

## Scavengers of Southwest Montana and Their Potential Impact on Brucellosis Transmission

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Brucellosis, a bacterial disease caused by *Brucella abortus*, is a major concern in the Greater Yellowstone Ecosystem due to potential transmission from elk (*Cervus elaphus*) to livestock. *B. abortus* can lead to abortion in infected animals and is primarily transmitted between elk and livestock when individuals contact infected abortion materials. Therefore, the risk of transmission is likely a function of how long abortion materials remain on the landscape. To investigate removal rates of abortion materials by scavengers in southwest Montana, we placed bovine fetuses and placentas at 266 sites within suitable elk habitat during the brucellosis transmission risk period from February - June, 2017 and 2018. We used remote cameras to quantify the removal rate and conducted parametric survival analysis to test for covariate effects. Abortion materials were removed by scavengers at an average rate of 84 hours ( $\hat{\mu} \pm 8.5$  SE) across all study sites. The top model suggested time to removal decreased in grassland habitats in comparison to sagebrush steppe and forest. Additionally, preliminary analyses suggest that mammalian predator removal practices on private ranches are correlated with time to removal. Abortion materials were consumed by a variety of avian and terrestrial scavengers with golden and bald eagles, coyotes, foxes, and turkey vultures being responsible for scavenging most of the abortion materials. Our results suggest scavengers play a vital role in reducing the persistence of *B. abortus* on the landscape, and that the rate of fetus removal varies across habitat and management types.