Fuel Load Data Collection Instructions
SIMPLE Fuel Load, Alternate Data Collection Technique
For use with ODF SIMPLE Fuel Load Calculator

The Oregon Department of Forestry SIMPLE Fuel Load estimation technique uses Brown's planar intercept (point count) method for downed wood. It adds procedures for estimating cover and load of shrubs and grasses, as well as an estimate of stump contributions to fuel load. A minimum of three plots is recommended. These instructions vary slightly from the ODF version, adding more litter and duff data points and a broader sample area for shrubs and grass. The results will still work in the SIMPLE fuel load calculator.

Locating Plots

1. Walk your anticipated burn unit and familiarize yourself with its general fuel load characteristics. If the unit has sections with very different fuels (such as a north slope and a south slope, or a thinned area and an unthinned area), you may wish to estimate fuel load separately for each area.
2. With the unit, or within each subunit if you're segmenting them, identify at least three locations - one with high fuel loading, one with moderate fuel loading, and one with low fuel loading. The intent is for you to collect data that represents the range of fuel characteristics on the site.
3. Collect fuel load data, using the process outlined below, for each location. You will average these later, when processing the data, to estimate the fuel loading in your unit or subunits.
4. At each location, you will establish a plot that includes both a 37' transect and a 1/10th acre circular plot.
5. Ensure the starting point of the transect (mid-point of circular plot) is at least 37' inside your control line. This ensures you are collecting data reflective of the burn unit, rather than partially inside and partially outside the unit.

Measure downed wood

1. Stretch tape 37', placing under shrubs, trees, etc. but over litter. Keep straight. This is your transect.
2. Record **slope** (%) of surface under tape.
3. Record the **primary tree species** responsible for the downed wood along your transect.
4. Tally **1-hr fuels:** In first 6', tally each time a 1-hr fuel (downed wood, 0 to .25" dia.) crosses the tape (choose one edge of the tape and use it as reference). Diameter is assessed at point where fuel crosses your reference edge of the tape.
    a. Do not count needles, leaves, cones, wood attached to live trees or shrubs, wood embedded in ground or duff.
    b. Do count sticks within the litter layer
    c. If a stick bends or forks and crosses the tape more than once, count it each time.

5. Tally **10-hr fuels:** In first 6’ of transect, repeat process above for 10-hr fuels (.25 to 1” dia.).
6. Tally **100-hr fuels:** In first 10’ of transect, repeat process above for 100-hr fuel (1” to 3” dia.).
7. Measure **sound log diameters:** In full 37’ of transect, each time the tapes’ reference side crosses a log greater than 3” in diameter (where it crosses the tape), record that log’s diameter (to nearest inch) and species.
8. Measure **rotten log diameters:** Repeat #6 for rotten logs.

Measure Litter and Duff

9. Note the tree (or shrub) species that is the **primary source of the litter**
10. Measure **Litter Depth**
    a. Litter is dead plant material that can still be readily identified. It includes recently fallen needles and leaves, dead grass and forbs.
    b. Measure the depth of the litter, to the nearest 0.1”, at 4 points along the transect (0’, 10’, 20’ and 30’). If there is lots of variation in litter depth, feel free to add more data points, as long as you do them systematically (for example, every 5’).
11. Measure **Duff Depth**
    a. Duff is decaying plant material. It includes rotting litter, as well as rotten wood. Sound wood buried in duff is counted as duff.
    b. Measure duff depth the nearest, 0.1”, at the points along the transect noted above.

Measure Stumps

12. Swing your transect tape in a circle. Locate each **sound stump** within that 37’ radius (circular plot) and note its species, diameter (nearest inch) and height (nearest inch).
13. Repeat step 12 for **rotten stumps**.
14. Note the **most common category of shrub** within your circular plot. Your options are deciduous (loses leaves during winter), evergreen (holds leaves over winter) or sage/bitterbrush. Use that last category for any highly flammable species, such as manzanita or ceanothus.
15. Estimate **shrub coverage** (the portion of the circular plot that is covered by shrubs) to nearest 5%. Also determine the average **height of your shrubs**, to the nearest inch.
16. Note the most common **grass species** or type within your circular plot.
17. Estimate **grass coverage and height**, as in step 15.

Locate your next plot and repeat data collection process.