**Vegetation Measurement & Assessment (REM 357 & REM 410)**

**~~Measuring Diversity, Similarity & Composition ~~**

DATA Summary Assignment #9 (60 points total) Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Due by Midnight on Tuesday, December 4th through Blackboard (<https://bblearn.uidaho.edu/>)

Examine the following data for vegetation on three grassland sites in North Dakota.

|  |  |  |  |
| --- | --- | --- | --- |
| Species: | Site A(stems/m2)(this value is “n”) | Site B(stems/m2)(this value is “n”) | Site C(stems/m2)(this value is “n”) |
| **Grasses:** |  |  |  |
|  Blue Grama | 25 | 5 | 35 |
|  Buffalograss | 15 | 40 | 15 |
|  Green Needlegrass | 25 | 12 | 0 |
|  Prairie Junegrass | 4 | 1 | 4 |
|  Stoneyhills Muhley | 0 | 0 | 8 |
|  Threeawn | 12 | 5 | 15 |
|  Western Wheatgrass | 50 | 0 | 20 |
| **Forbs and Succulents:** |  |  |  |
|  Prairie Coneflower | 5 | 11 | 5 |
|  Pricklypear Cactus | 0 | 0 | 1 |
|  Scarlet Globemallow | 8 | 3 | 5 |
|  Western Ragweed | 2 | 1 | 15 |
| **Shrubs and Half-shrubs:** |  |  |  |
|  Silver Sagebrush | 1 | 5 | 2 |
|  Broomweed | 0 | 0 | 3 |
| **Sum:** | 147 | 83 | 128 |

\*\*\* *Note: you can ‘cut and paste’ this table into an excel spreadsheet to do calculations – or check the class web page to download a spreadsheet with these data.*

1. (15 pts) What is the Shannon-Wiener Index (H’) of Site A? \_\_\_\_\_ Site B? \_\_\_\_\_ Site C? \_\_\_\_\_
2. (15 pts)What is the Simpson’s Index (λ) of Site A? \_\_\_\_\_ Site B? \_\_\_\_\_ Site C? \_\_\_\_\_\_\_
3. (8 pts) Write a narrative describing the 3 sites and make comparisons between sites in terms of diversity and dominants based on your calculations.
4. (3 pts) What is the composition of Blue Grama on Site A? \_\_\_\_\_ Site B? \_\_\_\_\_ Site C? \_\_\_\_\_\_\_
5. (3 pts) What is the composition of Scarlet Globemallow on Site A? \_\_\_\_ Site B? \_\_\_\_ Site C? \_\_\_
6. (12 pts) What is the Similarity (%) between Site A and B? \_\_\_\_\_\_. Between Site A and C? \_\_\_\_\_. Between Site B and C? \_\_\_\_\_\_\_.
7. (4 pts) Describe the sites in terms of how similar they are to each other.

**\*\* Attached a page or spreadsheet with your calculations**