

MU/Stand \_\_\_\_\_

Estimated Acreage: \_\_\_\_\_

**Owner's Name** \_\_\_\_\_

**Plan Author (if not owner)** \_\_\_\_\_

# Stand Analysis Form

A "healthy forest" must be defined by the natural history of the area and the growth characteristics of the tree species that currently occupy the site. In general, a healthy forest has a majority of trees that are vigorous and resistant to uncharacteristic insect and disease outbreaks and has the ability to sustain itself as a forest through tree survival or tree regeneration when affected by wildfire.



## Current Condition

### Total % cover by larger diameter species (> 9 inches diameter 4.5 ft from ground > 30 ft tall)

Species	% of Forested Area	Age
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____

PP Ponderosa pine  
 DF Douglas-fir  
 LPP Lodgepole pine  
 WL Western Larch  
 GF Grand fir  
 ES Engelmann spruce  
 WRC Western red cedar  
 WH Western hemlock  
 WP White pine  
 SAF Subalpine fir  
 LP Limber pine  
 RMJ Rocky mtn. juniper  
 QA Quaking aspen  
 CW Cottonwood  
 Green Ash

### Total% cover by smaller diameter species - Poles (5-9 inches diameter 4.5 ft from ground < 30 ft tall)

Species	% of Forested Area	Age
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____

### Predominant stand tree structure (percent of the management unit)

Single canopy layer \_\_\_\_\_  
 Two canopy layers (Overstory + seedlings) \_\_\_\_\_  
 Three canopy layers (Overstory + poles, Poles + seedlings) \_\_\_\_\_



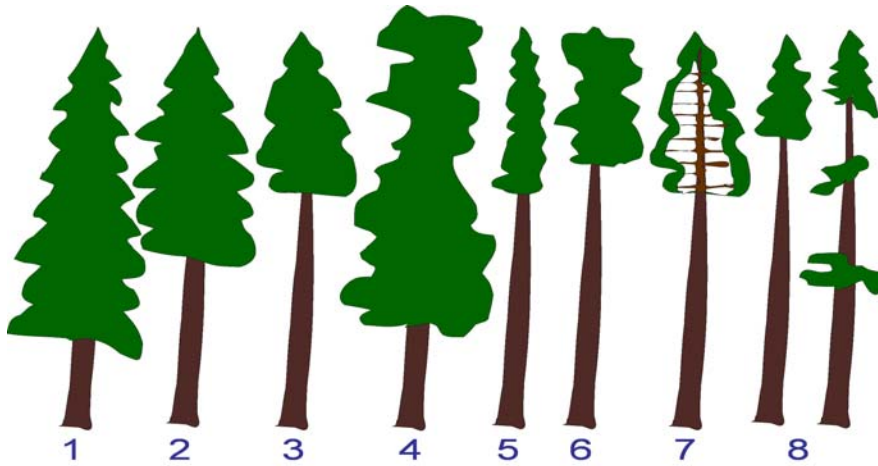
### Average age of size classes

Seedlings/Saplings \_\_\_\_\_ Poles (5-9" diameter) \_\_\_\_\_ Large (>9" diameter) \_\_\_\_\_

### Insect and disease symptoms noted (list species and percent of the trees showing symptoms)

Bark beetle attack \_\_\_\_\_ Mistletoe/branch brooming \_\_\_\_\_  
 Excessive pitch streaming \_\_\_\_\_ Visible butt/root decay \_\_\_\_\_  
 Broken stems/windthrow \_\_\_\_\_ Stem galls (western gall rust) \_\_\_\_\_

**Stand vigor rating (use diagram below and list percent of each tree species in major crown class)**



Species 1 \_\_\_\_\_ Crown classes \_\_\_\_\_  
 Species 2 \_\_\_\_\_ Crown classes \_\_\_\_\_  
 Species 3 \_\_\_\_\_ Crown classes \_\_\_\_\_

**Fire Hazard (circle High, Med, or Low in each category)**

Trees with fuel ladders      high > 30%      med 10 – 29%      low < 10%  
 Tree Crowns touching      high > 50%      med 10 – 49%      low < 10%  
 Fine fuels (grasses taller than 2ft, > 2" deep pine needles, brush, branches)      High      Med      Low  
 Large fuels (branches larger than 2 inches diameter, logs)      High      Med      Low  
 Ground Fuel Continuity      High – mostly touching      Med – occasionally touching      Low – rarely touching

Overall Wildfire risk (total circled above)  
High = any two highs marked      Moderate = two or more med      Low = one med or less

Adjacent Management Unit/Ownership Wildfire Risk:      High      Moderate      Low

