

FIELD INSTRUCTIONS
FOR THE ANNUAL INVENTORY OF
WASHINGTON, OREGON AND CALIFORNIA

2003



SUPPLEMENT FOR:
FIRE EFFECTS AND RECOVERY MEASUREMENTS
SIERRA NEVADA FOREST PLAN MEASUREMENTS

Forest Inventory and Analysis Program

Pacific Northwest Research Station

USDA Forest Service

FIELD INSTRUCTIONS
FOR THE ANNUAL INVENTORY OF
WASHINGTON, OREGON AND CALIFORNIA
2003

Based on Version 1.7 of the National Core Procedures Manual

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FIRE EFFECTS AND RECOVERY - TREE VARIABLES

This chapter describes the Fire Effects and Recovery tree variables to be recorded on individual tally trees.

When Collected:

P2 and P3 plots when Plot Attributes Item 14--Special study 2003a (Biscuit, Tiller, Apple, Timbered Rock Fires) = Y, record for all live or dead trees ≥ 1.0 in DBH/DRC tallied on the R6 CVS plot.

P2 and P3 plots when Plot Attributes Item 15--Special study 2003b (McNally Fire) = Y, record for all live or dead trees ≥ 1.0 in DBH/DRC tallied on the 4-point FIA national design microplot/subplot/annual/hectare plot.

Unless specified otherwise for an individual data item, record each of the following tree data items.

Tree variables

Item 50--Length to bottom of crown

Record the length of the bole, to the nearest foot, from the ground to the lowest branch of the pre-fire live crown. Use the lowest pre-fire branch regardless of any gaps between branches or sections of the pre-fire crown. Use scorched branches, branch remnants, and branch stubs as indicators of the pre-fire crown. If the pre-fire crown is undeterminable, record 999.

Field width: 3 digits
Tolerance: +/- 10%
Values: 0 to 300, 999

Items 51 thru Item 53--Crown percent

Record, to the nearest percent, the proportions of the pre-fire live crown volume (needles and branches) that are currently unburned, scorched, or burned. These three variables should total 100% for each tree.

Field width: 2 digits
Tolerance: +/- 10%
Values: 0 to 99

Item 51--% Unburned

Percent of the pre-fire crown volume currently with green needles and live branches. Include branches that have sprouted after the fire.

Item 52--% Scorched

Percent of the pre-fire crown volume currently with needles and branches scorched brown, red, orange, yellow or black.

Item 53--% Burned

Percent of the pre-fire crown volume currently with branches burned up and missing, or heavily scorched black.

Items 54 thru Item 57--Bole scorch length and azimuth

Record, to the nearest foot and degree, the length and azimuth of scorch on tree boles (see figures 1 and 2). Scorch where the tree bole has been burned or blackened by fire. If the tree is not scorched, or is completely scorched along its entire length and circumference, record both scorch length and azimuth as 999. If it is difficult to tell the scorch length and azimuth on the bole due to the bark coming off from beetles, birds or peeling, make a note in the tree notes.

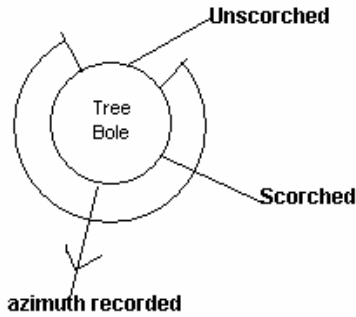


Figure 1

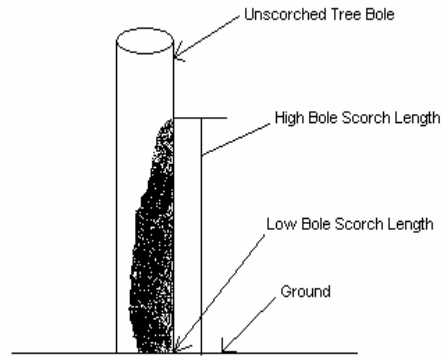


Figure 2

	<u>Length</u>	<u>Azimuth</u>
Field width:	3 digits	3 digits
Tolerance:	+/- 10	+/- 10 degrees
Values:	0-100, 999	001 to 360, 999

Item 54--Low scorch length

Record, to the nearest foot, the lowest extent of bole scorch.

