BIGHORN SHEEP, MOUNTAIN GOATS, AND WILDLIFE CROSSINGS ON THE TRANS-CANADA HIGHWAY IN BANFF NATIONAL PARK, ALBERTA

ALAN D. DIBB[1]**,** Parks Canada Agency, Kootenay National Park, Box 220, Radium Hot Springs, BC V0A 1M0, Canada

ANTHONY P. CLEVENGER, Western Transportation Institute, Montana State University, PO Box 174250, Bozeman, MT 59717, USA

Abstract: Since 1982 the Trans-Canada Highway in Banff National Park has been upgraded in four major phases to a 4-lane, divided highway with continuous wildlife exclusionary fencing for 77 km. A system of underpasses and overpasses provides crossing opportunities for wildlife. In November 1996 we began monitoring wildlife use of these structures on the first three phases, and in December 2007 began monitoring the fourth phase. As of 2012 we detected nearly 200,000 crossings by 11 species of large mammals at 28 structures, including 4,750 crossings by bighorn sheep (*Ovis canadensis*) at 15 different structures. No crossings by mountain goats (*Oreamnos americanus*) were detected, despite mountain goats occurring at high elevation on opposite sides of the highway. Opportunities to provide for mountain goat passage across the highway might be better in adjacent Yoho National Park where goat habitat extends downslope close to the Trans-Canada Highway. Although habitat connectivity along the upgraded highway is largely restored for species resident in valley bottom habitat, effects on alpine-dwelling species are poorly understood and require further investigation. We discussed how an assessment of the genetic structure and health of the mountain goat meta-population within the mountain national parks will improve understanding of the influence of landscape features on gene flow and exchange of individuals among populations.

Biennial Symposium of the Northern Wild Sheep and Goat Council 18:109; 2012

Key words: *Ovis canadensis*, *Oreamnos americanus*, bighorn sheep, mountain goat, wildlife crossing, Banff, Alberta, highway, habitat connectivity.

[1] Email: alan.dibb@pc.gc.ca