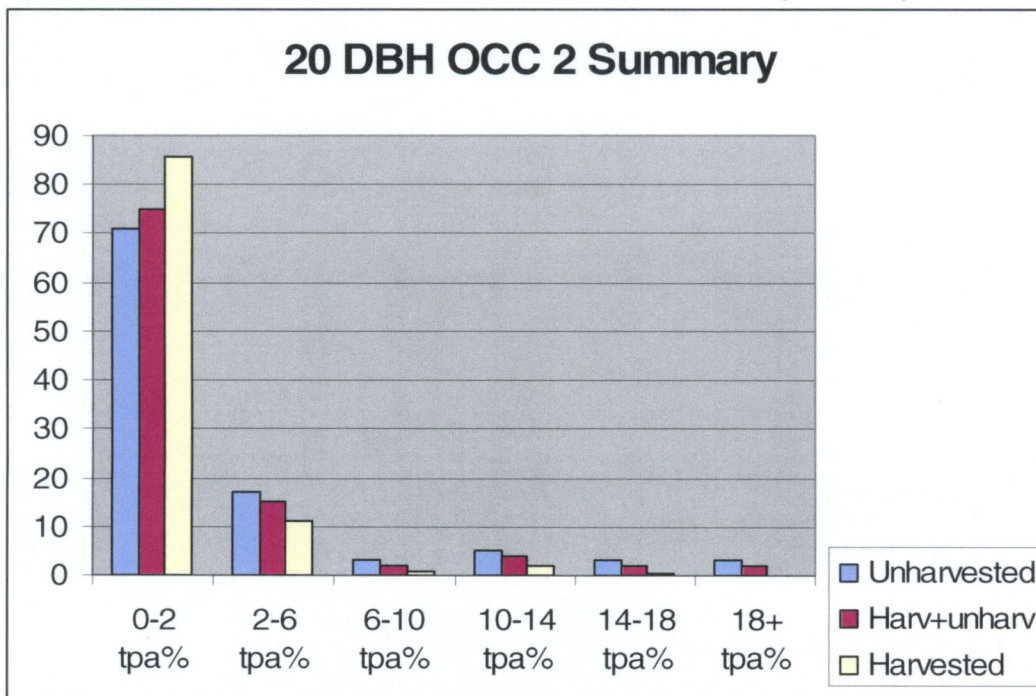


Figure2. 20 DBH Plus, Occasion 2, Landscape Distribution of Snag Levels by Harvest History



Snag Trend information

Trend information between the original installation (occasion 1) of CVS plots and the re-measurement (occasion 2) of the CVS plots is displayed in tables 12-17. Figures 3-8 display the difference at the scale of the Blues for all combined DecAID habitat groups. Tables 12-17 can be used to evaluate differences at the scale of each forest for each of the four DecAID habitat groups.

Figure 3 and Figure 4 show a small reduction between occasion 1 and occasion 2 in unharvested areas for the 0-2/4 TPA groups. This reduction means that the number of acres with limited number of snags has decreased. The groups greater than 2-4 TPA remained relatively stable or showed slight increases at the scale of the Blues. The distribution of harvested and unharvested snags greater than 20 DBH (Figure 6) remained fairly stable, with a slight decline in the percent in the 0-2 TPA group. Harvested and unharvested snags greater than 10 DBH (Figure 5) showed a slight increase in the 0-4 TPA group, decrease in the 4-12 TPA group, and an increase in the 36-48 TPA group. Figure 7 and 8 both show small increases in the lowest tree per acre groups.