Item 55--Low scorch azimuth

Record, to the nearest degree, the direction the lowest bole scorch faces. Measure the azimuth from the inside of the tree out. If the bole is scorched around its entire circumference at the point of low scorch, record 999.

Item 56--High scorch length

Record, to the nearest foot, the highest extent of bole scorch.

Item 57--High scorch azimuth

Record, to the nearest degree, the direction the highest bole scorch faces. Measure the azimuth from the inside of the tree out.

Item 58--Stem percent black

Record, to the nearest percent, the proportion of the main stem circumference (at the base of the tree above the forest floor surface) that is blackened.

Field width: 2 digits
 Tolerance: +/- 15%
 Values: 1 to 99

Item 59--Snag status

Record the appropriate code that describes the current status of branches on dead tally trees.

When Collected: Plot Attributes Item 14--Special study 2003a (Biscuit, Tiller, Apple, Timbered Rock Fires) = Y

Field width: 1 digit
 Tolerance: No errors
 Values:

Code	Definition
0	Some branches present after fire
1	Branchless due to fire (snag)
2	Had no branches prior to fire
9	Tree no longer standing

Item 60--Condition of branchless tree

Record the appropriate code that describes the current condition of dead tally trees.

Annual Inventory 2003
 Field Guide Supplement - Fire Effects and Recovery

When Collected: When Item 59--Snag Status = 1 or 2
 Field width: 1 digit
 Tolerance: No errors
 Values:

Code	Definition
3	Mostly intact
4	Loose bark
5	Bark fallen off or beetle evidence
6	Top broken (precedence over 3, 4, or 5)
7	Decomposed standing
8	Snag fallen over (takes precedence over all codes)

Item 61--Bark beetle status

Record the appropriate code describing bark beetle activity.

When Collected: When Plot Attributes Item 14--Special study 2003a (Biscuit, Tiller, Apple, Timbered Rock Fires) = Y, and tree has died since the time of the previous inventory.

Field width: 1 digit
 Tolerance: No errors
 Values:

Code	Description
0	No beetle damage
1	Unknown mortality
2	Current beetle attack
3	Last year's beetle attack
4	Older beetle attack

Item 62--Cause of death

Record the primary Cause of Death (C.O.D.) for all dead tally trees that have died since the time of the previous survey.

When Collected: When Plot Attributes Item 14--Special study 2003a (Biscuit, Tiller, Apple, Timbered Rock Fires) = Y, and tree has died since the time of the previous inventory.

Tolerance: No errors
 Values:

Code	Cause of Death
10	Insects
20	Diseases
30	Fire
40	Animals
50	Weather
60	Vegetation (suppression, competition, vines)
70	Unknown/not sure/other (includes in notes)
80	Human-caused (cultural, logging, accidental, etc)
90	Physical (hit by falling tree)
91	Girdling (death resulting from a timber stand improvement, TSI, girdling treatment - bark removed from entire circumference of a tree)
92	Poison (death resulting from TSI poison treatment)
97	TSI - cut and left (trees felled during TSI activities but not removed from the forest)
98	Logging - cut and left (trees felled during a logging operation but not removed from the area)
99	Logging - cut and removed (trees felled during a logging operation and removed from the forest) - Remeasurement trees only.

Item 63--Fire tree status

Record the appropriate code describing post-fire tree impacts.

Annual Inventory 2003
Field Guide Supplement - Fire Effects and Recovery

Field width: 2 digits
Tolerance: No errors
Values:

Code	Definition
00	No change from pre-fire status due to fire impact
11	Pre-fire broken/missing top tally tree
12	Pre-fire down tally tree
13	Pre-fire cut/removal
21	Post-fire broken/missing top tally tree
22	Post-fire down tally tree
23	Post-fire cut/removal tally tree

Item 64--Notes

Record notes pertaining to the Fire Effects And Recovery tree variables. If data is being recorded on the PNW-FIA data recorder, record notes in the Item-49Tree Notes field. If data is being recorded on paper, use the column for Item 64--Notes on the Fire Effects and Recovery Tree Variables Data Form.

