
IDENTIFYING PRIORITY AREAS FOR CHRONIC WASTING DISEASE SURVEILLANCE IN MONTANA

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Chronic Wasting Disease is a fatal prion disease affecting ungulate species throughout North America. As of 2013, no CWD positive deer have been found in the state of Montana, however, several surrounding states and provinces have identified multiple cases of the disease. We used information on mule deer habitat selection, abundance, and locations of CWD cases in surrounding states to identify priority areas in Montana for CWD surveillance. The habitat selection models were based on over 10000 VHF and GPS locations collected from mule deer from 1975-2011, and predicted resource selection function (RSF) values for winter and summer in 5 of the 7 wildlife management regions in the state of Montana. We estimated mule deer density using the aerial survey counts weighted by the value of the RSF for each pixel. High priority areas were those that contained the highest densities of mule deer and were closest to locations with CWD positive deer. This information can be used to inform Montana's CWD surveillance program for mule deer. We concluded that based on mule deer distribution and movement patterns several mule deer herds in Montana were at risk of coming into contact with deer from known infected herds.