Population Trends Of Bighorn Sheep And Mountain Goats In The Greater Yellowstone Area

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Bighorn sheep (Ovis canadensis) and mountain goats (*Oreamnos americanus*) are important components of the large mammal community in the Greater Yellowstone Area (GYA) and are of considerable public interest. However, foundational ecological research concerning these species is limited. We analyzed historic bighorn sheep and mountain goat population counts collected by management biologists using ln-linear regression to estimate herd growth rates (λ). The analyzed dataset consisted of 538 bighorn sheep counts since

1971 and 120 mountain goat counts since 1966. Most mountain goat count units experienced a positive growth rate and increased their distributions over recent decades. Bighorn sheep growth rates were more variable among the 26 recognized herd units in the GYA. We used the historic count data to evaluate the hypothesis that sympatry of non-native mountain goats with bighorn sheep adversely affected bighorn sheep populations. This was accomplished by comparing the growth rates of sympatric herds with that of allopatric herds. There was no evidence that sympatric herd growth rates were significantly lower than allopatric herd growth rates. We caution, however, that many counts in consecutive years suggested larger changes in abundance than what would be reasonable to expect from biological processes. We suspect that variability in counts likely reflects varying detection probability and the overall difficulty of counting mountain ungulates. Therefore, conclusions derived from these data should be further evaluated with more detailed demographic studies in the future.