
FIELD TRIALS TO DETERMINE THE EFFICACY OF AN ORAL PLAGUE VACCINE FOR PRAIRIE DOGS

Matthew McCollister*, USFWS, Charles M. Russell National Wildlife Refuge, Lewistown, MT
Marc R. Matchett, USFWS, Charles M. Russell National Wildlife Refuge, Lewistown, MT
Dean E. Biggins, USGS, Fort Collins Science Center, Fort Collins, CO,
Tonie E. Rocke, USGS, National Wildlife Health Center, Madison, WI

North American prairie dogs (*Cynomys* spp.) and black-footed ferrets (*Mustela nigripes*) have been severely affected by plague, an exotic zoonotic disease caused by the bacterium *Yersinia pestis* during the last 100 years. Plague has contributed to population declines of prairie dogs, near extinction of black-footed ferrets, and has caused human illness and fatalities. An oral sylvatic plague vaccine (SPV) developed and tested jointly by the U.S. Geological Survey, National Wildlife Health Center and University of Wisconsin (Madison, WI) shows great promise as an effective, pre-emptive method for controlling plague in prairie dogs. Field trials to evaluate the efficacy of SPV were initiated in 2013 and include 4 species of prairie dogs on study areas in 7 states, including Montana. This presentation is a status report after the second year of a planned 4 year study. The primary objectives are to measure vaccine/bait uptake and to assess prairie dog survival rates at paired study sites, with and without vaccine application. At the north-central Montana study site, about 8,000 baits, half with SPV and half placebos, were distributed across 5 pairs of study sites (totaling 81 ha) in 2013 and over 13,000 in 2014 on the same 5 pairs of study sites (totaling 107 ha). In addition to ear tagging and microchip-marking each individual, flea, hair, whisker and blood samples were collected each year. A total of 584 individual prairie dogs were marked during 929 capture events in 2013 and 814 individuals during 1,293 capture events in 2014.