

Prairie-Chickens, Bugs, and Cows: Lessons from the TNC Milnesand Prairie Preserve

PATRICIA MCDANIEL, The Nature Conservancy, New Mexico Field Office, #1 Pueblo Pt., Clovis, NM 88101, USA

DAVID HAUKOS, U.S. Fish and Wildlife Service, Department of Natural Resources Management, Texas Tech University, Box 42125, Lubbock, TX 79409, USA

ABSTRACT In 2004, The Nature Conservancy (TNC) of New Mexico purchased the 8,000 ha Milnesand Prairie Preserve (MPP) in the heart of lesser prairie-chicken (LPC) range of eastern New Mexico. In 2000, the U.S. Fish and Wildlife Service and Natural Resources Conservation Service contracted with the ranch owner to provide water and fencing improvements for livestock in exchange for a grazing management system to benefit the LPC and access for LPC and vegetative monitoring. Annual monitoring of LPC lek density and attendance, vegetative structure and cattle utilization, rainfall, invertebrate biomass, and grazing regimes began in 2001. Following purchase by TNC, a grazing plan was implemented on the MPP with initial objectives to develop a cattle rotation system to increase vegetation cover, improve available nesting structure, and increase lek densities, which is used to index LPC population trends on the MPP. The ranch continued as a cow/calf operation decreasing the herd to 350 rotating as two herds through 13 pastures. We structured the grazing regime to achieve 50% utilization of annual production. All years, but one, had annual rainfall below the long-term average of 42.4 cm from 2000 – 2008. Livestock grazing averaged 866 cattle-grazed days per year. Percent utilization of annual production declined from 71 and 83% during 2002 and 2003 to 49, 43, and 54% in 2005, 2006, and 2007, respectively. The overall goal of approximately 50% utilization of annually produced biomass has been achieved. There were no differences among pastures in average maximum height of vegetation from 2000 – 2007; however, maximum height steadily increased. Visual obstruction of vegetation also increased from 2001 to 2007. Plant diversity or percent composition did not change from 2000 to 2006; however, plant litter did increase during this period. Although the number of birds/lek remained relatively constant from 2001 – 2007, the number of leks on the MPP has increased 62% in spring and 500% in fall. Larger leks in terms of number of attending males were characterized by disturbance (annual plants and bare ground). An interesting aspect of monitoring efforts has been the alternate year spikes in invertebrate biomass production. It appears to be unrelated to rainfall and does not seem to coincide with lek density. Current vegetation cover and structure meets recommended values for nesting LPCs. Both vegetation and LPCs have positively responded to implemented livestock grazing plan. As we enter into 2009 and an upcoming lease renewal with our rancher, these results will guide us in evaluating potential changes to our grazing management plan. We have also recently purchased 3,600 ha contiguous to the MPP. Our previous work will assist us in making management decisions on this newly acquired land.