



# Highway Wilding

Wildlife Monitoring and Research Collaborative  
in the Canadian Rocky Mountains

## *Project*

Highway Wilding is a collaborative project between Parks Canada, the Western Transportation Institute, Miistakis Institute, Wilburforce Foundation and Woodcock Foundation with a focus of getting wildlife safely “across the road” in Banff National Park. The Trans-Canada Highway- or TCH- bisects the Park through the very heart of the Canadian Rocky Mountains, and has long been recognized as a lethal barrier to wildlife through collisions with vehicles and by reducing animals' abilities to move through the landscape to find suitable habitat, food and mates. However, more than 25 years ago, efforts were undertaken to reduce the effects of the TCH on wildlife within Banff National Park through the construction of wildlife overpasses (vegetated structures designed to allow wildlife to move over highways), underpasses (bridge or culvert structures that enable animals to pass underneath highways), and fencing designed to keep wildlife off of the highway right-of-way.

In addition to the construction of the wildlife crossing structures, Dr. Tony Clevenger and the Western Transportation Institute (WTI) have been carrying out research to determine what crossing structure types and designs promote wildlife movement and habitat connectivity. Eleven species of large mammals utilize the structures including grizzly and black bears, wolves, lynx and wolverine. The results of the Highway Wilding project are critical to informing how highways should be best designed with both people and wildlife in mind.

## *Partnership*

Highway Wilding is a five year collaborative project involving the following partners:

### **Parks Canada**

Within a growing network of 42 National Parks, four national marine conservation areas and 167 national historic sites, Parks Canada protects and presents nationally significant examples of Canada's natural and cultural heritage on behalf of present and future generations. Parks Canada has a mandate to manage this legacy by maintaining or improving ecological integrity and creating meaningful opportunities that connect Canadians to their heritage.

Our country's first national park was created in the Rockies in close association with the completion of a trans-continental railway line to connect British Columbia to the rest of Canada in 1885. With the emergence of motor vehicles as our primary means of transport, the Trans-Canada Highway was later built. The linked origins of our national transportation corridor and Canada's first national parks – Banff, Yoho, Glacier and Mount Revelstoke – brings challenges in terms of maintaining ecological integrity. But this also brings opportunity to rethink how we sustain healthy, resilient ecosystems over time: the need to protect, connect and restore on a landscape level.

Upgrading of the Trans-Canada Highway in Banff National Park from two lanes to a four-lane divided highway set a stage for innovation and science to address impacts on habitat and wildlife populations that were unwittingly created when the highway was built in the 1950s. Parks Canada has supported research and monitoring of its numerous wildlife crossings in the upgraded highway since 1996. This learning continues to inform road and land management worldwide. To learn more about Parks Canada, please visit: <http://www.pc.gc.ca>

### **The Western Transportation Institute**

WTI at Montana State University leads the scientific research activities for Highway Wilding. Founded in 1994 by the Montana and California Departments of Transportation in cooperation with Montana State University-Bozeman (MSU), the Western Transportation Institute (WTI) has grown from a small, university research office into a nationally recognized center of excellence in rural transportation research and education.

The U.S. Department of Transportation designated WTI as a University Transportation Center (UTC) in 1998. This status has helped WTI achieve a national reputation for developing effective solutions to the real transportation challenges facing rural America. Renamed a UTC in 2005, WTI continues to develop and enhance the capabilities and expertise of its research program, the size and diversity of its educational programs, and the effectiveness and reach of its technology transfer program.

WTI's research focuses on safety and operations, winter maintenance and effects, road ecology, infrastructure maintenance and materials, systems engineering development and integration, mobility and public transportation, logistics and freight management, and transportation planning and economics. It has research and demonstration projects in more than 30 states.

Dr. Tony Clevenger has focused his research on wildlife and the TCH since 1996 when he was contracted by Parks Canada as an independent researcher. Dr. Clevenger has been employed by WTI since 2002.

To learn more about WTI, please visit: <http://www.wti.montana.edu/>

## **The Miistakis Institute**

Miistakis serves as the lead organization for project management and communications for Highway Wilding. The Miistakis Institute brings people and ideas together to promote healthy communities and landscapes. Miistakis studies the landscape, in order to help people maintain it; and celebrates innovative research by making it accessible to communities and decision-makers. Miistakis Institute partners are leading-edge scientists, like-minded organizations, industry, government agencies and inspiring community leaders. Affiliated with the University of Calgary, the Miistakis Institute is an independent, non-profit charitable organization. Miistakis is a relatively compact organization with a staff of eight people whose expertise ranges from computer programming and geographic information systems, to wildlife and landscape ecology, to economics and land-use planning. Its projects are diverse both in scope and content. To learn more, please visit <http://www.rockies.ca> or find Miistakis on Facebook.

## **The Wilburforce Foundation**

The Wilburforce Foundation is one of the founding funders for Highway Wilding. The Wilburforce Foundation protects wildlife habitat in Western North America by actively supporting organizations and leaders advancing conservation solutions.

They are a private, philanthropic foundation that supports efforts to create a network of protected core reserves, corridors and buffer zones across Western North America that will support ecologically effective landscapes and viable wildlife populations.

The Wilburforce Foundation has been involved in wildlife monitoring and mitigation research along the Trans-Canada Highway since 2005. Wilburforce supports this project in efforts to shed light on the movement patterns and habitat needs of focal species in the west and efforts to investigate means for mitigating the negative consequences that can arise when wildlife and human habitats overlap. This includes such work as conservation area designs, studies of focal species abundance, movement, and habitat needs, and socio-economic studies of human impacts. To learn more about the Wilburforce Foundation, please visit: <http://www.wilburforce.org/>

## **The Woodcock Foundation**

The Woodcock Foundation is one of the founding funders for Highway Wilding. The Woodcock Foundation is a progressive family foundation established to

link family creativity and resources with community development needs. Trustees select areas of interest, identify individuals within those areas who possess strong leadership skills, and then invest in them with both financial as well as technical resources. Since its transformation in 1996 from a philanthropic vehicle for its two founders, to its current form as a pro-active family foundation, Woodcock has awarded \$17 million (at present \$2 million per year) to more than 40 organizations, primarily in the areas of social enterprise, reproductive health and rights, land conservation, media reform and civil society.

The Woodcock Foundation works to support constructive systemic change to improve society and the quality of life, locally, nationally and internationally; Support unusually able, innovative individuals who can contribute to such change; Seeks to take advantage of probable change and to influence it in constructive ways; Be alert to special situations where the family has particular interest, knowledge or access to exceptional skill.

The Woodcock Foundation has been involved in wildlife monitoring and mitigation research along the Trans-Canada Highway since 2005. The Woodcock Foundation is a key partner in raising the international awareness around wildlife movement and protection while promoting feasible, buildable context-sensitive and compelling design solutions for safe, efficient, cost-effective, and ecologically responsive wildlife crossings. To learn more about the Woodcock Foundation, please visit: <http://woodcockfdn.org/>