

**FETAL DEVELOPMENT AND TIMING OF BIRTHS OF
YELLOWSTONE NATIONAL PARK BISON^{TWS}**

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Historical and contemporary reductions in Yellowstone National Park (Y P) bison (*Bison bison*) allowed us to describe changes in fetal development and timing of births over years and by herd. Fetuses were collected from 244 bison cows that were killed in various management actions (20 January-6 February 1941, $n = 74$; 16 January-1 April 1989, $n = 49$; 20 November 1996-6 March 1997, $n = 88$; and 8 January-15 April 1999, $n = 33$). We recorded collection date, herd, and weight (g) for each fetus. Assuming mean gestation length at 281 days and mean birth weight at 25,000 g, we estimated calving dates. Fetal weights varied from 64 to 27,000 g. Subsequent fetal ages were estimated at 96 to 286 days. Median predicted birth dates varied from late April in 1941 and 1989 to early May in 1997 and 1999. Median predicted birth date in 1941 was approximately 11 days earlier than contemporary estimates. Contemporary birth date estimates were approximately 1 week earlier for the Northern Range (NR) herd than the Central herd. Median predicted birth dates were

consistent with previously reported peaks, calf-to-adult ratio estimates of peak calving, and births of captive YNP bison calves. However, estimated births were highly skewed, with calves appearing up to 17 weeks beyond the herd peaks. For the NR and Central herds, 90 percent of births would have occurred by late May, 95 percent by mid to late June, and 99 percent by late July to late August. Knowledge of birth dates could allow managers to reduce the risk of contact with cattle during critical periods when brucellosis is suspected to be transmittable.