Preliminary Investigation of Edge Effects on Prairie Plant Species

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Many prairies are considered postage stamp size, which produces diverse edges. This study takes a preliminary investigation of how proximity to woodlands and other edges would affect microclimates and plant species diversity within a prairie. Data was collected from Litzsinger Road Ecology Center (LREC), in Ladue, Missouri about 10 miles from downtown St. Louis. About 120 permanent 0.5 m x 0.5 m plots in the two on-site prairies where used to measure (1) distance from the plot to the nearest edge and (2) number of plant species found within the plot. All plant species within each plot were identified and assigned a value of percent coverage. A smaller number of plots were used to take temperature captured by Thermocron® iButtons ® every 20 minutes. A significant correlation was found between minimum temperature and distance to edge; and between number of species and distance to edge. The closer to the edge the warmer the temperature, and the closer the edge the higher number of different plant species in a plot. For future studies, there will need to be a redesigning of the equipment so unnatural heating doesn't occur.