Figure 3 10 DBH Change between OCC1 and OCC2 Unharvested plots

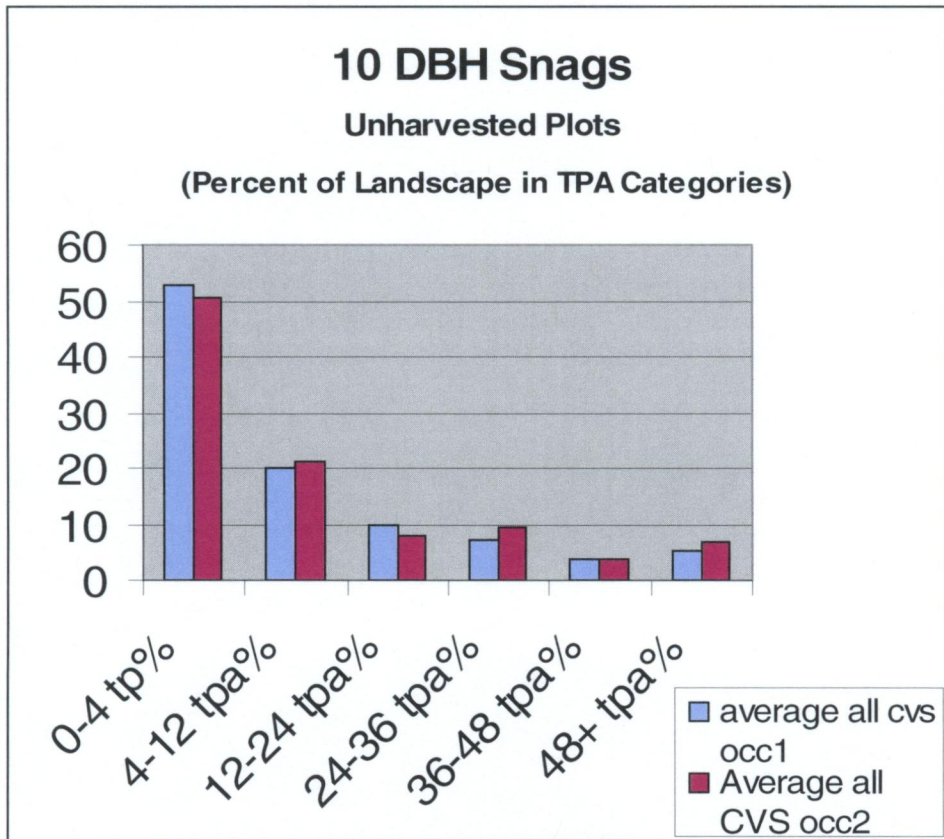


Figure 4 20 DBH Change between OCC1 and OCC2 Unharvested Plots

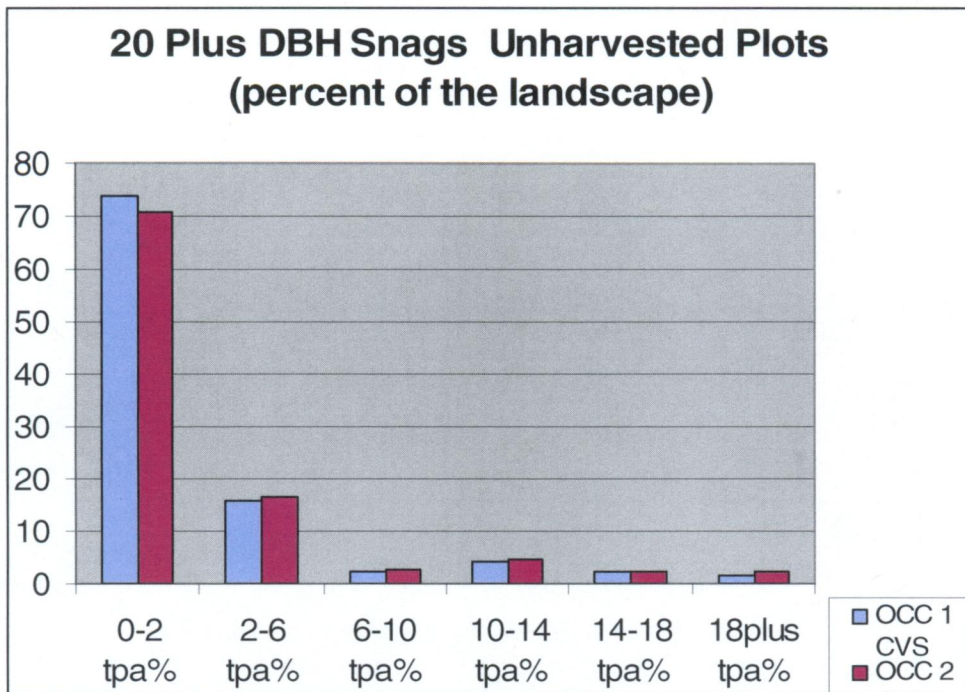


Figure 5 10 DBH Change between OCC1 and OCC2 Harvested and Unharvested