Field width: Alphanumeric character field
Tolerance: N/A
Values: English language words, phrases and numbers

FIRE EFFECTS AND RECOVERY - GROUND SURFACE COVER

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Item 29--Total brown cubical rot % cover	15
Item 30--% Unburned brown cubical rot	15
Item 31--% Light char brown cubical rot	15
Item 32--% Moderate char brown cubical rot	15
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Item 37--% Moderate char new moss	16
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Item 43--% Light char new liverworts	16
Item 44--% Moderate char new liverworts	16
Item 45--% Deep char new liverworts	16
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FIRE EFFECTS AND RECOVERY - GROUND SURFACE COVER

This chapter describes the ground surface cover data to be recorded on individual 6.8 ft horizontal radius sample areas.

When Collected:

P2 and P3 plots when Plot Attributes Item 14--Special study 2003a (Biscuit, Tiller, Apple, Timbered Rock Fires) = Y, sampled at each of the 5-subplot centers on the previously established Region 6 CVS plot. This includes the approximately 5 R6 CVS plots being remeasured on R6 National Forests in CA. No Ground Surface Cover measurements are taken on non-National Forest land in OR.

P2 and P3 plots when Plot Attributes Item 15--Special study 2003b (McNally Fire) = Y, sampled at each of the 4-subplot FIA national design microplot centers (located 12.0 ft @ 90 deg. from subplot center).

Ground Surface Cover Variables

Evaluate the 6.8 ft radius sample area and record the percent cover for each surface cover type. Evaluate each cover type independently of the others, ie. overlap may result in a total 100%. Include the cover type component up to 1.0 ft height, or on an object that is on the ground, ie. include moss on a 14.0 in diameter log which is on the ground.

Field width: 2 digits
 Tolerance: no errors
 Values: 0 to 99

	<u>Cover %s</u>	<u>Depths</u>
Field width:	3 digits	3 digits
Tolerance:	+/- 10	+/- 0.5 in
Values:	0 to 99	00.0 to 24.0

Microplot Cover Estimation Guide

%	area (sq ft)	radius (ft)	square (ft)
1	1.4	0.6	1.2
10	14.5	2.1	3.8
20	29.0	3.0	5.3
30	43.5	3.7	6.6
40	58.0	4.3	7.6
50	72.6	4.8	8.5
60	87.1	5.2	9.3
70	101.6	5.6	10.0
80	116.1	6.0	10.7
90	130.6	6.4	11.4
100	145.2	6.8	12.0

(Hint: 8.5" x 11" is equal to about 0.5% coverage)

Item 1--Total sample area burned %

Record the percent of the 6.8 ft radius sample area that was burned in the fire (McNally or Biscuit).

Items 2 thru 48

When collected: When Item 1 is > 0.

Item 2--Aspect

Record the average direction (aspect) that the 6.8 ft radius sample area faces. Use just the area within the 6.8 ft radius when evaluating aspect, not the surrounding area. Record "999" for indeterminate aspects (multiple directions).

Field width: 3 digits
 Tolerance: +/- 10 degrees
 Values:

Code	Aspect
000	no aspect, slope < 5 percent
001	1 degree
002	2 degrees
*	*
*	*
360	360 degrees, due north
999	Indeterminate aspect

Item 3--New litter % cover

Record the % of the 6.8 ft sample area covered by new litter that has fallen onto the ground since the fire. New litter for burn severity purposes is any needle, twig, or branch that is ≤ 2.9 in diameter. Pinecones of any size, newly fallen burnt bark chips, and bark layers are included. In the Plot Notes, record the percent of new litter that is comprised of bark chips flakes that have fallen off trees since the fire.

Items 4 thru 7--Depth of new litter

Record the depth of the new litter, to the nearest 0.1 in, that has fallen onto the ground since the fire. Take 4 measurements at 3.4 ft from the center of the sampling area on cardinal directions (N, E, S, W). If the point of measurement is not burned, record 999.

Item 8--% Unburned previous litter

Record the percent of the 6.8 ft sample area covered by unburned litter that still exists from before the fire. Unburned litter shows no sign of charcoal.

Item 9--% Light char previous litter

Record the percent of the 6.8 ft sample area covered by lightly charred litter that still exists from before the fire. Lightly charred litter shows sign of charcoal

Items 10 thru 13--Depth of previous litter

Record the depth of the remaining previous litter (unburned and light char), to the nearest 0.1 in, that still exists from before the fire. Take 4 measurements at 3.4 ft from the center of the sampling area on cardinal directions (N, E, S, W). If the point of measurement is not burned, record 999.

