

Do Those Things Really Work



Editors' Note:

This article and the accompanying Infographic are provided by the Miistakis Institute of Calgary. This Institute, affiliated with the University of Calgary, has the mission of supporting and undertaking both pure and applied research focusing on the ecosystems of the Rocky Mountains and surrounding regions. We carried an earlier and related article to this one in the Autumn 2011 issue of the UM Crown of the Continent E-Magazine which can be accessed on our website at <http://crown.umt.edu> and clicking on "E-Publications." The Miistakis Institute has been a very important partner of our UM initiative since the beginning, and we want to thank them immensely for all of their wonderful, exciting, and important work as well as for their continuous collaborations. The Institute's website is found at www.rockies.ca.

Over **220,000** large animals have used the crossing structures in Banff National Park

"Do those things really work?" Without fail, this is always the first question posed when I share that some of my work is focused on a wildlife crossing structure research and monitoring project. Many people are now familiar with the iconic wildlife overpasses and underpasses that were first built in Banff National Park, yet there seems to be lingering doubt as to their effectiveness. The very first thing I say in response to this query is **yes**, these crossing structures absolutely work—over 220,000 large animals have used the structures in Banff National Park since monitoring began more than 15 years ago. Everything from salamanders to grizzly bears now use wildlife overpasses and underpasses to safely cross the bustling Trans-Canada Highway which snakes its way through Canada's first national park. The second thing I mention is that I am pleased to report that wildlife crossing structures are not reserved for parks and protected areas. Within the Crown of the Continent region wildlife crossing structures, including overpasses, underpasses, wildlife fencing, jumpouts, and wildlife crossing guards, have now been built on [US 93 North in Montana](#), and many are now advocating for wildlife crossing structures to be constructed at key sites along [Highway 3 in southern Alberta](#).

Finally, a [recent report](#) co-authored by the Western Transportation Institute at Montana State University and the Miistakis Institute has demonstrated that wildlife crossing structures make financial sense. The report focused on a wildlife crossing structure in the Rocky Mountains of Alberta. Using very conservative estimates the report authors demonstrate that following the construction of the wildlife underpass, the overall annual cost to society was reduced from \$129,000 to \$18,000 per year because there were fewer damaged vehicles, injuries and deaths. The cost also accounts for lost hunting revenues. Most people love wildlife and saving money, so wildlife crossing structures are public infrastructure that people can readily support!

In an effort to elevate the conversation on building or expanding highways with both wildlife and people in mind, the Miistakis Institute has been working with its partners to develop several tools. Miistakis created a "Highways & Wildlife" infographic to clearly convey why wildlife crossing structures are important, how they work, and their cost effectiveness. The infographic strives to debunk some of the myths surrounding wildlife crossing structures.

Miistakis has also partnered with award-winning film maker [Leanne Allison](#) (*Being Caribou, Finding Farley, Bear 71*) to create a documentary film called *Highway Wilding*. Build them and they will live—that is the simple message in this documentary that looks at the issue of highways, and some of the pioneering solutions that exist to prevent road kill and reconnect landscapes across highways. In the Crown of the Continent we have one of the last best chances in the world to maintain a fully functioning ecosystem with all the native large carnivores, but roads are a major problem. Everything from grizzly bears to wolverines and ducks to salamanders need to get across roads safely for breeding, to find food, adapt to climate change, or to migrate. After seeing this film you'll never drive down a highway in the same way again. *Highway Wilding* is one of the films selected for the 2012/2013 Banff Mountain Film Festival World Tour. To view a trailer for the film, please click [here](#).

Miistakis would like to acknowledge its road ecology partners and funders: Western Transportation Institute at Montana State University, Parks Canada Agency, Yellowstone to Yukon Conservation Initiative, Road Watch in the Pass, Anatum Consulting, Alberta Ecotrust Foundation, the Galvin Family Fund, Wilburforce Foundation and Woodcock Foundation.

*See next spread for infographic

1. What is the problem?



1 All wildlife need to be able to move freely throughout their habitat to access water, food, and mates.



2 When highways are built through habitat, wildlife must find ways to cross.



3 Sometimes vehicles collide with crossing wildlife. These collisions are unsafe and very costly.



4 When highways are built or widened, this fragments wildlife habitat and increases the risk of wildlife-vehicle collisions.

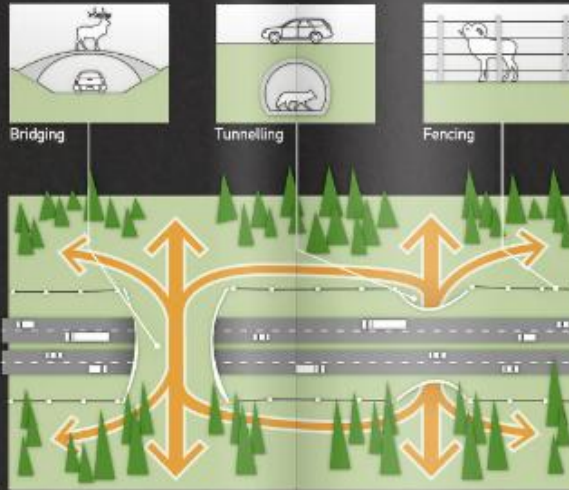
4 - 8
large animal - vehicle collisions take place every hour in Canada



Highways & Wildlife

2. What is the solution?

We can make highways safer for both wildlife and people by separating traffic and wildlife with **crossing structures** -- including bridges, tunnels, and highway fencing.



3. Do crossing structures work?

Absolutely! Scientists have now collected over fifteen years of data on wildlife using highway crossing structures. While some animals take time getting used to these structures, many different types of animals -- from salamanders to grizzly bears -- now use them regularly.



- 3 sec** average time in seconds between vehicles on the Trans-Canada Highway in Banff National Park
- 15 years** number of years of research on crossing structures in Banff National Park
- 95 %** reduction in wildlife-vehicle collisions on highways with crossing structures (deer, elk, & moose) recorded in Banff National Park
- 200,000+** large mammals detected using crossing structures in Banff National Park

4. How do we know they work?

Scientists have a variety of ways to measure the use of crossing structures by wildlife. These include direct observation, motion-sensing cameras, track observation, and DNA analysis (of fur captured from crossing animals).



5. Are they cost effective?

Yes! At sites where there are regular wildlife crossings, the cost of collisions -- including property damage, loss of hunting revenue, human injury, and human fatality -- far outweighs the cost of building bridges, tunnels, and fencing. By installing crossing structures, the Trans-Canada Highway near Dead Man's Flats in Alberta has saved over \$85,000 per year!

