**PRAIRIE RESTORATION/MANAGEMENT**

**PLANT ECOLOGY LABORATORY**

**Location:** Valley Oaks Park

**Objective:** To examine the change in plant communities in plant communities 2 years after seeding prairie plants into an existing grassland habitat

**Hypothesis:** Prairie restoration plots will exhibit different plant coverages than adjacent grasslands.

**Agenda**:

1) Work in groups of 3-4 students to assess plant coverages in seeded plots (as many plots as students in your group).

2) Using a plant quadrat frame (20 X 50 cm), establish 3-5, 0.1 m2-quadrats in each of your seeded plots. Use the Daubenmire method to estimate coverages of each species of plant in your quadrats. This method estimates coverages using the following classification system:

**Cover Class Range of Coverage Midpoint of Range**

1 0-5% 2.5%

2 5-25% 15.0%

3 25-50% 37.5%

4 50-75% 62.5%

5 75-95% 85.0%

6 95-100% 97.5%

These cover classes were designed to make it faster to estimate cover (you don’t need to decide if it is a few percentages more or less, just need to put coverage into classes).

3) Use the same procedure to estimate coverages of plants within a similar number of quadrats in areas outside of your seeded plots.

**Analysis:**

1) Summarize your quadrat coverage data into two separate categories: data from seeded plots and data from areas outside seeded plots.

2) Use the following procedure to summarize coverages, one species at a time:

*% cover of species A = (# of plots cover class 1 \* 2.5%*

***+*** *# of plots cover class 2 \* 15.5%*

***+*** *# of plots cover class 3 \* 37.5%*

***+*** *# of plots cover class* 4 \* 62.5%

***+*** *# of plots cover class* 5 \* 85.0%

***+*** *# of plots cover class* 6 \* 97.5%) ÷ total number of plots

3) Graphically present your coverages comparing seeded plots vs. adjacent, unseeded areas.

4) Select one (or more) species that appeared in quadrats in both seeded plots and areas outside plots. Use a Chi-square contingency table test to compare the distribution of the coverages (by cover class) in quadrats inside seeded plots versus the distribution of the coverages in quadrats outside plots.

**Equipment:**

Plant quadrat frames