Item 14--% Unburned previous humus

Record the percent of the 6.8 ft sample area covered by humus that still exists from before the fire. Humus is the decomposed organic layer formed underneath litter

Item 15--% Light char previous humus

Record the percent of the 6.8 ft sample area covered by humus that still exists from before the fire that is lightly charred. Light char humus is blackened and can still be identified.

Items 16 thru 19--Depth of previous humus

Record the depth of the remaining humus, to the nearest 0.1 in, that still exists from before the fire. Take 4 measurements at 3.4 ft from the center of the sampling area on cardinal directions (N, E, S, W). If the point of measurement is not burned, record 999.

Item 20--Total mineral soil % cover

Record the percent of the 6.8 ft sample area covered by surface mineral soil. Disregard new litter when evaluating the coverage. The following 4 surface mineral soil components are included in this Item, and will total 100%.

Item 21--% Unburned mineral soil

Record the % of Item 20--Total mineral soil % cover that is comprised of mineral soil that shows no sign of charcoal.

Item 22--% Light char mineral soil

Record the % of Item 20--Total mineral soil % cover that is comprised of mineral soil that is blackened.

Item 23--% Moderate char mineral soil

Record the % of Item 20--Total mineral soil % cover that is comprised of mineral soil that is ash (gray) colored.

Item 24--% Deep char mineral soil

Record the % of Item 20--Total mineral soil % cover that is comprised of mineral soil that is charred an orange colored.

Item 25--Total rock % cover

Record the percent of the 6.8 ft sample area covered by surface rock. Disregard new litter when evaluating the coverage. The following 3 rock components are included in this Item, and will total 100%.

Item 26--% Unburned rock

Record the % of Item 25--Total rock % cover that is comprised of rock that shows no sign of charcoal or being burnt.

Item 27--% Light char rock

Record the % of Item 25--Total rock % cover that is comprised of rock that is blackened around the edges.

Item 28--% Moderate char rocks

Record the % of Item 25--Total rock % cover that is comprised of rock that is surrounded by orange or gray mineral soil, completely burned over. Moderate char also includes rocks that are heavily charred.

Item 29--Total brown cubical rot % cover

Record the percent of the 6.8 ft sample area covered by surface brown (brown or white) cubical rotten wood. Brown cubical rot is a separate category and is not included in the litter layer. Disregard new litter when evaluating the coverage. The following 4 brown cubical rot components are included in this Item, and will total 100%.

Item 30--% Unburned brown cubical rot

Record the percent of Item 29--Total brown cubical rot % cover that is comprised of unburned brown cubical rot that shows no sign of charcoal or being burnt.

Item 31--% Light char brown cubical rot

Record the percent of Item 29--Total brown cubical rot % cover that is comprised of brown cubical rot that is only burned on its upper surface.

Item 32--% Moderate char brown cubical rot

Record the percent of Item 29--Total brown cubical rot % cover that is comprised of brown cubical rot that is burned all the way around the piece, but is still intact.

Item 33--% Deep char brown cubical rot

Record the percent of Item 29--Total brown cubical rot % cover that is comprised of brown cubical rot that that only shows the imprint of being present. This material is completely consumed, but can still be detected.

Item 34--Total new moss % cover

Record the percent of the 6.8 ft sample area covered by surface moss that has grown in since the fire. Disregard new litter when evaluating the coverage. The following 4 moss components are included in this Item, and will total 100%.

Item 35--% Unburned new moss

Record the percent of Item 34--Total new moss % cover that is comprised of moss growing on unburned material.

Item 36--% Light char new moss

Record the percent of Item 34--Total new moss % cover that is comprised of moss growing on lightly charred material.

Item 37--% Moderate char new moss

Record the percent of Item 34--Total new moss % cover that is comprised of moss growing on moderately charred material.

Item 38--% Deep char new moss

Record the percent of Item 34--Total new moss % cover that is comprised of moss growing on deeply charred material. Almost complete consumption by the fire, but the moss is detectable.

Item 39--Existing unburned moss % cover

Record the percent of the 6.8 ft sample area covered by unburned moss that existed before the fire.

Item 40--Existing light char moss % cover

Record the percent of the 6.8 ft sample area covered by lightly charred moss that existed before the fire.

Item 41--Total new liverworts % cover

Record the percent of the 6.8 ft sample area covered by growing liverworts which have grown in since the fire. Disregard new litter when evaluating the coverage. The following 4 liverwort components are included in this Item, and will total 100%.

