



Bighorn Sheep vs. Traffic

The Question: what effect does Highway 34 have on Rocky Mountain bighorn sheep?

Rocky Mountain National Park is the year round home to Rocky Mountain bighorn sheep. Individuals from two bands, the Mummy Range band and the Fall River band, often visit the Sheep Lakes mineral lick presumably to replenish minerals lost during winter, during pregnancy, and when rearing lambs. To access the mineral lick, the sheep must descend Bighorn Mountain, move through timber stands and cross Highway 34. Once they have negotiated the traffic and arrived at the mineral lick, their escape route is bisected by the highway. Concern among park staff and visitors has raised questions about the effects of Highway 34 on the Mummy Range and Fall River bands of bighorn sheep.

The Project: Count crossing attempts and visitor numbers to determine the effect of traffic on bighorn sheep trying to get to the Sheep Lakes mineral lick.

Barbara Keller and Dr. Louis Bender from the New Mexico Cooperative Fish and Wildlife Research Unit and trained park volunteers observed Sheep Lakes from an unobtrusive position for 11 hours each day between May and September of 2002. Using spotting scopes and binoculars, the observers recorded sheep behavior and traffic patterns throughout the day. They analyzed the data to determine the effects of traffic on the time needed to cross Highway 34, the number of crossing attempts, the number of sheep attempting to cross, and the temporal patterns of sheep and human visitor use of the Sheep Lakes area.

The Results: Sheep are altering their activity patterns to avoid road-related disturbances along Highway 34.

During the summer of 2002 researchers observed bighorn sheep visiting Sheep Lakes 357 times. Sheep successfully crossed the road 91 times and failed six times. Sheep visitation was the highest in June with the highest numbers occurring on weekends and Tuesdays. The number of sheep using the mineral lick was negatively affected by the number of cars and people in the area. The sheep that did visit while human activity was higher required more time and more attempts to cross the road. Research on other bighorn bands suggest they would normally travel to mineral licks at midday when predators are less active and visibility is better. However in apparent efforts to avoid humans, the sheep are visiting the Sheep Lakes mineral lick closer to dawn and dusk.

The level of human disturbance may be affecting the sheep's behavior and potentially increasing their susceptibility to disease and predation. The results of this project prompted an investigation into the mineral composition at Sheep Lakes to help understand the nutrient demands of the sheep that visit there.



Volunteers on the Bighorn Brigade stop traffic to allow bighorn sheep to cross Highway 34.



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