Optimizing Mycoplasma Ovipneumoniae "Test and Remove" Management to Restore Bighorn Sheep Populations in Idaho, Oregon, and Washington

FRANCES CASSIRER, *Idaho Dept. of Fish and Game, Lewiston, ID, 83501, USA; frances.cassirer@idfg.idaho.gov*
JANA ASHLING, *Idaho Dept. of Fish and Game, Lewiston, ID, 83501, USA*
HOLLIE MIYASAKI, *Idaho Dept. of Fish and Game, Idaho Falls, ID, 83401, USA*
WILLIAM MOORE, *Washington Dept. of Fish and Wildlife, Ellensburg, WA, 98926, USA*
DENNIS NEWMAN, *Idaho Dept. of Fish and Game, Salmon, ID, 83467, USA*
SCOTT D. PECKHAM, *Peckham Engineering, Wasilla, AK, 99654, USA*
BRIAN RATLIFF, *Oregon Dept. of Fish and Wildlife, Baker City, OR, 97814, USA*
ERIN WAMPOLE, *Washington Dept. of Fish and Wildlife, Ellensburg, WA, 98926, USA*
BRENT WOLF, *Oregon Dept. of Fish and Wildlife, Enterprise, OR, 97828, USA*

ABSTRACT: Management of respiratory disease is an important component of recovering and maintaining resilient wild sheep populations. The pathogen *Mycoplasma ovipneumoniae* is the agent responsible for initiating most pneumonia outbreaks in wild sheep and persistence of this bacterium can have long-term negative effects on recruitment and population recovery. We initiated a multi-jurisdictional adaptive management project in 2020 to investigate and improve selective removal methods for clearing *M. ovipneumoniae* from 7 populations in Idaho, Oregon, and Washington ranging in size from less than 100 to over 500 sheep. We conducted over 600 captures in these populations, collected health samples, and deployed GPS and VHF collars. Here we report on the history of disease, current *M. ovipneumoniae* infection and exposure prevalence, strain-typing, demographics, mortality investigations, and management actions taken to date. We describe how we are leveraging the range in population sizes, ecology, and health characteristics to identify factors that might be associated with the effectiveness of "test and remove" management for improving health of wild sheep populations.

Biennial Symposium of the Northern Wild Sheep and Goat Council 24:3; 2024

KEYWORDS: bighorn sheep, chronic carriers, disease management, Idaho, infection prevalence, GPS, multi-state collaboration, *Mycoplasma ovipneumoniae*, Oregon, test and remove, Washington.