Item 42--% Unburned new liverworts

Record the percent of Item 41--Total new liverworts % cover that is comprised of liverworts growing on unburned material.

Item 43--% Light char new liverworts

Record the percent of Item 41--Total new liverworts % cover that is comprised of liverworts growing on material that is lightly charred.

Item 44--% Moderate char new liverworts

Record the percent of Item 41--Total new liverworts % cover that is comprised of liverworts growing on material that is moderately charred.

Item 45--% Deep char new liverworts

Record the percent of Item 41--Total new liverworts % cover that is comprised of liverworts growing on material that is deeply charred.

Item 46--Total new lichens % cover

Record the percent of the 6.8 ft sample area covered by lichens which have grown in since the fire. Disregard new litter when evaluating the coverage. The following 4 lichen components are included in this Item, and will total 100%.

Item 47--% Unburned new lichens

Record the percent of Item 46--Total new lichens % cover that is comprised of lichens growing on unburned material.

Item 48--% Light char new lichens

Record the percent of Item 46--Total new lichens % cover that is comprised of lichens growing on lightly charred material.

Item 49--% Moderate char new lichens

Record the percent of Item 46--Total new lichens % cover that is comprised of lichens growing on moderately charred material.

Item 50--% Deep char new lichens

Record the percent of Item 46--Total new lichens % cover that is comprised of lichens growing on deeply charred material.

FIRE EFFECTS AND RECOVERY - GROUND SURFACE COVER DATA FORM

HEX # _____

DATE ____/____/____

Item	SUBPLOT	1	2	3	4	5 (R6)
1	Total sample area burned %	..				
2	Aspect	...				
3	New litter % cover	..				
4	Depth of new litter N	...				
5	Depth of new litter E	...				
6	Depth of new litter S	...				
7	Depth of new litter W	...				
8	% Unburned previous litter	..				
9	% Light char previous litter	..				
10	Depth of previous litter N	...				
11	Depth of previous litter E	...				
12	Depth of previous litter S	...				
13	Depth of previous litter W	...				
14	% Unburned previous humus	..				
15	% Light char previous humus	..				
16	Depth of previous humus N	...				
17	Depth of previous humus E	...				
18	Depth of previous humus S	...				
19	Depth of previous humus W	...				
20	Total mineral soil % cover	..				
21	% Unburned mineral soil	..				
22	% Light char mineral soil	..				
23	% Moderate char mineral soil	..				
24	% Deep char mineral soil	..				
25	Total rock % cover	..				
26	% Unburned rock	..				
27	% Light char rock	..				
28	% Moderate char rock	..				
29	Total brown cubical rot % cover	..				
30	% Unburned brown cubical rot	..				
31	% Light char brown cubical rot	..				
32	% Mod char brown cubical rot	..				
33	% Deep char brown cubical rot	..				
34	Total new moss % cover	..				
35	% Unburned new moss	..				
36	% Light char new moss	..				
37	% Moderate char new moss	..				
38	% Deep char new moss	..				
39	Existing unburned moss % cover	..				
40	Existing light char moss % cover	..				
41	Total new liverworts % cover	..				
42	% Unburned new liverworts	..				
43	% Light char new liverworts	..				
44	% Moderate char new liverworts	..				
45	% Deep char new liverworts	..				
46	Total new lichens % cover	..				
47	% Unburned new lichens	..				
48	% Light char new lichens	..				
49	% Moderate char new lichens	..				
50	% Deep char new lichens	..				

FIRE EFFECTS AND RECOVERY - P2+ UNDERSTORY VEGETATION

This item describes when P2 Understory Vegetation protocols are augmented to include additional plant species.

When Collected:

P2 and P3 plots when Plot Attributes Item 14--Special study 2003a (Biscuit, Tiller, Apple, Timbered Rock Fires) = Y, sampled at each of the 5-subplot centers on the previously established Region 6 CVS plot. This includes the approximately 5 R6 CVS plots being remeasured on R6 National Forests in CA.

See the instructions in the 2003 Field Procedures Manual, Chapter VIII UNDERSTORY VEGETATION for instructions regarding Special Studies 2003 A and B.

FIRE EFFECTS AND RECOVERY - UNDERSTORY VEGETATION VARIABLE

This item describes when P2 Understory Vegetation protocols are augmented to include one additional plant measurement.

