

**DATA, DISTRIBUTIONS AND HYPOTHESES:  
EXPLORING DIVERSITY AND DISTURBANCE IN THE TALLGRASS PRAIRIE**

**BIOL 585, Fall 2011**

N. Emery, H. Dalgleish and S. Stevens

**WEEK 2 WRITING ASSIGNMENT  
Methods**

**Due 10/14/2011 at the beginning of lab**

Write three brief paragraphs summarizing your methods for the data collection component of the Tallgrass Prairie module. This is essentially the “Materials & Methods” section of the very concise scientific paper that you are assembling over the course of this 4-week module. This section should incorporate the important details that would allow a reader to repeat your study. Remember that our sampling design was modeled after the methods used by Towne & Kemp (2003), so refer to that paper for an example of the information that you should include (though yours will be shorter). Like Towne & Kemp, your Materials & Methods should have three sections (1 paragraph each, 4-5 sentences per paragraph):

*Paragraph 1: Study Area.* Summarize the important aspects of the field site at Prophetstown State Park relative to your study: e.g., the location of the site, the site history, and a general summary of the climate of our region. The handout for the Week 2 lab provides the minimum information that you need for this, but feel free to add additional details from other sources!

*Paragraph 2: Data collection.* Describe the field sampling methodology implemented by the class at the site, including plot layout, plot size, cover class estimation, sample size. NOTE: we will be pooling the data from the entire class for statistical analysis next Friday, so be sure to describe the sampling done by the entire class (10 transects/parcel) and not just the sampling done by your team.

*Paragraph 3: Data analysis.* We will analyze the class data in lab section on Friday, October 14. For now, use this paragraph to state the comparisons that are necessary to test the predictions that you posed in Writing Assignment 1 – the three provided to you, and the one that you generated yourself. Do not worry about the specific statistical test that you will do (like a t-test, a chi-squared test or an ANOVA) – just state the qualitative comparison that is necessary to test each prediction. Be sure to re-write your questions, hypotheses and predictions before stating the comparison so your TA can follow your logic.

Here is an example of what we expect (this is not one of the questions provided to you):

Question: How does burn season impact the abundance of forb species in the tallgrass prairie?

Hypothesis: Forb abundance in the tallgrass prairie is largely restricted by competition with the dominant grasses, so forbs should have higher abundance in burn treatments that have the greatest negative effect on the dominant grasses.

Prediction: Forb abundance will be greater in the fall burn parcel than the spring burn parcel at Prophetstown State Park, where C<sub>4</sub> grasses dominate.

Statistical comparison: I will compare the cover of forbs in the plots from the spring burn parcel to the cover of forbs in plots from the fall burn parcel.