

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

BIOL 585, Fall 2011

N. Emery, H. Dalgleish and S. Stevens

WEEK 1 WRITING ASSIGNMENT

Introduction, Questions/Hypotheses/Predictions

Due 10/7/2011 at the beginning of lab

Write one paragraph summarizing the relationships between season of burn, plant functional types, and plant community richness and diversity, based on the information covered in the Week 1 figure set activity. Consider this to be an Introduction to a (very brief) scientific paper. It can have the following general structure:

- A clear initial statement of the ecological pattern or problem of interest.
- A summary of what is known about this pattern or problem, based on previous research. You can rely entirely on the material presented in Week 1's lab session, Towne & Kemp (2003) and your conclusions from the Week 1 figure set activity.
- A statement of a limitation of this former research that we will address with our sampling at Prophetstown. See the Week 2 lab handout for details about the goals and design of our vegetation sampling. *Hint: there are at least two key differences between Prophetstown and Konza that might generate interesting differences between the sites: (1) they are in different geographical locations (Konza is at the western edge of the historical range of tallgrass prairie, and Prophetstown is at the extreme eastern limit), and (2) Prophetstown is a relatively small and new restoration site while Konza is a large remnant of native prairie.*

Conclude your Introduction with a bulleted list of the questions (provided below) that we will address with our sampling at Prophetstown (see the Week 2 lab handout for details about this lab). Provide at least one hypothesis and one prediction for each question. Remember that a hypothesis is a statement of the biological mechanism that would generate your prediction, while the prediction the precise result you would expect from our sampling if your hypothesis is true. A useful trick for distinguishing between a hypothesis and a prediction is to use the following phrase: "If [hypothesis], then I predict [anticipated result]."

- i. How does the relative abundance of different plant functional groups differ between the spring- and fall-burned parcels at Prophetstown?
- ii. How do plant richness and diversity differ between the spring- and fall-burned parcels at Prophetstown?
- iii. How do the relative abundances of warm-season and cool-season grasses at Prophetstown compare to the patterns at Konza reported in Towne & Kemp (2003)?
- iv. How do plant richness and diversity at Prophetstown compare to the patterns at Konza?
- v. One original question that you want to address (please generate a hypothesis and prediction for this as well).