

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Great Plains Wildlife Damage Control Workshop  
Proceedings

Wildlife Damage Management, Internet Center for

---

February 1997

# IMPACT OF PREVENTIVE AERIAL COYOTE HUNTING ON SHEEP LOSSES TO COYOTE PREDATION

Kimberly K. Wagner

*Jack H. Berryman Institute for Wildlife Damage Management, Department of Fisheries and Wildlife, Utah State University,  
Logan, UT*

Michael R. Conover

*Utah State University, Logan, UT*

Follow this and additional works at: <http://digitalcommons.unl.edu/gpwdcwp>



Part of the [Environmental Health and Protection Commons](#)

---

Wagner, Kimberly K. and Conover, Michael R., "IMPACT OF PREVENTIVE AERIAL COYOTE HUNTING ON SHEEP LOSSES TO COYOTE PREDATION" (1997). *Great Plains Wildlife Damage Control Workshop Proceedings*. 383.  
<http://digitalcommons.unl.edu/gpwdcwp/383>

This Article is brought to you for free and open access by the Wildlife Damage Management, Internet Center for at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Great Plains Wildlife Damage Control Workshop Proceedings by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

## **CONCURRENT SESSION #3 (PREDATORS)**

### **IMPACT OF PREVENTIVE AERIAL COYOTE HUNTING ON SHEEP LOSSES TO COYOTE PREDATION**

KIMBERLY K. WAGNER<sup>1</sup>, Jack H. Berryman Institute for Wildlife Damage Management, Department of Fisheries and Wildlife, Utah State University, Logan, UT 84322-5210  
MICHAEL R. CONOVER, Jack H. Berryman Institute for Wildlife Damage Management, Department of Fisheries and Wildlife, Utah State University, Logan, UT 84322-5210

*Abstract:* Coyote (*Canis latrans*) predation is a serious problem for livestock producers in the Western U.S. In Utah, Idaho, and Wyoming, 34% of all producer-reported sheep and lamb losses were to coyote predation, amounting to \$4.8 million in losses during 1995. Although preventive aerial hunting is commonly used by agriculture agencies in the Intermountain West to reduce coyote (*Canis latrans*) predation on sheep (*Ovis aries*), only limited data are available on the efficacy of the technique. We assessed the impact of winter (January - March) aerial coyote hunting on sheep losses to coyotes and the need for predation management (hours of work, device nights) 3-6 months later during the ensuing summer grazing season. We compared lamb losses to coyote predation between paired Utah and Idaho grazing allotments with (treated allotments) and without (untreated allotments) winter aerial hunting from helicopters. Study areas were an average 38 km<sup>2</sup> with 1050 ewes and 1231 lambs per grazing allotment. Treated allotments received an average of 2.1 hours of aerial hunting, killing 5 coyotes per allotment. Confirmed lamb losses to coyote predation in treated allotments ( $\bar{y} = 2.7$ , SE = 0.6) were significantly less than in untreated allotments ( $\bar{y} = 7.3$ , SE = 1.6,  $P = 0.01$ ), as were estimated lamb losses to coyotes (treated  $\bar{y} = 11.8$ , SE = 6.2; untreated  $\bar{y} = 35.2$ , SE = 8.1,  $P = 0.02$ ). Hours required for summer coyote control also were significantly less ( $P = 0.01$ ) in treated allotments ( $\bar{y} = 37.3$ , SE = 8.5) than in untreated allotments ( $\bar{y} = 57.2$ , SE = 11.3). Winter aerial hunting increased the mean number of coyotes killed annually per allotment from 2.0 (SE = 1.0) to 5.7 (SE = 1.1,  $P = 0.04$ ). It did not impact the number of coyotes removed during summer coyote control ( $P = 0.52$ ). Based on 1995 values for lambs, labor and helicopter rental, winter aerial hunting of coyotes had a benefit:cost ratio of 2.6:1. However, additional data on the mechanisms which make preventive aerial hunting effective are needed before we can make the best use of this technique.

Page 88 in C. D. Lee and S.E. Hygnstrom, eds. Thirteenth Great Plains Wildl. Damage Control Workshop Proc., Published by Kansas State University Agricultural Experiment Station and Cooperative Extension Service.

**Key Words:** coyote, (*Canis latrans*), aerial hunting, sheep, predator losses, predation

---

<sup>1</sup> Present address: U.S. Department of Agriculture, Animal Plant Health Inspection Service, Animal Damage Control, National Wildlife Research Center, Olympia Field Station, 9701 Blomberg St. SW, Olympia, WA 98512.