Wolf Predation and Predator-Prey Dynamics in the Firehole-Gibbon-Madison Drainages of Yellowstone National Park, WY [TWS]

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Much controversy surrounds the reintroduction of the gray wolf (*Canis lupus*) to Yellowstone National Park (YNP), Wyoming, where a major concern is the effect of this top-trophic level predator on the ungulate populations. The objectives of this study were to examine the prey selection and predation rates of wolves on the ungulate populations in the Madison, Firehole, and Gibbon drainages of Yellowstone National Park. Quantitative data were acquired during the 1998-2000 winters in the Madison-Firehole-Gibbon drainages. The Nez Perce pack, ground-tracked as 2, 7, and 13 wolves in the three successive winters, established the area as an important part of their winter territory. The ungulate prey base in the study area consists of approximately 650 elk and 900 bison throughout the winters. Necropsies were preformed on wolf kills to ascertain the species, age, sex, and condition of the prey to study prey vulnerability and wolf prey selection. In the 3 years of the study, 101 definite and 29 probable wolf kills were located and necropsied, including 70 elk calves, 34 cow elk, 9 bull elk, 1 unknown adult elk, 13 bison calves, 1 cow bison, and 1 unknown bison. Prey switching was evident, differing between the years of the study. The data collected will be used to help predict impacts of wolf predation on the prey populations.