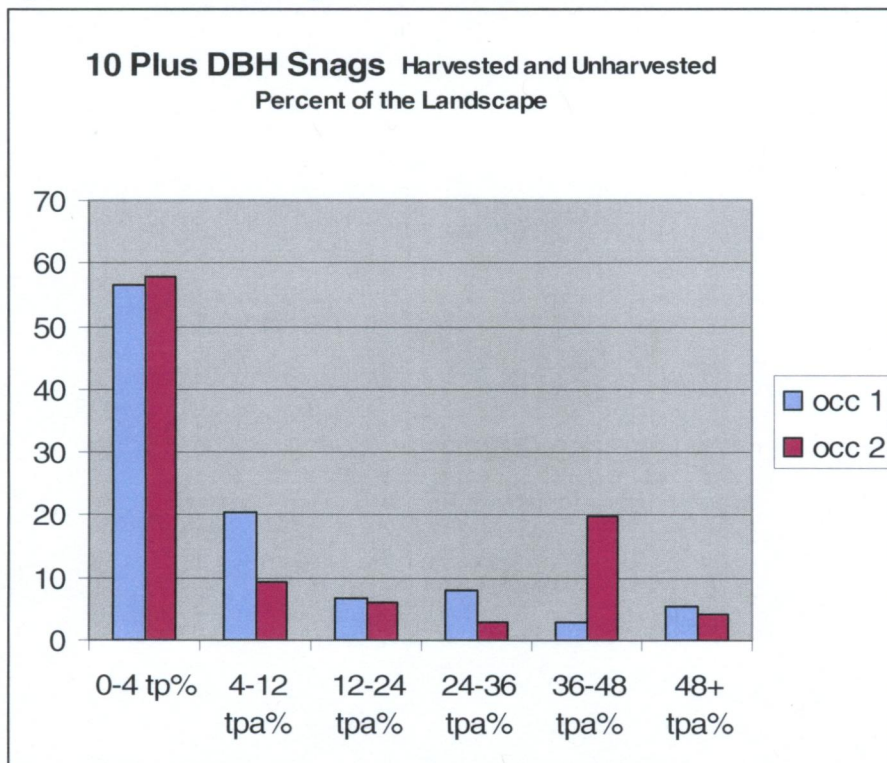


Figure 6 10 DBH Change between OCC1 and OCC2 Harvested and Unharvested

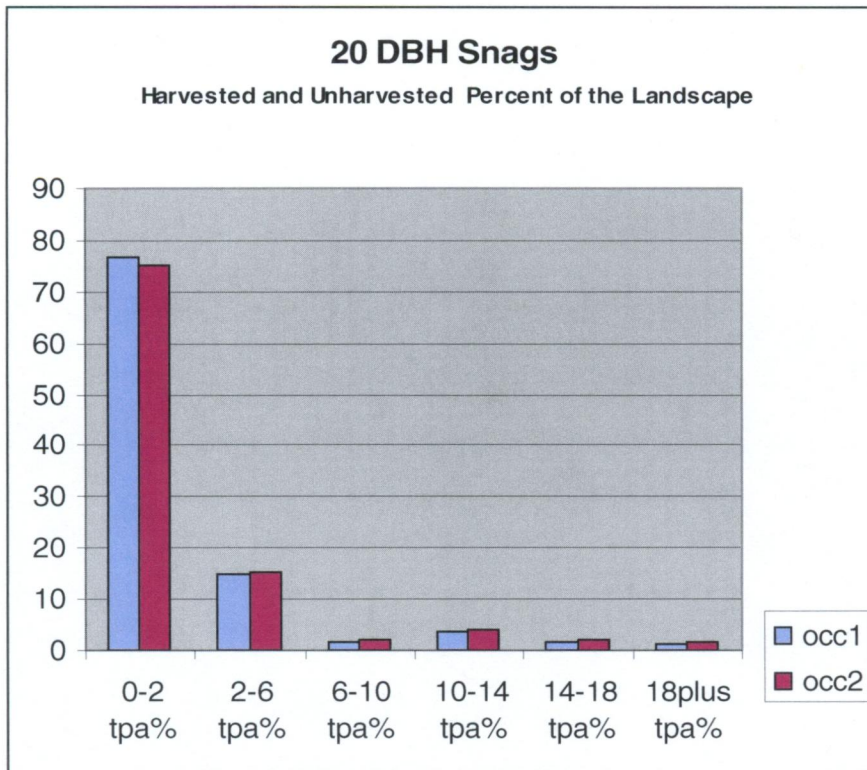


Figure 7 10 DBH Change between OCC1 and OCC2 Harvested Plots

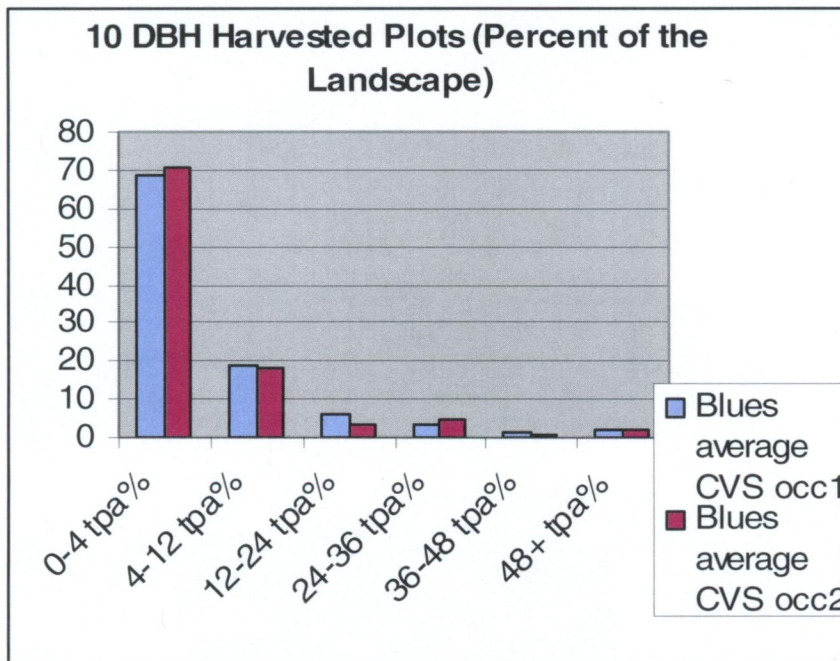
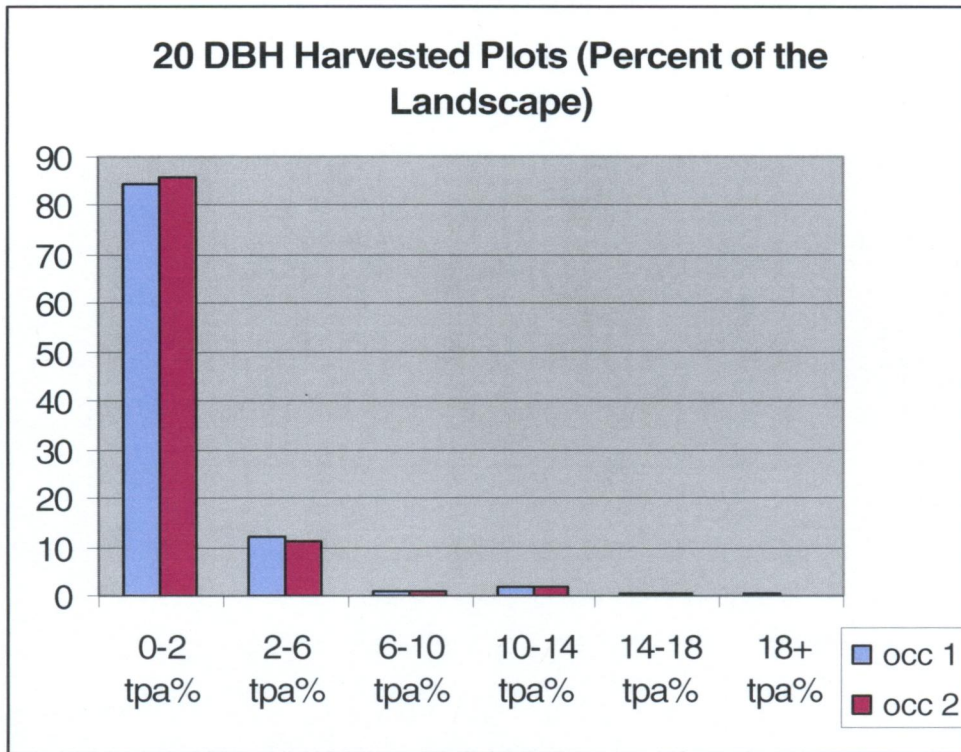


