

## **SNAMP Spotted Owl Team Vegetation Protocol**

Last updated: August 2008

Vegetation data is collected within the portions of planned SPLATs (Strategically Placed Land Area Treatments) that intersect with owl territories (within the SNAMP owl buffer area and on the Eldorado Demography Study Area, which spans portions of the Tahoe and Eldorado National Forests). We plan to use the SNAMP FFEH (Fire and Forest Ecosystem Health) Team vegetation data within the core SNAMP study area (Last Chance study area in Tahoe National Forest).

### **Vegetation Survey Instructions for SNAMP 2008**

#### **Equipment Needed:**

1 GPS unit  
Measuring tapes (at least 2 50-m tapes)  
2 dbh tapes  
1 densitometer  
1 pole for measuring understory cover  
1 compass  
1 clinometer  
1 range finder  
Flagging  
Hammer  
Small nails  
Numbered tree tags  
Stakes (at least 5)  
Clipboard  
Data forms  
Notebook  
Pencils/pens  
Map of plot locations  
List of plot UTM's

#### **Plot Layout (see Figure 1):**

##### Placement of plot center:

Proceed to the assigned coordinates for the plot number using the GPS unit, making sure that the GPS is obtaining 3D reception. Stop when the GPS unit indicates that you are 0.00 m away; this is the plot center. Record the GPS coordinates on the data form (in most cases, you will be within a few meters of the assigned coordinates).

Attach a tree tag to the tree nearest plot center, on the side of the tree facing the plot center. Record the tag number, tree species, and tree dbh on the data form. Apply spray paint to the base of the tree in four locations—uphill side, downhill side, and on each side facing along the slope contour.

##### Transect placement:

Lay out the first transect in a random direction from the plot center. To get a random direction, spin your compass until your co-worker says “when”. Lay out the first 25-m transect in that direction, followed by the second 25-m transect in the opposite direction. For the other 2

transects, lay them out so that they are perpendicular to the first 2 transects. You may want to flag the end of each transect, as well as the 12.5-m mark.

Plot placement:

We will collect vegetation data within 2 circular plots. The large plot will have a 25-m radius (the entire transect length), and the smaller plot will have a 12.5-m radius. We will measure all trees  $\geq 15$  cm dbh within the smaller plot (12.5-m radius), but only trees  $\geq 75$  cm dbh within the larger plot.

**Data Collection:**

Aspect:

From the plot center, record the downhill direction in degrees using a compass. Pretend you are a stone, which way would you roll? If flat, record with a dash.

Slope:

From the plot center, record the % slope using the % scale on the clinometer (= the scale on the right hand side). Take 2 readings—facing downhill (i.e. same direction as the aspect) and facing uphill (i.e. opposite direction as the aspect). Calculate the average of the two readings (all readings are positive numbers, regardless if facing downhill or uphill).

Trees within the 12.5-m plot:

Measure and record the dbh of all trees  $\geq 15$  cm dbh, record the species name using a 4-letter acronym (see list), and mark S for each snag (i.e. dead tree). Measure all stumps, and record the species name. If you are unsure of the species, mark “H” for hardwood and “C” for conifer.

Trees within the 25-m plot:

Measure and record the dbh of all trees  $\geq 75$  cm dbh, record the species name, and mark S for each snag (i.e. dead tree). Make sure that these data are recorded on the form in the separate column labeled “outside 12.5-m plot.” The data for each plot must be kept separate, in order to calculate tree basal area per unit area.

Canopy cover:

Take a reading every meter along two 25-m canopy cover transects, for a total of 50 readings. Your starting point will be the 12.5-m mark on one of the plot transects. Move one meter towards the plot center and repeat the process until you reach the 12.5-m mark on the opposite side. Note that you will not take a reading at the exact plot center. Repeat this procedure for the 25-m transect that is perpendicular to the initial transect.

Use the densitometer to measure canopy cover. While looking through the densitometer, balance the level bubbles inside the densitometer. Record whether or not the dot in the view frame contains canopy vegetation (= 1) or contains open sky (= 0). Count the number of 1's, and multiply  $\times 2$  for the total % canopy cover.

Understory cover:

Plant the cover pole in the ground at the plot center. Standing at the 12.5-m mark on each of the plot transects, record how many of the 0.1-m bands on the cover pole (i.e. each red or white section) are obscured at least 25% by vegetation.

Downed logs:

Count the number of downed logs with a large end  $\geq 25$  cm dbh, and for which the large end lies inside the 12.5-m plot.

**Figure 1.** Plot layout for vegetation data collection by SNAMP Owl Team.

