

Determining the Status and Trend for Desert Bighorn Sheep in the San Rafael Swell

RUSTY W. ROBINSON,¹ *Plant and Wildlife Sciences, Brigham Young University, 451 WIDB, Provo, UT 84602, USA*

TOM S. SMITH, *Plant and Wildlife Sciences, Brigham Young University, 451 WIDB, Provo, UT 84602, USA*

JUSTIN SHANNON, *Utah Division of Wildlife Resources, 319 N. Carbonville Road Suite A, Price, UT 84501, USA*

ABSTRACT The North San Rafael desert bighorn sheep population (*Ovis canadensis nelsoni*) has been steadily declining for several years. Average population growth has been $\lambda = 0.89$ since 2001. In January 2012, 30 ewes and 8 rams were tested for disease, fitted with Global Positioning System or Very High Frequency collars, and monitored for 2 years. Objectives were to 1) locate collared females weekly to document survival; 2) locate and necropsy dead bighorn sheep to determine causes of death and limiting factors; and 3) quantify production and survival of neonates. Initial observations show that lambing dates ranged from 31 April to 9 June, with a mean date of 23 May. The lamb to ewe ratio was 45:100 in November 2012 and 35:100 in November 2013. Twenty mortalities were documented: 10 associated with cougar predation, 2 bluetongue, 1 hunter harvest, 2 linked to reproductive complications (i.e., ruptured uterus, dystocia), 1 capture related mortality, and 4 unknown causes not related to predation. While bronchopneumonia was not identified as a primary cause of death in any mortality, it subsequently developed from secondary infections in 4 of the bighorns before they died. Results of disease testing show that *Mannheimia hemolytica* and *Mycoplasma ovipneumonia* are present in the population. The current population is about 130 animals and is holding relatively constant.

Biennial Symposium of the Northern Wild Sheep and Goat Council 19:112; 2014

KEY WORDS desert bighorn sheep, disease, limiting factors, *Ovis canadensis nelsoni*, San Rafael Swell, Utah.

¹ E-mail: rustyrobinson@byu.net