When Collected:

P2 and P3 plots when Plot Attributes Item 14--Special study 2003a (Biscuit, Tiller, Apple, Timbered Rock Fires) = Y, sampled at each of the 4-subplot FIA national design subplot centers.

P2 and P3 plots when Plot Attributes Item 15--Special study 2003b (McNally Fire) = Y, sampled at each of the 4-subplot FIA national design subplot centers.

See the instructions in the 2003 Field Procedures Manual, Chapter VIII UNDERSTORY VEGETATION page 117 for instructions in Section C. Lifeform and total vegetation records. In Item 4--Percent total vegetation cover, also collect the percent of shrubs (only include species which actually do sprout) that have sprouted since the fire.

FIRE EFFECTS AND RECOVERY - TREE CROWN TRANSECTS

This chapter describes tree crown cover data to be recorded along the transects installed for DWD measurements.

When Collected:

P2 and P3 plots when Plot Attributes Item 15--Special study 2003b (McNally Fire) = Y, sampled at each of the 4-subplot FIA national design microplot centers (located 12.0 ft @ 90 deg. from subplot center).

Tree crown cover transects

Record a code indicating the tree crown cover at each of 9 points along the 2 - 58.9 ft DWD transects established at each subplot on the 4 point FIA national design plot. Starting at 6.0 ft from subplot center, record an observation every 6.0 ft of slope distance. If live tree foliage (see Appendix 7 - Tree Species) of any height covers the sample point, record code 1 (Yes). If no live tree foliage covers the sample point record code 0 (No) If a point on the transect cannot be sampled (hazardous, access denied, etc) record code 9.

When Collected: When Plot Attributes Item 15--Special study 2003b (McNally Fire) = Y

Field width: 1 digit

Tolerance:

Values:

Code	Tree cover present?
0	No
1	Yes
9	Not sampled

FIRE EFFECTS AND RECOVERY - CROWN TRANSECT DATA FORM

HEX # _____

DATE ____/____/____

SUBPLOT	TRAN	6'	12'	18'	24'	30'	36'	42'	48'	54'
X	xxx	x	x	x	x	x	x	x	x	x
1	150									
1	270									
2	30									
2	150									
3	30									
3	150									
4	150									
4	270									

FIRE EFFECTS AND RECOVERY - DOWN WOODY DEBRIS

This chapter describes modifications to the standard DWD procedures used for P2 and P3 plots.

When Collected:

P2 and P3 plots when Plot Attributes Item 15--Special study 2003b (McNally Fire) = Y

Using the same procedures and codes established for P2 and P3 plots, collect the following DWD measurement on the additional tally pieces specified:

DWD Item 11--Percent of log charred by fire (CHARR)

For all logs ≥ 20 in. diameter at the point of intersection and in decay class 1,2, or 3, record a 1-digit code that represents the percentage of the log's surface area that has been charred by fire. Only examine the visible surface of the log. This data will be used by wildlife biologists to determine the impact fire has had on wildlife habitat. Wildlife tend to avoid charred logs because fire seals the wood making it slow to rot and hard to excavate.

Addition of tally pieces 3.0 in to 19.9 in

Addition of tally pieces in Decay Class 4

When Collected: All tally pieces ≥ 3.0 in Transect Diameter and Decay 1, 2, 3, **and 4**

Tolerance: +/- 1 class

Values:

Code	Definition
0	None of the log is charred by fire
1	Up to 1/3 of the log is charred by fire
2	1/3 to 2/3 of the log is charred by fire
3	2/3 or more of the log is charred by fire

FIRE EFFECTS AND RECOVERY - PLOT PHOTOGRAPHS

This chapter describes procedures for taking digital photographs of the plot area.

When Collected:

P2 and P3 plots when Plot Attributes Item 15--Special study 2003b (McNally Fire) = Y, sampled on the 4-subplot FIA national design plot.

Photographs taken of McNally Fire plots

- Photos are taken at cardinal directions on the hectare boundary facing the plot center.
- It is important to photograph both the tops of the trees and the ground. It may be necessary to take photos with the camera oriented horizontally and vertically.
- Use a white board to identify the plot with the following label:
 - FIA_HEX_ID
 - Letter identifying the cardinal direction (N, E, S, W)
 - Number identifying the photograph number taken from that cardinal position (1, 2, 3, etc)
- Label example = 7568_N, 1
- The next photo from that position would be labeled 7568_N_2
- Electronically label each photo with the same name as above (File name example = 7568_N_1)

SIERRA NEVADA FOREST PLAN MEASUREMENTS

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SNFP - CONDITION CLASS AFFECTORS

This item describes procedures for recording the presence of affectors within the plot area.