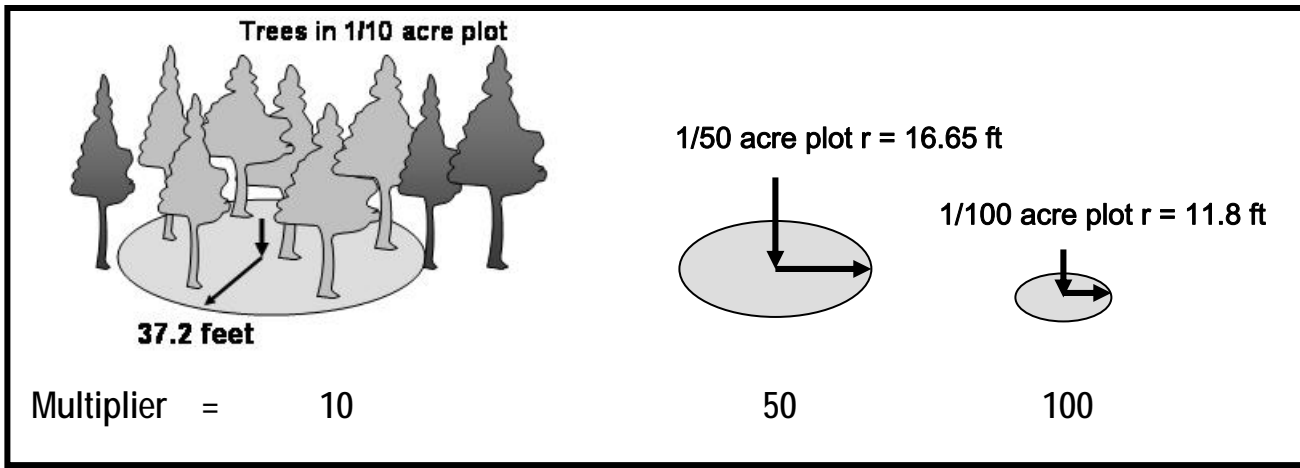
**Stream/wetland present in Management Unit**

Streams    Class I – length \_\_\_\_\_      Class II – length \_\_\_\_\_      Class III – length \_\_\_\_\_  
 # Ponds \_\_\_\_\_ approximate sizes \_\_\_\_\_  
 Lakeshore (name of lake and distance of shoreline) \_\_\_\_\_  
 Bogs/wetland (acreage) \_\_\_\_\_

**Soil considerations** (circle all that apply)      deep (>2 feet)      shallow (<2 feet)  
 May have a mix of textures  
rocky    gravelly    fine    sandy    clay      well drained      poorly drained

Other considerations: \_\_\_\_\_

**Tree Density** (For dense forest of mature trees choose smaller plot size that will include 5 to 10 trees)



# Large diameter trees (>9" DBH) per \_\_\_\_\_ acre plot \_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_ trees per acre  
(choose plot size)                      (# of trees)                      (multiplier)

# Snags per plot per \_\_\_\_\_ acre plot \_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_ large snags per acre  
(choose plot size)                      (# of trees)                      (multiplier)

# Pole sized trees (5-9" DBH) per \_\_\_\_\_ acre plot \_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_ poles per acre  
(choose plot size)                      (# of trees)                      (multiplier)

# Snags per plot per \_\_\_\_\_ acre plot \_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_ small snags per acre  
(choose plot size)                      (# of trees)                      (multiplier)

# Seedling/Sapling trees per 1/100 acre plot \_\_\_\_\_ x 100 = \_\_\_\_\_ seedlings per acre

% of soil covered by understory vegetation per 1/100 acre plot \_\_\_\_\_ x 100 = \_\_\_\_\_ % vegetation cover per acre

**Site index - (Optional)**

Species \_\_\_\_\_ Age \_\_\_\_\_ Height \_\_\_\_\_ Site index \_\_\_\_\_

Species \_\_\_\_\_ Age \_\_\_\_\_ Height \_\_\_\_\_ Site index \_\_\_\_\_

**Tree growth rates**

Large tree averages (based on 3 or more trees sampled per species)

