

A FLORISTIC ANALYSIS AND COMPARISON OF TWO WET MEADOWS IN THE MIDDLE AND SOUTH LOUP RIVER VALLEYS OF NEBRASKA

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Abstract: Natural, undisturbed wet meadows are infrequent but can still be located in the Loup River Valley. These meadows represent pockets or islands of plant species diversity intermixed with sites that are either cultivated or heavily grazed. The two meadows in this study, Thomsen Meadow (16 Ha) and Pleasanton Meadow (20 Ha), differ as to land use and location but are relatively similar in species composition. Beginning in 2005, each site was quantitatively sampled using randomly positioned plots that were each 10 m². Within these plots, percent plant cover was estimated using a modified Daubenmire cover-abundance scale. Vegetation was also sampled by placing 20 (0.1 m²) random quadrats/plot along systematic transects. From these samples, density and frequency for forbs and percent cover for graminoids were calculated. Soil samples were taken in triplicate from each plot. The mean Coefficient of Conservatism (C) for each site was calculated as well as an index of similarity. Floristically, we documented 280 plant species (242 native, 38 introduced) within Thomsen Meadow and 212 plant species (178 native, 34 introduced) at the Pleasanton Meadow Site. The mean (C) values for Thomsen and Pleasanton Meadows were 4.15 and 3.62 respectively. The index of similarity (IS_s) = 83.7%. Although the two meadows have a high degree of similarity, recent disturbances on the west edge of Pleasanton Meadow have resulted in the presence of several invasive species that are not present at the Thomsen Meadow site.