

BISON MANAGEMENT IN THE GREATER YELLOWSTONE AREA:

DEFINING THE KNOWN, THE UNKNOWN, AND THE UNKNOWABLE^{TWS}

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Bison management in the Greater Yellowstone Area (GYA) illustrates a classic environmental dilemma of the twentieth Century. Historically bison symbolized the vast and wild nature of western North America. Following the destruction of wild bison at the turn of the century the few remaining wild bison herds went unnoticed and unstudied. The human perspective of bison shifted from a free-ranging wildlife resource to uncommon, semi-domesticated bovid in one century. Bison restoration was accomplished through intense husbandry therefore what was known about free-ranging bison was lost. Historic and recent research has improved our knowledge of bison and relationships to the landscape. We discuss bison movements, social behaviors, herd dynamics, and reproductive strategies in the GYA that are evolutionary adaptations for existence in vast open landscapes. The introduction of brucellosis in free-ranging bison caused reproductive impacts and socio-political conflict. Bison-brucellosis research has improved our knowledge of the ecology of brucellosis in GYA but much remains unknown. Our studies from 1995-1998 have disclosed that some bison are infected and a smaller portion are infectious. Transmission routes are not entirely understood but mechanisms are becoming clearer. We are attempting to define the risk for transmission to cattle and methods to control or perhaps eradicate the disease. What cannot be predicted through scientific investigation are the social/political climates that are significant influences on management.