**PRAIRIE TRANSECT SAMPLING**

**PLANT ECOLOGY LABORATORY**

**Location:** Kramer Ridge Prairie site, Whitewater Wildlife Management Area

**Objective:** To assess prairie plant populations and communities with various transect sampling procedures

**Hypotheses:** 1) The Kramer Ridge Prairie is dominated by common plants during spring, all with coverages >10%. 2) Conspicuous plants (big bluestem, compass plant, stiff goldenrod, prairie coneflower, wild indigo [*Baptisia*]) will each have springtime densities of ~10 plants/hectare.

**Agenda**:

1) Work in groups of 3-4 students to assess linear plant coverages along transects (20-50 m). Record plant clump or cluster coverages to the nearest 0.1 m.

2) Assess densities of one or more species of conspicuous plant (big bluestem, compass plant, stiff goldenrod, prairie coneflower, wild indigo [*Baptisia*]) using the Hayne modification of the King Line transect (strip-census) method. Use transect lengths of 20-50 m. For each transect, record transect length and the distances of conspicuous plants from the transect line. Multiple transects for each conspicuous plant are suggested.

**Analysis:**

1) Summarize your coverage data by first determining the total coverage (total linear distance) for all plants on all transect combined. Then sum all values for all individuals of a single species on your transects and divide by the total coverage of all plants combined to determine a % coverage for that species. Display these data in a pie diagram.

2) For conspicuous species densities, use the following formula to calculate density for each individual transect surveyed:

D = 10,000 \* ∑ (1/d)

 2L

D = density (individuals per hectare)

L = length of transect (m)

D = distance from transect line to conspicuous plant (m)

If you surveyed multiple transects for the same conspicuous species, calculate a mean (± SD) density for that species.

3) Compare your data to the two hypotheses.

**Equipment:**

Meter tapes