Figure 8 10 DBH Change between OCC1 and OCC2 Harvested Plots



DOWNWOOD Summary

Down wood information was summarized from CVS occasion 2 transects that were installed at each of the points. Each transect is approximately 51 feet long and was established following protocols in Brown, (1974). Approximately 10,000 transects were utilized in the following summaries. Information was recorded about the condition, diameter, and length of each piece of down wood that intersected the transect. Summaries of tons per acre were generated from the transect data for the following down woody material diameter categories: 0-1 inch, 1-3 inches, 3-6 inches, 6-12 inches, and greater than 12 inches. These categories do not follow those in DecAID, but future plans include re-summarizing the CVS downwood data into groupings that fit better with DecAID.

The summaries that we constructed follow the DecAID concept of describing the percent of the landscape that fall into various ranges of tons per acre, percent cover, or lineal feet per acre. The following summary categories were used for the PPDF group: 0-1 percent cover (0-11 tons per acre), 1-2 percent (11-23 tons/ac), 2-3 percent (23-34 tons/ac), 3-4 percent (34-45 tons/ac), 4-6 percent (45-68 tons), 6+ percent (68 plus tons). The following categories were used for EMC, LPP, and MMC DecAID groups: 0-2 percent (0-20 tons), 2-4 percent (20-45 tons), 4-6 percent (45-65 tons), 6-8 percent (65-90 tons), 8+ percent (90 plus tons). Information is displayed within the above ranges for harvested and unharvested plots, and various ranges of diameters of down material diameter.

The differences between tables 1-8 (DecAID summaries) and table 10 (CVS unharvested plots) are substantial. The CVS data indicates a higher percent of the landscape falling in the 0 to 2 percent (0-20 tons) category than the DecAID summaries. The CVS data was summarized for 6 inch plus diameter material and the DecAID was summarized for 5 inch plus diameter, which could explain some of the difference. Other reasons are unknown at this point.

DecAID Unharvested plot summaries (values summarized from DecAID)

Table 1. Eastside Mixed Conifer 12.5cm+ diameter wood, unharvested plots
Percent of the Landscape

	0-2 % cover	2-4 % cover	4-6 % cover	6-8% cover	>8 % cover
Larger Trees	58	29	9	4	0
Small/ Medium Trees	50	24	16	7	3
Open Canopy	61	17	3	11	8
Range	50-61	17-29	3-16	4-11	0-8

Table 2. Eastside Mixed Conifer 50cm+ diameter wood, unharvested plots
Percent of the Landscape

	0-2 % cover	2-4 % cover	4-6 % cover	6-8% cover	>8 % cover
Larger Trees	90	6	3	1	0
Small/Medium Trees	88	10	2		0
Open Canopy	92	7	1	0	0
Range	88-92	6-10	1-3	0-1	0

Table 3. Montane Mixed Conifer 12.5cm+ diameter wood, unharvested plots
Percent of the Landscape

	0-2 % cover	2-4 % cover	4-6 % cover	6-8% cover	>8 % cover
Larger Trees	35	18	20	10	17
Small/ Medium Trees	32	25	16	9	8
Open Canopy	55	17	8	10	10
Range	32-55	17-25	8-20	9-10	8-17

Table 4. Montane Mixed Conifer 50cm+ diameter wood, unharvested plots

	0-2 % cover	2-4 % cover	4-6 % cover	6-8% cover	>8 % cover
Larger Trees	55	24	11	5	5
Small/Medium Trees	83	12	4	1	0
Open Canopy	95	4	1	0	0
Range	55-95	4-24	1-11	0-5	0-5

Table 5. LP 12.5cm + diameter wood, unharvested plots
Percent of Landscape

	0-2 % cover	2-4 % cover	4-6 % cover	6-8% cover	>8 % cover
Larger Trees	0	0	0	0	0
Small/Medium Trees	44	26	13	6	11
Open Canopy	34	27	14	10	15
Range	32-44	26-27	13-14	6-10	11-15