When Collected:

When Plot Attributes Item 15--Special study 2003d (SNFP P2) = Y, and
Condition Class Attributes Item 4 OWNER GROUP = 10 (Forest Service)
All accessible forest land condition classes (CONDITION STATUS = 1)

Field width: 2 digits

Tolerance: +/- 20%

Values: 0 to 99

Record the proportion of the condition class area within the 58.9' radius subplots that is affected by the following disturbance factors. Include only the disturbance percent that is currently visible (ie. if the plot burned 50 years ago, but evidence of the fire is no longer visible, do not include that fire as a disturbance).

Information on many of these affectors is also recorded for the entire Condition Class. For this item, only the area within each 58.9 ft subplot is evaluated. Describing affectors will help improve the understanding of proximal influences on old forest and hardwood ecosystem conditions.

Affector	Description
Fire and fuel treatment	Evidence of recent (within the last 5 years) fire
Cutting	The removal of trees from a stand. (other than below)
Clearcut	Residual trees of all sizes have <25 percent crown cover. The residual trees usually are cull trees and low-value hardwoods. Not a firewood or local use harvest.
Partial cut (heavy) ($\geq 20\%$ removed)	Remaining trees comprise >25 percent crown cover and ≥ 20 percent of the trees live and 5.0 in. d.b.h./d.r.c. or larger were harvested. The residual stand usually consists of commercially desirable trees. Not a firewood or local use harvest.
Partial cut (light) (<20% removed)	Remaining trees comprise >25 percent crown cover and <20 percent of the trees live and 5.0 in. d.b.h./d.r.c. or larger were harvested. The residual stand usually consists of commercially desirable trees. Not a firewood or local use harvest.
Firewood or local use cut	The harvest of trees for firewood, or the harvest of trees for products manufactured and used locally by "do-it-yourselfers", often on the ownership of origin, for improvements such as buildings, bridges and fences.
Incidental cut	Includes 1) the haphazard, seemingly random harvest of occasional trees in an otherwise undisturbed stand, or 2) the harvest of one or more trees sampled or reconstructed as live at Oc5 in a harvest activity which occurred primarily in an adjacent unmapped condition class but slopped over a bit into a mapped condition, or 3) any harvest activity that does not qualify as another kind of disturbance.
Precommercial thin	An intermediate harvest in which excess growing stock are cut but not removed.
Improvement cut	Cutting of commercial-sized, unsalable trees to free crop trees from competition. Improvement cutting differs from a commercial thinning in that the trees cut are not marketable.
Site preparation	Clearing, slash burning, chopping, disking, bedding, or other practices clearly intended to prepare a site for either natural or artificial regeneration.
Artificial regeneration	Planting or direct seeding has resulted in a stand at least 50% stocked with live trees of any size. (other than below)
Planting throughout the stand	Planting the area to establish a manageable stand.
Planting within nonstocked holes in the stand	Planting of nonstocked openings to fill-in or create a manageable stand
Underplanting	Planting under a sawtimber overstory.
Natural regeneration	Growth of existing trees and/or natural seeding has resulted in a stand at least 50% stocked with live trees of any size.
Other silvicultural treatment	The use of fertilizers, herbicides, girdling, pruning or other activities (not already listed above) designed to improve the commercial value of the residual stand.

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Chaining	Removal or killing of undesired woody species, not a silvicultural treatment.
Exotic species	Use vegetation procedures for weeds
Roads	Roads currently useable by motorized vehicles including 4 wheel drive roads
Abandoned roads	Roads no longer useable by or open to motorized vehicles
Grazing	Evidence of grazing
Landscape fragmentation	Indicate if the vegetation is not continuous as a result of disturbance. It may be due to fire or some type of treatment
Recreation and recreational development	Developed areas for recreational use such as camping or the presence of hiking or other kinds of development trails

