
ASSESSING BRUCELLOSIS SEROPREVALENCE AND TRANSMISSION RISK IN A FREE-RANGING ELK POPULATION: THE TARGETTED BRUCELLOSIS SURVEILLANCE PROJECT IN MONTANA

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Brucellosis is a bacterial disease that affects elk, bison and domestic cattle. Recently the seroprevalence of brucellosis in free-ranging elk populations of Montana has increased and its' range has expanded, resulting in increased pressure on Montana Fish, Wildlife and Parks (MFWP) to manage the disease in elk. In 2010 MFWP and the Montana Department of Livestock initiated a targeted surveillance program to delineate the current geographic distribution of brucellosis, document spatio-temporal habitat selection and movement patterns, and to quantify potential transmission risk from elk to cattle. Since 2010, we have targeted 11 different winter ranges from 9 hunt districts, both within and outside of the Designated Surveillance Area used to manage cattle. During each capture operation we tested approximately 100 adult female elk for exposure to brucellosis. We deployed GPS radiocollars on a subsample of adult female elk on each winter range. An epidemiological summary of the first five years, including seroprevalence, movement and implications for transmission vectors will be presented. Current brucellosis exposure in domestic herds, future surveillance areas, evaluation of various management actions on transmission risk, and the creation of a spatio-temporal risk model are discussed.