Table 6. LP 50cm+ diameter wood, unharvested plots
Percent of Landscape

	0-2 % cover	2-4 % cover	4-6 % cover	6-8% cover	>8 % cover
Larger Trees	0	0	0	0	0
Small/Medium Trees	96	1	3	0	0
Open Canopy	96	3	1	0	0
Range	96	1-3	1-3	0	0

Table 7. PPDF 12.5 cm+ diameter wood, unharvested plots
Percent of Landscape

	0-2 % cover	2-4 % cover	4-6 % cover	6-8% cover	>8 % cover	0-2 % cover
Larger Trees	75	16	6	1	1	1
Small/Medium Trees	70	17	6	3	2	2
Open Canopy	78	9	8	2	2	1
Range	70-78	9-16	6-8	1-3	1-2	1-2

Table 8. PPDF 50cm+ diameter material, unharvested plots
Percent of Landscape

	0-2 % cover	2-4 % cover	4-6 % cover	6-8% cover	>8 % cover	0-2 % cover
Larger Trees	86	12	1	1	0	0
Small/Medium Trees	86	9	3	1	1	
Open Canopy	92	8	0	0	0	0
Range	86-92	8-12	0-3	0-1	0-1	0

Table 9. Unharvested cvs plots average tons per acre (does not include duff layer)

decay_group1	0-3 inch tons/ac	3-6 inch tons/ac	6-12 inch tons/ac	12+inch tons/ac	Ttl tons/ ac	0-3 inc %	3-6 inch %	6_12 inch %	12+ %
EMC	32.9	2.1	5.1	6.2	46.4	70.9	4.6	11.1	13.39
JUNIPER	7.0	0.4	0.3	0.7	8.5	82.2	5.2	4.1	8.531
LPP	31.8	3.8	5.6	2.1	43.2	73.6	8.7	12.9	4.769
MMC	38.4	2.3	5.3	4.7	50.7	75.8	4.6	10.4	9.236
NON FOREST	3.8	0.1	0.1	0.5	4.5	85.8	2.0	2.0	10.26
PPDF	27.5	1.1	1.9	3.6	34.1	80.5	3.3	5.7	10.6

Table 9a. Harvested cvs plots tons per acre

decay_group1	duff tons/ac	litter tons/ac	0-3 inch tons/ac	3-6 inch tons/ac	6-12 inch tons/ac	12+inch tons/ac
EMC	23.1	0.6	32.6	2.3	5.1	6.1
JUNIPER	0.5	0.3	10.9	0.5	0.3	0.7
LPP	16.3	0.5	38.6	4.3	5.0	2.1
MMC	19.1	0.5	41.3	2.6	5.1	4.7
NON FOREST	0.5	0.2	3.8	0.1	0.1	0.5
PPDF	12.1	0.8	28.9	1.4	2.0	3.6

Local Blues CVS Summaries of Unharvested Plots (tons per acre)

Table 10. Unharvested CVS Plot Summary, Percent Landscape Distribution of Downwood

decay_group	diameter group	0-20 tons (0-2% cover)	20-45 tons (2- 4%)	45-65 tons (4- 6%)	65-90 tons (6- 8%)	90+ tons (8+%)
EMC	0-3inch	71.0	14.3	4.3	3.2	7.3
	12inch plus	89.8	7.5	1.2	1.4	0.2
	3-6inch	99.8	0.2	0.0	0.0	0.0
	6-12inch	95.6	4.2	0.2	0.0	0.0
EMC Total		89.1	6.5	1.4	1.1	1.9
LPP	0-3inch	63.1	15.4	6.2	4.6	10.8
	12inch plus	97.1	1.2	1.7	0.0	0.0
	3-6inch	99.2	0.8	0.0	0.0	0.0
	6-12inch	92.5	7.1	0.4	0.0	0.0
LPP Total		88.0	6.1	2.1	1.1	2.7
MMC	0-3inch	68.1	14.5	4.1	4.2	9.1
	12inch plus	92.1	5.5	1.4	0.4	0.5
	3-6inch	99.7	0.3	0.0	0.0	0.0
	6-12inch	95.3	4.3	0.4	0.0	0.0
MMC Total		88.8	6.2	1.5	1.2	2.4
Grand Total		88.9	6.4	1.5	1.1	2.1

decaid_group1	dia group	0-11 tons (0-1%)	11-23 tons (1- 2%)	23-34 tons (2- 3%)	34- 45 tons (3- 4%)	45- 68 tons (4- 6%)	69 plus tons (6+%)
PPDF	0-3inch	87.5	0.0	3.4	2.3	1.8	5.0
	12inch plus	88.0	6.4	2.5	1.5	0.9	0.7
	3-6inch	99.1	0.9	0.0	0.0	0.0	0.0
	6-12inch	95.8	3.6	0.4	0.1	0.1	0.0
PPDF Total		92.0	2.4	1.8	1.2	0.8	1.9

