

## Understanding the Dynamics of *Mycoplasma ovipneumoniae* carriers in a Bighorn Sheep Population

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**ABSTRACT** We tested the hypothesis that pneumonia is maintained in bighorn sheep populations by asymptomatic carriers of the pathogen *Mycoplasma ovipneumoniae*. Our objectives were to (i) estimate the variation among individuals in the extent and duration of *M. ovipneumoniae* shedding, (ii) estimate the prevalence of chronic carriage, (iii) identify attributes that can be used to predict carriage, and (iv) determine whether a relationship exists between maternal chronic carriage and lamb survival. We collected upper respiratory samples and serum from over 80 individuals in the Lostine population in northeastern Oregon multiple times between 2009 and 2015. We report on patterns of *M. ovipneumoniae* shedding and exposure in adults, lambs, and yearlings relative to health, survival, and lamb recruitment.

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**KEY WORDS** carriers, disease shedding, *Mycoplasma ovipneumoniae*, Oregon