

Summary report by Montana Fish, Wildlife and Parks to the Environmental Quality Council addressing statutory reporting requirements relative to bighorn sheep health sampling (87-2-702, MCA).

September 2018

Before September 1 of each even-numbered year, the department shall report to the environmental quality council information on:

(A) mountain sheep harvested pursuant to this subsection (4) from the Tendoy Mountain herd;

The Tendoy bighorn sheep herd was depopulated with a combination of an unlimited hunt and MFWP management removals in 2015 and 2016. A total of 34 bighorn sheep were removed through these processes. Public hunters harvested the bulk of the bighorn sheep herd, accounting for 23 bighorns in 2015 and 5 in 2016. About 360 hunters participated in the depopulation hunts. MFWP management removals accounted for another 6 bighorns sheep over the two-year period. The last management removals were in December of 2016 when the removal portion of that project was concluded.

(B) efforts to collect tissue samples and other biological information from mountain sheep harvested from the Tendoy Mountain herd to determine the immunity of surviving herd members to pneumonia outbreaks; and

MFWP sent letters to hunters requesting samples and field staff were supplied with kits to collect samples from harvested sheep. Harvested bighorns were sampled by collecting lungs, nasal and tonsil swabs, and a tissue sample for DNA analysis. Hunter participation in sampling was exceptional and a very high percentage of bighorns were sampled during the hunt. MFWP conducted the standard suite of tests to look for respiratory pathogens. This a complex issue still very much in the research/learning stage with no definitive conclusion as to whether individual animals have immunity or if other factors resulted in survival.

(C) attempts by the department to share tissue samples and other biological information collected from the Tendoy Mountain herd with Washington State University, other public entities, and private entities that research the interaction between mountain sheep and domestic sheep.]

Samples (lung and swabs) collected from harvested bighorn sheep were submitted to WADDL (Washington Animal Disease Diagnostic Laboratory) for testing. Also, a data sharing agreement between MFWP and U.S. Department of Agriculture-Agricultural Research Station (ARS) staff at Washington State University as described below requires sharing of samples/data from the Tendoy and other Montana herds.

MFWP entered into a data sharing agreement with ARS during winter 2016. The title of the ARS project is: *Identification of Host Factors and Immunopathogenesis of Pneumonia in Domestic and Bighorn Sheep*. This project is currently funded for 5 years and includes bighorn sheep samples collected by MFWP throughout Montana during this time. During the past two capture seasons, FWP wildlife health lab staff collected requested biological samples for ARS during capture efforts. Samples were processed according to ARS instructions, and shipped to the ARS lab. In addition, lab results for nasal swabs submitted by MFWP to WADDL for *Mycoplasma ovipneumoniae* PCR were shared with the ARS lab. This data exchange effort will be repeated for at least 3 more years/capture seasons.