Unharvested by forest

	forest_id	dia group	0-20 tons%	20-45 tons%	45-65 tons%	65-90 tons%	90 plus tons
EMC	604	0-3inch	50.5	22.4	1.9	4.7	20.6
		12inch plus	85.0	12.1	0.9	1.9	0.0
		3-6inch	100.0	0.0	0.0	0.0	0.0
		6-12inch	95.3	4.7	0.0	0.0	0.0
	604 Total		82.7	9.8	0.7	1.6	5.1
	614	0-3inch	72.6	14.3	4.5	1.8	6.7
		12inch plus	91.1	7.0	1.2	0.7	0.0
		3-6inch	100.0	0.0	0.0	0.0	0.0
		6-12inch	95.4	4.3	0.4	0.0	0.0
	614 Total		89.8	6.4	1.5	0.6	1.7
	616	0-3inch	72.1	13.2	4.4	4.2	6.1
		12inch plus	89.2	7.4	1.2	1.9	0.4
		3-6inch	99.5	0.5	0.0	0.0	0.0
		6-12inch	95.9	4.0	0.1	0.0	0.0
	616 Total		89.2	6.3	1.4	1.5	1.6
	EMC Total			89.1	6.5	1.4	1.1
LPP	604	0-3inch	54.0	19.0	6.3	3.2	17.5
		12inch plus	95.2	1.6	3.2	0.0	0.0
		3-6inch	98.4	1.6	0.0	0.0	0.0
		6-12inch	93.7	6.3	0.0	0.0	0.0
	604 Total		85.3	7.1	2.4	0.8	4.4
	614	0-3inch	69.2	9.6	5.8	5.8	9.6
		12inch plus	96.2	3.8	0.0	0.0	0.0
		3-6inch	100.0	0.0	0.0	0.0	0.0
		6-12inch	90.4	9.6	0.0	0.0	0.0
	614 Total		88.9	5.8	1.4	1.4	2.4
	616	0-3inch	65.1	15.9	6.3	4.8	7.9
		12inch plus	98.4	0.0	1.6	0.0	0.0
3-6inch		99.2	0.8	0.0	0.0	0.0	
6-12inch		92.9	6.3	0.8	0.0	0.0	
616 Total		88.9	5.8	2.2	1.2	2.0	
LPP Total			88.0	6.1	2.1	1.1	2.7
MMC	604	0-3inch	59.3	17.2	4.9	4.4	14.2

	12inch plus	90.7	6.4	1.5	1.5	0.0
	3-6inch	100.0	0.0	0.0	0.0	0.0
	6-12inch	96.6	2.9	0.5	0.0	0.0
604 Total		86.6	6.6	1.7	1.5	3.6
614	0-3inch	63.4	18.9	7.3	6.1	4.3
	12inch plus	89.6	9.1	1.2	0.0	0.0
	3-6inch	99.4	0.6	0.0	0.0	0.0
	6-12inch	89.6	9.1	1.2	0.0	0.0
614 Total		85.5	9.5	2.4	1.5	1.1
616	0-3inch	72.9	12.2	2.8	3.5	8.7
	12inch plus	93.4	4.1	1.5	0.2	0.9
	3-6inch	99.6	0.4	0.0	0.0	0.0
	6-12inch	96.5	3.3	0.2	0.0	0.0
616 Total		90.6	5.0	1.1	0.9	2.4
MMC Total		88.8	6.2	1.5	1.2	2.4
Grand Total		88.9	6.4	1.5	1.1	2.1

	forest_id	dia_group	0-11 tons	11-23 tons %	23-34 tons	34-45 tons	45-68 tons	68 plus tons
PPDF	604	0-3inch	83.1	0.0	4.7	2.9	2.5	6.8
		12inch	85.9	7.0	3.0	1.9	1.4	0.9
		3-6inch	99.3	0.7	0.0	0.0	0.0	0.0
		6-12inch	96.5	2.7	0.6	0.2	0.0	0.0
	604 Total		90.3	2.3	2.4	1.4	1.1	2.5
	614	0-3inch	89.3	0.0	3.2	2.0	1.4	4.1
		12inch	88.5	6.8	2.9	1.0	0.4	0.4
		3-6inch	99.0	1.0	0.0	0.0	0.0	0.0
		6-12inch	93.9	5.1	0.5	0.1	0.3	0.1
	614 Total		92.2	2.8	1.8	0.9	0.6	1.6
	616	0-3inch	90.7	0.0	2.2	1.9	1.4	3.7
		12inch	89.8	5.6	1.8	1.5	0.7	0.7
		3-6inch	99.0	1.0	0.0	0.0	0.0	0.0
		6-12inch	96.3	3.6	0.1	0.0	0.0	0.0
	616 Total		93.5	2.2	1.2	1.0	0.7	1.5
	PPDF Total		92.0	2.4	1.8	1.2	0.8	1.9

Unharvested all forests percent of cvs plots in each ton/ac group (dc in ()

decid_group1	0-20 tons%	20-45 tons%	45-65 tons%	65-90 tons%	90 plus tons
EMC	89.1 (6.5	1.4	1.1	1.9
LPP	88.0	6.1	2.1	1.1	2.7
MMC	88.8 (80-95)	6.2 (1-10)	1.5 (2-4)	1.2 (1-2)	2.4 (1-2)
Grand Total	88.9	6.4	1.5	1.1	2.1

decid_group1	0-11 tons	11-23 tons %	23-34 tons	34-45 tons	45-68 tons	68 plus tons
PPDF	92.0	2.4	1.8	1.2	0.8	1.9
Grand Total	92.0	2.4	1.8	1.2	0.8	1.9