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20%;">Species</td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td></tr> <tr><td>DBH</td><td></td><td></td><td></td></tr> <tr><td>Age</td><td></td><td></td><td></td></tr> <tr><td>Rings/last 1 inch</td><td></td><td></td><td></td></tr> <tr><td>Average DBH</td><td></td><td style="background-color: #cccccc;"></td><td></td></tr> <tr><td>Average Age</td><td></td><td style="background-color: #cccccc;"></td><td></td></tr> <tr><td>Average total increment (1/2 DBH/Age)</td><td></td><td></td><td></td></tr> </table>	Species				DBH				Age				Rings/last 1 inch				Average DBH				Average Age				Average total increment (1/2 DBH/Age)				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20%;">Species</td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td></tr> <tr><td>DBH</td><td></td><td></td><td></td></tr> <tr><td>Age</td><td></td><td></td><td></td></tr> <tr><td>Rings/last 1 inch</td><td></td><td></td><td></td></tr> <tr><td>Average DBH</td><td></td><td style="background-color: #cccccc;"></td><td></td></tr> <tr><td>Average Age</td><td></td><td style="background-color: #cccccc;"></td><td></td></tr> <tr><td>Average total increment (1/2 DBH/Age)</td><td></td><td></td><td></td></tr> </table>	Species				DBH				Age				Rings/last 1 inch				Average DBH				Average Age				Average total increment (1/2 DBH/Age)			
Species																																																									
DBH																																																									
Age																																																									
Rings/last 1 inch																																																									
Average DBH																																																									
Average Age																																																									
Average total increment (1/2 DBH/Age)																																																									
Species																																																									
DBH																																																									
Age																																																									
Rings/last 1 inch																																																									
Average DBH																																																									
Average Age																																																									
Average total increment (1/2 DBH/Age)																																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20%;">Species</td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td></tr> <tr><td>DBH</td><td></td><td></td><td></td></tr> <tr><td>Age</td><td></td><td></td><td></td></tr> <tr><td>Rings/last 1 inch</td><td></td><td></td><td></td></tr> <tr><td>Average DBH</td><td></td><td style="background-color: #cccccc;"></td><td></td></tr> <tr><td>Average Age</td><td></td><td style="background-color: #cccccc;"></td><td></td></tr> <tr><td>Average total increment (1/2 DBH/Age)</td><td></td><td></td><td></td></tr> </table>	Species				DBH				Age				Rings/last 1 inch				Average DBH				Average Age				Average total increment (1/2 DBH/Age)				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20%;">Species</td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td></tr> <tr><td>DBH</td><td></td><td></td><td></td></tr> <tr><td>Age</td><td></td><td></td><td></td></tr> <tr><td>Rings/last 1 inch</td><td></td><td></td><td></td></tr> <tr><td>Average DBH</td><td></td><td style="background-color: #cccccc;"></td><td></td></tr> <tr><td>Average Age</td><td></td><td style="background-color: #cccccc;"></td><td></td></tr> <tr><td>Average total increment (1/2 DBH/Age)</td><td></td><td></td><td></td></tr> </table>	Species				DBH				Age				Rings/last 1 inch				Average DBH				Average Age				Average total increment (1/2 DBH/Age)			
Species																																																									
DBH																																																									
Age																																																									
Rings/last 1 inch																																																									
Average DBH																																																									
Average Age																																																									
Average total increment (1/2 DBH/Age)																																																									
Species																																																									
DBH																																																									
Age																																																									
Rings/last 1 inch																																																									
Average DBH																																																									
Average Age																																																									
Average total increment (1/2 DBH/Age)																																																									

Desired Future Condition - Timber

MU \_\_\_\_\_

Desired mature tree species (% of forested area) and expected longevity (maximum age you expect trees to reach before they die of natural causes or are harvested)

Species	% of Forested Area	Age
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____

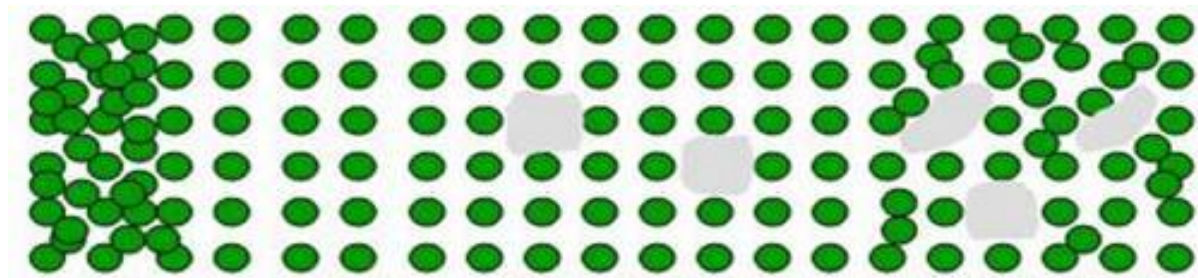
- PP Ponderosa pine
- DF Douglas-fir
- LPP Lodgepole pine
- WL Larch
- GF Grand fir
- ES Engelmann spruce
- WRC W. Red cedar
- WH Western hemlock
- WP White pine
- SAF Sub-alpine fir
- LP Limber pine
- RMJ rocky mtn. juniper
- QA Aspen
- CW Cottonwood Green ash

Desired species to naturally regenerate \_\_\_\_\_

Desired species to plant \_\_\_\_\_

**Bird's-eye view of forest (check one)**

- Wild stand     
  Evenly spaced     
  Evenly spaced with openings     
  Variable density spaced with openings



- Some wildlife     
  Maximizes growth     
  Growth + regeneration     
  Some growth + regeneration + wildlife

Desired spacing (in feet) Large (>9"DBH) \_\_\_\_\_ (ft)  
 Pole (5-8"DBH) \_\_\_\_\_ (ft)    Seedling(<5"DBH) \_\_\_\_\_ (ft)  
 Size and shape of openings \_\_\_\_\_

Spacing (feet)	Trees/acre
3x3	4,840
5x5	1,742
7x7	889
10x10	436
12x12	302
14x14	222
16x16	170
18x18	134
20x20	87
25x25	70
30x30	48
40x40	27

Desired structure:



- One canopy layer     
  Two canopy layer     
  Three canopy