SNFP - CONDITION CLASS AFFECTORS DATA FORM

HEX # _____

DATE ____/____/____

Affectors	Subplot 1			Subplot 2			Subplot 3			Subplot 4		
	CC #	CC #	CC #	CC #	CC #	CC #	CC #	CC #	CC #	CC #	CC #	
Fire and fuel treatment												
Cutting												
Clearcut												
Partial cut (heavy) (>20% removed)												
Partial cut (light) (<20% removed)												
Firewood or local use cut												
Incidental cut												
Precommercial thin												
Improvement cut												
Site preparation												
Artificial regeneration												
Planting through- out the stand												
Planting within nonstocked holes in the stand												
Underplanting												
Natural regeneration												
Other silvicultural treatment												
Chaining												
Exotic species												
Maintained roads												
Roads												
Abandoned roads												
Grazing												
Landscape fragmentation												
Recreation and recreational development												

SNFP - P3 UNDERSTORY VEGETATION

As a part of the SNFP study P3 Understory vegetation measurements are taken on all P3 plots within the Sierra Nevada Forest Plan area.

When Collected:

When Plot Attributes Item 15--Special study 2003c (SNFP P3) = Y, and
Condition Class Attributes Item 4 OWNER GROUP = 10 (Forest Service)

Approximately 24 plots are included in this study. When P3 field plots within the Sierra Nevada Forest Plan area are installed, P3 Understory Vegetation measurements will be taken. The botanist will revisit the plot within 30 to 60 days of initial establishment to remeasure the P3 Understory Vegetation.

SNFP - P3 VEGETATION TRANSECTS

As a part of the SNFP study Vegetation Transect measurements are taken on all P3 plots within the Sierra Nevada Forest Plan area.

When Collected:

When Plot Attributes Item 15--Special study 2003c (SNFP P3) = Y, and
Condition Class Attributes Item 4 OWNER GROUP = 10 (Forest Service)

Approximately 24 plots are included in this study. When P3 field plots within the Sierra Nevada Forest Plan area are installed, Vegetation Transect measurements will be taken. The botanist will revisit the plot within 30 to 60 days of initial establishment to remeasure the Vegetation Transects. These data are used to calculate the relative frequency of plant species.

PART 1

Along each of the three 24.0 ft. Coarse Woody Debris transects, the vertical diversity of vegetation is described within all accessible condition classes. Transects serve as point intercept lines. Starting at 3.0 ft slope distance from subplot center, and every 3.0 ft slope distance thereafter, record all plant species who's foliage intersects the left side of the tape at any height above the tape within each of the following height intervals. Each 3 ft interval up to 30 ft and each 15 ft interval thereafter. Only the presence of the species in the height interval is noted regardless of the number of individuals present. One individual plant could also occur in more than one height interval. For each species that intersects a height interval along the vertically projected point, the species is recorded using P3 Understory Vegetation procedures and the P3 PLANTS code.

If no plant species are intersected at a measurement point, enter a record with Species 000.

If a measurement point is not sampled (condition class is Hazardous, Access Denied, Water, etc..), enter a record with Species 999.

Data forms for Part 1 of SNFP Vegetation Transects will be supplied by Lloyd Simpson

PART 2

For 3.0 ft lengths along the Coarse Woody Debris transect starting at slope distances of 0 ft and 14.0 ft, the percentage of the 3.0 ft length along the left side of the tape occupied by each of 7 ground cover types is estimated: herbaceous plant, grass, shrub, tree, rock, litter, bare soil. All plants identified to species using P3 Understory Vegetation procedures and the P3 PLANTS code.

SNFP - VEGETATION TRANSECT DATA FORM

HEX # _____

DATE ___/___/___

SUB PL	TRAN	SEGMENT	HERB	GRASS	SHRUB	TREE	ROCK	LITTER	BARE SOIL
x	xxx		xx	xx	xx	xx	xx	xx	xx
1	30	0 to 3							
		14 to 17							
	150	0 to 3							
		14 to 17							
	270	0 to 3							
		14 to 17							
2	30	0 to 3							
		14 to 17							
	150	0 to 3							
		14 to 17							
	270	0 to 3							
		14 to 17							
3	30	0 to 3							
		14 to 17							
	150	0 to 3							
		14 to 17							
	270	0 to 3							
		14 to 17							
4	30	0 to 3							
		14 to 17							
	150	0 to 3							
		14 to 17							
	270	0 to 3							
		14 to 17							