CVS Harvested Plot Summary

Table 11. Harvested CVS Plot Summary, Landscape distribution of downwood

decaid_group1	dia_group	0-20 tons (0-2% cover)	20-45 tons (2- 4%)	45-65 tons (4- 6%)	65-90 tons (6- 8%)	90+ tons (8+%)
EMC	0-3inch	80.3	9.6	3.2	1.9	5.0
	12inch plus	90.7	7.9	0.2	0.9	0.2
	3-6inch	100.0	0.0	0.0	0.0	0.0
	6-12inch	97.0	2.8	0.2	0.0	0.0
EMC Total		90.3	5.7	1.2	0.9	1.8
LPP	0-3inch	75.3	8.0	6.2	2.5	8.0
	12inch plus	97.0	1.0	1.0	1.0	0.0
	3-6inch	97.0	3.0	0.0	0.0	0.0
	6-12inch	97.0	2.0	1.0	0.0	0.0
LPP Total		89.5	4.1	2.6	1.1	2.8
MMC	0-3inch	77.1	8.7	4.5	2.4	7.2
	12inch plus	90.7	8.3	0.5	0.5	0.0
	3-6inch	99.0	1.0	0.0	0.0	0.0
	6-12inch	94.6	5.4	0.0	0.0	0.0
MMC Total		88.6	6.3	1.7	1.0	2.5
Grand Total		89.7	5.6	1.5	0.9	2.2

decaid_group1	dia_group	0-11 tons (0-1%)	11-23 tons (1- 2%)	23-34 tons (2- 3%)	34- 45 tons (3- 4%)	45- 68 tons (4- 6%)	69 plus tons (6+%)
PPDF	0-3inch	60.0	11.0	7.0	4.4	5.7	11.9
	12inch plus	87.4	6.6	3.0	1.3	1.2	0.6
	3-6inch	98.5	1.5	0.0	0.0	0.0	0.0
	6-12inch	95.4	4.2	0.4	0.0	0.1	0.0
PPDF Total		85.3	5.8	2.6	1.4	1.7	3.1

Harvested cvs plot summary by forest

group	forest_id	dia group	0-20 tons%	20-45 tons%	45-65 tons%	65-90 tons%	90 plus tons	
EMC	604	0-3inch	73.5	6.1	6.1	2.0	12.2	
		12inch	90.3	9.7	0.0	0.0	0.0	
		3-6inch	100.0	0.0	0.0	0.0	0.0	
		6-12inch	100.0	0.0	0.0	0.0	0.0	
	604 Total			88.7	4.2	2.1	0.7	4.2
	614	0-3inch	86.6	6.6	3.3	1.2	2.4	
		12inch	91.3	7.5	0.0	0.8	0.4	
		3-6inch	100.0	0.0	0.0	0.0	0.0	
		6-12inch	96.7	3.3	0.0	0.0	0.0	
	614 Total			92.5	4.7	1.2	0.6	1.0
	616	0-3inch	70.7	15.4	2.4	3.3	8.1	
		12inch	89.9	8.2	0.6	1.3	0.0	
		3-6inch	100.0	0.0	0.0	0.0	0.0	
		6-12inch	96.9	2.5	0.6	0.0	0.0	
	616 Total			87.1	7.6	1.1	1.4	2.8
	EMC Total			90.3	5.7	1.2	0.9	1.8
LPP	604	0-3inch	81.8	9.1	0.0	2.3	6.8	
		12inch	100.0	0.0	0.0	0.0	0.0	
		3-6inch	100.0	0.0	0.0	0.0	0.0	
		6-12inch	100.0	0.0	0.0	0.0	0.0	
	604 Total			93.4	3.3	0.0	0.8	2.5
	614	0-3inch	68.3	9.8	14.6	0.0	7.3	
		12inch	88.9	3.7	3.7	3.7	0.0	
		3-6inch	92.6	7.4	0.0	0.0	0.0	
		6-12inch	96.3	0.0	3.7	0.0	0.0	
	614 Total			84.4	5.7	6.6	0.8	2.5
	616	0-3inch	75.3	6.5	5.2	3.9	9.1	
		12inch	100.0	0.0	0.0	0.0	0.0	
		3-6inch	97.9	2.1	0.0	0.0	0.0	
		6-12inch	95.8	4.2	0.0	0.0	0.0	
	616 Total			90.0	3.6	1.8	1.4	3.2
	LPP Total			89.5	4.1	2.6	1.1	2.8
MMC	604	0-3inch	68.4	14.0	4.4	2.6	10.5	
		12inch	90.7	9.3	0.0	0.0	0.0	
		3-6inch	98.7	1.3	0.0	0.0	0.0	
		6-12inch	96.0	4.0	0.0	0.0	0.0	
	604 Total			86.1	8.0	1.5	0.9	3.5
	614	0-3inch	86.0	3.5	5.8	1.2	3.5	
12inch		91.8	6.1	0.0	2.0	0.0		

