Tree Survey Sampling Eglin 2022 - Fieldwork SOP (**as of December 10, 2022)**

Pre-Fire Sampling

1. Navigate to ca~ 8 m from center of a plot that has been measured by vegetation sampling team
    a. Measure azimuth from tall plot center stake to shorter, post-fire measurement plot stake. Add 90° to determine transect zero point (record it)
    b. Data recorder remains outside plot to minimize trampling; measurer proceeds to center of plot pulling reel tape. Measurer tallies 100 hr fuels (diameter at transect intersection ≥ 1 inch and < 3 inch).
    c. Measure diameter of 1000 hr fuels (≥ 3 inches width) at intersection orthogonal to main axis and note whether sound or rotten (wood yields when pressed upon firmly)
    d. When measurer reaches plot center, recorder adjusts their position so s/he is 8 m from plot center.
    e. Measurer records maximum height of non-suspended litter at 5 m along transect.
    f. At same location, Measurer extracts soil core 20-30 cm length with 20 mm diameter sampler after brushing litter from soil surface. Potential boundary between duff and mineral soil is identified by color (duff is darker); length of duff portion is measured, then core is probed gently at ~0.5 cm intervals beginning at lower end. Duff is identified by dark color, resistance to gentle probing, and high proportion of organic matter (> 50% by volume). Length of duff core is measured (cm).
    g. Measurer makes additional litter depth/duff depth measurement at 11 m and 16 m on transect, and continues to measure 100 & 1000 hr fuels.
    h. measurer returns to zero point of transect (circling around plot perimeter) and makes litter depth and duff measurement.

Materials for Pre-Fire sampling: Avenza maps with plot locations; tree caliper; reel tape; ruler (metric); 20 mm diameter soil sampler;

Post-fire sampling

2. Determine if plot radius is 8 or 11.3 meters and record on datasheet
    a. If there are 4 or more trees within an 8-meter radius, then the plot radius is 8-meters.
    b. If there are 0 to 3 trees within an 8-meter radius, then increase the plot radius to 11.3-meters.
3. Sample all trees ≥10 cm DBH within the plot radius and over from plot center by recording:

Measurement	Definition	Values or Unit of Measure
Tree Number	Arbitrary number starting at 1 for each plot, starting to the N and proceeding clockwise	
Species	Species name	TBD
Status	Status of the tree - live, dead, unhealthy	L, D, or U
Distance	From macro plot center, distance to the edge of the tree bole	Meters to the closest 0.1 meter
Azimuth*	From macro plot center, azimuth to tree bole	Degrees to the closest degree
DBH	Diameter measured at breast height: 1.37 meter (4.5 feet) up from the highest point of ground at the tree's base	centimeter to the closest 0.1 centimeter
Comments	Any comments about the structure of the tree	N/A

* NOTE: Since not using this information for navigation, recommend using either 1) a compass that does not have adjustable declination, 2) compass with declination set to 0, or 3) record on dataset what compass declination is set to.

*ANOTHER NOTE: Metal can influence the compass reading, so make sure you are not setting your compass on the conduit!

4. Sample all pine saplings ONLY ≥2.5 to 10 cm DBH by recording:
    a. Radius (4 or 5.6m):
        i. If tree sampling radius was 8-meters, then sapling sampling radius = 4-meters
        ii. If tree sampling radius was 11.3-meters, then sapling sampling radius = 5.6-meters
    b. Quadrant = NE, SE, SW, or NW
    c. Count = How many of the same species in that quadrant
    d. Species = Longleaf pine *(Pinus palustris*), Loblolly pine (*Pinus taeda*), Sand pine (*Pinus clausa*) or TBD
5. Take photo of completed datasheet – **Make sure to send these photos to Christie Hawley!**

Transect Sampling Eglin 2022 - Fieldwork SOP

1. **PLEASE continue to avoid trampling** the vegetation as much as possible as this plot will be sampled post burn!
2. Lay out a 16 meter transect running North to South centered at plot center.
    a. NOTE: There will be no measurements at 8-meters (plot center) because that was the pre burn clip plot.
3. Along the entire transect,
    a. Tally the number of 100-hr fuels (1-3" or 2.5-8 cm diameter)
    b. Tally the number of 1000-hr fuels (>3" or >8 cm diameter) and record
        i. diameter to nearest centimeter
        ii. soundness (sound or rotten)
4. At 0-meter and 16-meter, measure litter and duff depth in 0.5 cm intervals (e.g., 0, 0.5, 1.5)
    a. Litter depth can be measured with a ruler
    b. Duff depth can be measured with a soil corer
    c. NOTE: Litter and duff depth protocols may be updated, so please check with Louise or Andy.
5. At 0.5-meter intervals, measure shrubs
    a. Record height in meter to closest 0.1
    b. Record dominant shrub species (up to 5) in order of dominance
6. Take photo of completed datasheet– **Make sure to send these photos to Christie Hawley!**

Supply list:

- Navigation device with Avenza Maps application and pdf maps
- Metric dbh tape

- Compass
- Range finder/hypsometer
- Metric logger's or reel tape
- Height stick for measuring shrubs
- Clipboard with data sheets and pencils, or a datalogger with the same datasheet loaded for direct entry
- Pin flags (if needed)