

EVALUATING EFFECTIVE GROUP RELEASE SIZE, POPULATION GROWTH, AND SURVIVAL RATE OF TRANSLOCATED BLACK-TAILED PRAIRIE DOGS ON THE CHARLES M. RUSSELL NATIONAL WILDLIFE REFUGE, MONTANA ^{TWS}

Jo Ann L. Dockter Dullum

Wildlife Cooperative Unit, University of Montana, Missoula 59812

Kerry Foresman

Division of Biological Sciences, University of Montana, Missoula, MT 59812

M. Randy Matchett

USDI Fish and Wildlife Service, Lewistown, MT 59457

Black-tailed prairie dogs (*Cynomys ludovicianus*) are an integral component of prairie ecosystems, but in recent years their numbers have been reduced due to eradication programs, conversion of grassland to cropland, and the spread of sylvatic plague. In an effort to re-establish prairie dogs into plagued historic colony sites, translocation efforts began in 1997 on the Charles M. Russell National Wildlife Refuge (CMRNWR). Translocation experiments require several issues be determined: 1) Conditions needed for successful translocation such as stocking density; 2) Survival of translocated animals; and 3) Colony size. Stocking density was addressed by comparing group release sizes of 120 animals, 60 animals, and no animals (control) on three different size classes of remnant colonies, >5, 0.1-5, and 0 acres. Survival rates of translocated animals were ascertained using mark-recapture techniques. The numbers of translocated animals within the release area were calculated using visual counts, live-trapping techniques, and burrow densities. Prior to this study, the perimeters and burrow densities of each colony on the CMRNWR were mapped with a Global Positioning System and used as baseline data. Monitoring colony sizes and burrow densities provided important information necessary for determining changes due to recolonization, augmented and natural. From the information gathered, I determined the affects of augmentation.