

Bridging the Rockies - Banff's Roadways for Wildlife

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Introduction

Parks Canada has been engaged in twinning the Trans Canada Highway (TCH) in Banff National Park since 1980. During the controversial planning stage it was predicted that upgrading the existing two lane highway would encourage more traffic with higher vehicle speeds, leading to an increase in the wildlife mortality situation which already was excessive. Consequently, approval to twin the roadway in two phases was contingent on exceptional measures to mitigate potential adverse wildlife impact. Fences 2.4 meters high and 10 wildlife underpasses were installed along 31 kilometers of new four lane roadway by 1990. Research revealed the measures to almost eliminate roadway kill of ungulates. After a couple of years of acclimation, most ungulates were using their ranges and conducting their seasonal migratory patterns in Phases I and II much as before the upgrading of the roadway.

When planning resumed in 1993 for continued twinning of the next 18 km of roadway (Phase III) concern arose that carnivores were not adapting to the underpasses as readily as ungulates. Because wary species such as wolf and grizzly bear were more common in Phase III, Parks Canada proposed to construct two overpasses as well as 13 underpasses.

This program was described in the *Trends in Addressing Transportation Related Wildlife Mortality. Proceedings of the Transportation Related Wildlife Mortality Seminar* convened in Florida in 1996 - therein see Leeson, B. 1996. *Highway Conflicts and Resolution in Banff National Park, Alberta, Canada.*

Accomplishments to 1998

After the 1996 and 1997 construction seasons the next 18 km of twinned roadway and environmental protection, mitigating measures mostly are in place.

Although the engineering aspects of the overpasses proceeded as expected, some of the finishing features are different than originally envisioned. Wildlife use of the overpasses during construction and in the early months after fence enclosure are very encouraging.

Steep, sloping approaches and closeness to the Bow River may be problems for several of the underpasses.

Wetland protection and erosion control emerged as significant issues which required more attention than in Phases I and II.

A methodical research program conducted since fall of 1996 revealed the underpasses in Phases I and II are performing better than expected. Thousands of passages were recorded in less than a year. Although ungulates continue to account for most of the passages, all species of carnivores, except Canada lynx, were recorded. Most encouraging is the substantial increase in wolf passages at one of the underpasses close to their home range.

Elsewhere in the Bow River Valley where the TransCanada Highway project is located, concern that overdevelopment is threatening ecological integrity of this World Heritage National Park has been confirmed. In addition to the Trans Canada Highway measures, new practices for operation of secondary roadways are being implemented to compliment the TCH mitigations. Additionally, some facilities and land uses in practice for many years are being eliminated or relocated to favor enhancement of wildlife use of the valley.

Dr. Leeson's presentation at the 1998 Florida Conference on Wildlife Ecology and Transportation focused on the subject of not only the Trans Canada Highway project but also addressed additional measures being implemented to compliment the highway work and advance ecological integrity in a cumulative effects context.