Biological Sciences - Terrestrial

Disease Surveillance of Coyotes in Relation to Black-Footed Ferret Reintroduction, 1995 [TWS]

Neil J. Anderson
Montana Fish, Wildlife, and Parks - Research and Technical Services
MSU Campus, Bozeman, MT 59717

Ronald P. Stoneberg
Montana Fish, Wildlife and Parks
PO Box 424, Hinsdale, MT 59241

Disease is an important component in black-footed ferret (*Mustela nigripes*) reintroduction efforts. Canine distemper and sylvatic plague are two of the primary diseases of concern. The 1992 Black-footed Ferret Disease Ecology Workshop recommended that a disease survey be done before

reintroduction. Carnivores have been used to document the presence of disease on black-footed ferret reintroduction sites. Predator control of coyotes (*Canis latrans*) was undertaken by the U.S. Department of Agriculture Animal and Plant Health Inspection Service, Animal Damage Control (APHIS, ADC) on an area approximately 12,500 ha. around the proposed black-footed ferret reintroduction site in South Phillips County, MT. Disease surveillance was conducted in conjunction with the predator control by Montana Dept. of Fish, Wildlife and Parks personnel. Blood and tissue samples were taken from 50 of the 67 coyotes killed by APHIS, ADC. Sylvatic plague, canine distemper, tularemia, toxoplasmosis, and five serovars of leptospirosis were tested for. Positive titers for plague ($\geq$1:16) were found in 95.0% and 55.6% of the adult and juvenile coyotes, respectively. Titers high enough to be considered positive for distemper ($\geq$1:16) were present in 80.0% of the adult coyotes and 11.1% of the juvenile coyotes. There were no coyotes that tested positive for tularemia or leptospirosis. The toxoplasmosis results were not available for this paper. The results of this study are similar to those found for South Phillips County, Montana. The consistent level of plague positive and distemper positive coyotes found in these studies indicates that plague and distemper may be continuous or even endemic within the population. More research is needed to determine the actual persistence of these diseases. The presence of plague and distemper may pose a serious threat to reintroduction and management efforts of the black-footed ferret.