**FOR 373 – Forest Sampling Methods**

**Course Project Part 2 [100 points]**

**Premise:**
After approval from your boss, you have the crew implement the following sampling scheme of variable radius plots, where a 20 BAF gauge is used to identify count trees that have their species and DBH assessed, with a 70 BAF gauge used to select measure trees for height measurement and defecting assessment. Along with 300$^{th}$ acre fixed radius plots for the understory:

| Stand | Acres | Plots |
|-------|-------|-------|
| 610   | 34.2  | 21    |
| 458   | 23.7  | 14    |
| 420   | 25.8  | 19    |

You now need to analyze the *West_Hatter_Creek_Data* and report back on the current stand structure, composition, and function of each of the stands to your boss.

This should include a brief Stand Abstract for each stand following the format of the example below:

**Stand 559**

> This stand mostly appears as an uneven-aged mixture of western red cedar (*Thuja plicata*), grand fir (*Abies grandis*), Douglas-fir (*Psuedotsuga menziessi*), and western larch (*Larix occidentalis*), with all species making up both cohorts. The larger cohort ranges from ~24-32" DBH and is approximately 90 years old, while the younger cohort ranges from ~12-20" DBH and is about 65 year old. The only deviation from this is a ridgeline that runs from the center of the southern stand edge, through the stand at about 60°, which is dominated by ponderosa pine (*Pinus ponderosa*). The stand is adjacent to a clearcut harvest performed by Bennett in 2012; this cut has led to an increase in wind-throw damage along the stands southern edge and while preparing site preparation, a fire spread from Bennett property into the southwest edge of the stand, killing about half the younger cohort and culling the butt logs in most the older cohort for about an acre (see plot 97).

**Task:**
You need to generate a report that summarized the current and 40 year projected forest structure, composition, and function for each of your stands. This report should include details of the sampling conducted and site description, this may require you to evaluate sampling and site level information that is imbedded within the FVS data. You must justify the techniques that you use in terms of both efficiency and statistical rigor. Your report to your boss is **due Wednesday December 4$^{th}$ by 5:00 pm**.

## Report Instructions:

Your report is to be done as individuals and should be **typed using 1.5 line spacing and Times New Roman 12pt font**. All included tables and figures must be adequately referenced within the text and be accompanied by a descriptive caption. A draft of the report may be emailed to wtinkham@uidaho.edu by Friday November 29th at 5:00 pm for feedback, with the final report due by Wednesday December 4th at 5:00 pm.

The report should include the follow elements:

1. **Introduction**
   i. This should include a brief 1-2 sentence description of what the sampling is going to inform us about (i.e. projected change in structure, composition, and function)
   ii. Followed by a 1-2 sentence description of how the report is structured.
2. **Methodologies**
   i. There should be a subsection containing 2-4 sentence site descriptions for each of the stands that should include but is not limited to habitat type, health issues, slope, aspect, and successional stage.
   ii. There should be a subsection describing how the inventory data was collected and what measurements were included.
   iii. There should be a subsection including a brief description of any geospatial processing and growth and yield modeling that you perform and what parameters were held constant for all stands in the models.
   iv. Finally a description of any techniques used to cross compare the stands or temporal outputs should be included.
3. **Current and Future Conditions**
   i. This section should provide an overview of each stands structure, composition, and function for both the present and projected forward 40 years.
   ii. This description should draw on silvicultural terminology and should include any necessary tables and graphs for describing how the stands change through time.
4. **Conclusion**
   i. This section should include a 1-2 sentence summary of each stands projected trajectory and any impending issues that may be faced.

**Grading Rubric:**

| | Available Points | Expectations | | |
|---|---|---|---|---|
| | | Below | Fair/Meets | Above |
| **Introduction** | 20 | 0-10 | 10-20 | +5 Extra Credit |
| **Methodologies** | 20 | 0-10 | 10-20 | +5 Extra Credit |
| **Current and Future Conditions** | 20 | 0-10 | 10-20 | +5 Extra Credit |
| **Conclusion** | 20 | 0-10 | 10-20 | +5 Extra Credit |
| **Technical Writing** | 10 | 0-5 | 5-10 | +3 Extra Credit |
| **Literature Cited** | 10 | 0-5 | 5-10 | +3 Extra Credit |

Properly supporting and justifying your methodologies and statistical approaches with literature citations will show your willingness to go **above** expectations.

**Code of Conduct:**
Do not copy and paste material from these instructions, papers, or books when writing this essay. Attempt to rewrite in your own words the message you want conveyed and then provide proper citations. Doing so will result in a score of **0** and will cause you to be reported to the Dean of Students.