	3-6inch	98.0	2.0	0.0	0.0	0.0
	6-12inch	93.9	6.1	0.0	0.0	0.0
614 Total		91.4	4.3	2.1	0.9	1.3
616	0-3inch	78.8	7.6	3.8	3.0	6.8
	12inch	90.0	8.8	1.3	0.0	0.0
	3-6inch	100.0	0.0	0.0	0.0	0.0
	6-12inch	93.8	6.3	0.0	0.0	0.0
616 Total		89.0	5.9	1.6	1.1	2.4
MMC Total		88.6	6.3	1.7	1.0	2.5
Grand Total		89.7	5.6	1.5	0.9	2.2

	forest_id	dia group	0-11 tons	11-23 tons %	23-34 tons	34-45 tons	45-68 tons	68 plus tons
PPDF	604	0-3inch	50.0	12.9	8.7	5.5	6.9	15.9
		12inch	86.7	5.9	3.6	1.4	1.8	0.6
		3-6inch	98.3	1.7	0.0	0.0	0.0	0.0
		6-12inch	95.1	4.7	0.1	0.0	0.0	0.0
	604 Total		82.5	6.3	3.1	1.7	2.2	4.1
	614	0-3inch	76.6	8.4	3.5	2.5	3.5	5.4
		12inch	87.7	7.4	2.5	1.4	0.8	0.3
		3-6inch	98.9	1.1	0.0	0.0	0.0	0.0
		6-12inch	97.3	2.5	0.3	0.0	0.0	0.0
	614 Total		90.1	4.8	1.6	1.0	1.1	1.4
	616	0-3inch	63.3	9.8	7.0	4.0	5.5	10.5
		12inch	88.1	7.0	2.6	0.9	0.6	0.8
		3-6inch	98.5	1.5	0.0	0.0	0.0	0.0
		6-12inch	94.4	4.5	0.9	0.0	0.2	0.0
	616 Total		86.1	5.7	2.6	1.2	1.6	2.8
PPDF Total		85.3	5.8	2.6	1.4	1.7	3.1	

Harvested (percent of cvs plots in each tons/ac group) (DC in (xx))

decid_group1	0-20 tons%	20-45 tons%	45-65 tons%	65-90 tons%	90 plus tons
EMC	90.3 (80-100)	5.7 (1-10)	1.2 (1-2)	0.9 (1-2)	1.8 (1-3)
LPP	89.5 (80-95)	4.1 (1-10)	2.6 (1-10)	1.1 (1-2)	2.8 (2-4)
MMC	88.6 (80-95)	6.3 (1-10)	1.7 (2-4)	1.0 (1-2)	2.5 (1-3)

decid_group1	0-11 tons	11-23 tons %	23-34 tons	34-45 tons	45-68 tons	68 plus tons
PPDF	85.3 (85-100)	5.8 (2-4)	2.6 (1-2)	1.4 (1-2)	1.7 (1-2)	3.1 (1-2?)

6-10-2009 Desired condition tables from the draft Blues proposed action (plan revision)
 Values are based on CVS unharvested plot data and information in Brown 2003.

Table xx. Ranges of Down Wood								
Potential Vegetation Group	Desired tons/acre Across the Landscape					Splits between Diameter Groups		
	0-20 tons*	20-45 tons*	45-65 tons*	65-90 tons*	90+ tons*	less than 10 inches diameter	10-20 inches diameter	greater than 20 inches diameter
	desired percent of landscape (within each potential veg group)							
Cold upland forest	80-95	1-10	2-4	1-2	1-3	70-90	10-20	10-20
Moist upland forest	80-100	1-10	1-2	1-2	1-3	70-80	10-20	10-20
Dry upland forest	85-100	2-4	1-2	1-2	0	75-95	5-15	5-15
Lodgepole pine forest	80-95	1-10	1-10	1-2	2-4	80-100	5-15	5-15

*crosswalk from tons per acre to percent cover

- 0-20 tons per acre is the equivalent of 0-2 percent cover
- 20-45 tons per acre is the equivalent of 2-4 percent cover
- 45-65 tons per acre is the equivalent of 4-6 percent cover
- 65-90 tons per acre is the equivalent of 6-8 percent cover
- 90 plus tons per acre is the equivalent of 8 plus percent cover

Table xx. Ranges of Snags Greater Than or Equal to 10 inches diameter at breast height (DBH)						
Potential Vegetation Group	Snags per acre (dead trees)					
	1-4 dead trees	4-12 dead trees	12-24 dead trees	24-36 dead trees	36-48 dead trees	48 plus dead trees
	desired percent of landscape					
Cold upland forest	40-50	15-25	10-15	5-15	1-10	2-12
Moist upland forest	30-40	20-30	10-20	5-15	2-10	3-13
Dry upland forest	60-70	15-25	2-12	2-6	1-3	1-5
Lodgepole pine forest	55-65	5-15	5-15	2-6	1-4	2-12

Table xx. Ranges of Snags greater than or equal to 20 inches diameter at breast height (DBH)						
Potential Vegetation Group	Snags per acre (dead trees)					
	1-2 dead trees	2-6 dead trees	6-10 dead trees	10-14 dead trees	14-18 dead trees	18 plus dead trees
	desired percent of landscape					
Cold upland forest	70-80	10-20	1-3	1-10	2-4	1-3
Moist upland forest	55-65	15-25	2-6	5-9	2-6	1-5
Dry upland forest	75-85	10-20	1-3	2-4	1-2	1-2
Lodgepole pine forest	NA	NA	NA	NA	NA	NA

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