

Whiskey Mountain Bighorn Sheep – Pullin’ on a Management Lever

DARYL W. LUTZ, Wyoming Game & Fish Department, 260 Buena Vista Dr., Lander, WY, 82520,
USA, daryl.lutz@wyo.gov

PAT HNILICKA, US Fish and Wildlife Service, 170 N. First Street, Lander, WY, USA

BRITTANY WAGLER, Haub School of the Environment and Natural Resources, Wyoming Cooperative
Fish and Wildlife Research Unit, Department of Zoology and Physiology, University of Wyoming, 804
E. Fremont Street, Laramie, WY, USA

RACHEL SMILEY, Haub School of the Environment and Natural Resources, Wyoming Cooperative Fish
and Wildlife Research Unit, Department of Zoology and Physiology, University of Wyoming, 804 E.
Fremont Street, Laramie, WY, USA

KEVIN MONTEITH, Haub School of the Environment and Natural Resources, Wyoming Cooperative
Fish and Wildlife Research Unit, Department of Zoology and Physiology, University of Wyoming, 804
E. Fremont Street, Laramie, WY, USA

JENNIFER MALMBERG, University of Wyoming, Department of Veterinary Sciences, 1174 Snowy
Range Road, Laramie, WY 82070, USA

HANK EDWARDS, Wyoming Game & Fish Department, Wildlife Health Laboratory 1174 Snowy
Range Road Laramie, WY 82070, USA

ART LAWSON, Shoshone and Arapaho Fish and Game, 15 N. Fork Road, Fort Washakie, WY 82514
USA

ABSTRACT: The Whiskey Mountain herd may arguably be one of the most familiar, if not famous, populations of bighorn sheep. At one time, not too long ago, this herd was thought to be the largest Rocky Mountain bighorn sheep population in North America, but not anymore. A central issue related to the long-term decline in the Whiskey Mountain bighorn sheep population is respiratory disease. The herd experienced an all-age die-off during the winter of 1990/1991, during which 124 bighorn sheep mortalities were attributed directly to pneumonia and the total number of mortalities was estimated at 450 bighorn sheep. Thereafter, this herd has declined from ~2,000 animals in the late 1980s to ~400 today. In the spring of 2019, Wyoming Game and Fish Department (WGFD), the U.S. Fish and Wildlife Service, and the Haub School at the University of Wyoming initiated an intensive lamb mortality study to better understand the circumstances underpinning low lamb recruitment. This study involves twice-a-year testing of adult ewes for respiratory pathogens and collaring of neonatal lambs to determine cause-specific mortality. Several ewes in this population were identified as chronic carriers of *Mycoplasma ovipneumoniae*, a finding that has been associated with low lamb recruitment in other jurisdictions. Nearly all of the lambs collared during this effort died during their first 6-8 months of life, and roughly half of the collared lamb mortalities were attributable to pneumonia. Based on these findings, WGFD, the Wind River Reservation’s Tribal Game and Fish, and the Haub School recently implemented “test and remove” in the Red Creek sub-herd of this population. In March of 2022, five ewes identified as chronic carriers of *M. ovipneumoniae* were removed from the Red Creek sub-herd. Post-mortem examination indicated that all were pneumonic and three had paranasal sinus tumors. Test and remove in this sub-herd will continue with increased intensity over the next several years in concert with continued monitoring of seasonal nutritional condition, pathogen prevalence, and survival of adult females and lambs. It is hoped that pulling on the “test and remove” management lever yields results similar to other jurisdictions’ successes with increased lamb survival and eventual population recovery.

Biennial Symposium of the Northern Wild Sheep and Goat Council 23:48-49; 2022

KEY WORDS: Rocky Mountain bighorn sheep, respiratory disease, chronic carrier, pneumonia, *Mycoplasma ovipneumoniae*, test and remove.