

SEX, AGE, AND CWD



PATTERNS & IMPLICATIONS FOR MULE DEER MANAGEMENT IN COLORADO

Maintaining wildlife health is a fundamental component of sound wildlife management and is a high priority in Colorado. Colorado Parks and Wildlife is dedicated to delivering a coordinated and systematic approach for monitoring, investigating, reporting, and – where feasible – controlling wildlife health problems in free-ranging wildlife.

Chronic wasting disease (CWD) is well-established in deer, elk, and moose herds throughout much of Colorado. Over half of our state’s deer populations, about one third of our elk populations, and a quarter of our moose populations have become infected.

A growing body of data suggests that **CWD impairs long-term herd performance when the infection rate (or “prevalence”) becomes sufficiently high.** Here’s why:

- ❖ Infection shortens the lifespan of deer and elk. Once infected, animals typically survive only 2–3 more years. No immunity develops, and infected animals do not recover.
- ❖ As the overall rate of infection increases in a herd, animals are infected and succumb at younger ages. Older aged individuals become rare. If infection rates become too high, CWD can affect a herd’s ability to sustain itself.

Two patterns in the way CWD manifests in affected mule deer herds may be keys to controlling this disease:

- ❖ In mule deer, CWD infection rates tend to be about twice as high in bucks as in does from the same herd (Figure). That pattern is not as consistent in elk.
- ❖ “Prime aged” adult mule deer of both sexes tend to show higher infection rates than very young or very old deer.

The rate of CWD infection appears to be rising in many Colorado herds. In several deer herds, infection rates among harvested bucks now exceed 10% (1 in 10; see most recent [prevalence summary](#) for details). In some individual Game Management Units, about 1 out of every 3 or 4 bucks harvested is infected.

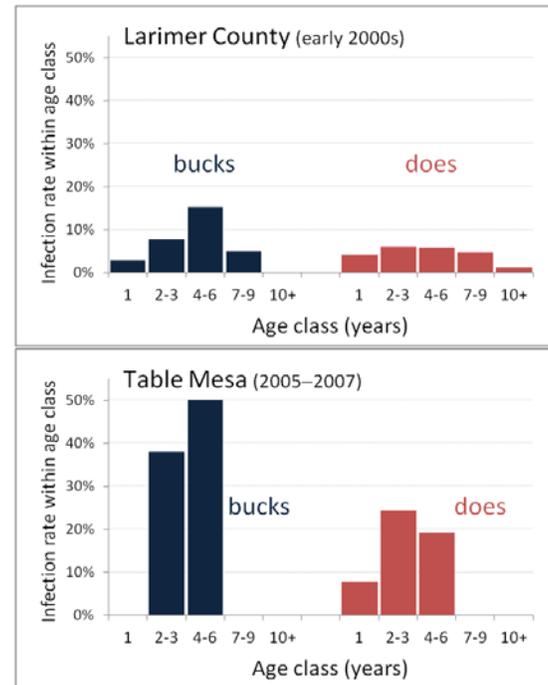


Figure. Patterns of chronic wasting disease infection in Colorado mule deer illustrate relationships between sex, age, and infection. Across a wide range of overall infection rates, males are about twice as likely as females to be infected. For both sexes, “prime aged” adults tend to be most heavily affected. As prevalence in a herd increases, deer are infected and succumb at younger ages. Older aged deer become rare. These patterns are reflected in the field data shown above: In heavily hunted Larimer County herds sampled in the early 2000s, 25% of does and 4% of bucks were over 6 years old when harvested. In the *unhunted* Table Mesa herd where infection rates were much higher, only 6% of does and 2% of bucks were over 6 years old.

Large increases in prevalence in some Colorado deer herds over the last 15 years coincide with periods of increasingly conservative buck (and doe) harvest. In contrast, prevalence has remained stable or declined in herds harvested less conservatively.

For further reading:

Western Association of Fish and Wildlife Agencies. 2017. Recommendations for Adaptive Management of Chronic Wasting Disease in the West. WAFWA Wildlife Health Committee and Mule Deer Working Group. Edmonton, Alberta, Canada and Fort Collins, Colorado, USA.
http://www.wafwa.org/Documents%20and%20Settings/37/Site%20Documents/Committees/Wildlife%20Health/docs/CWDAdaptiveManagementRecommendations_WAFWA_final_approved010618.pdf