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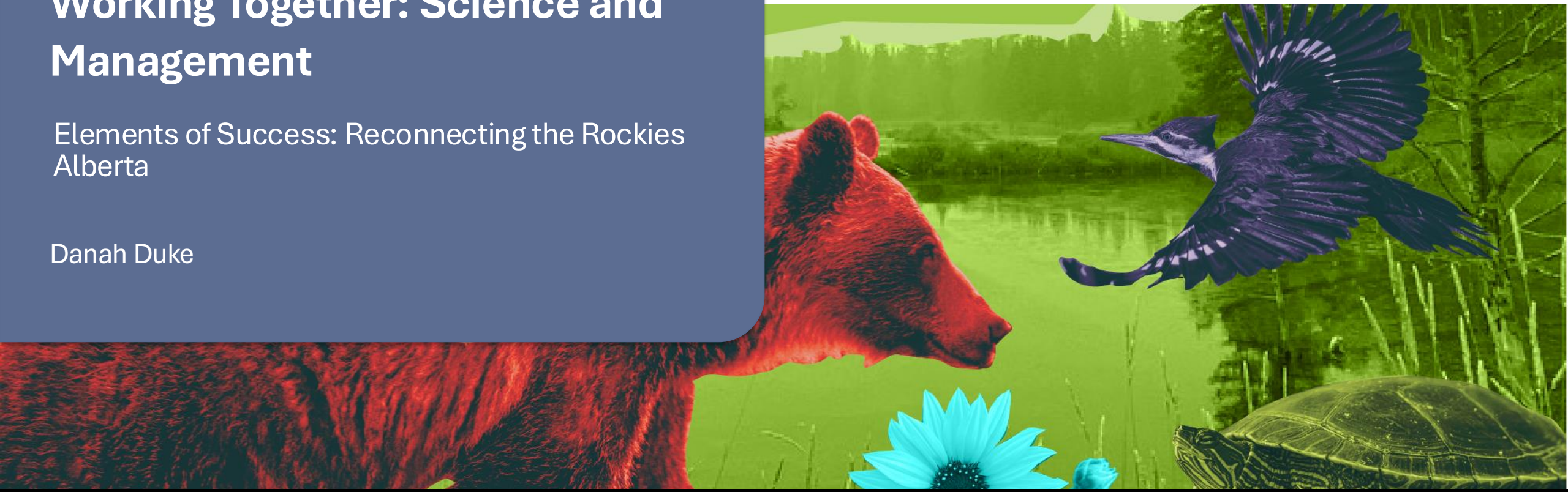
APPLIED CONSERVATION RESEARCH

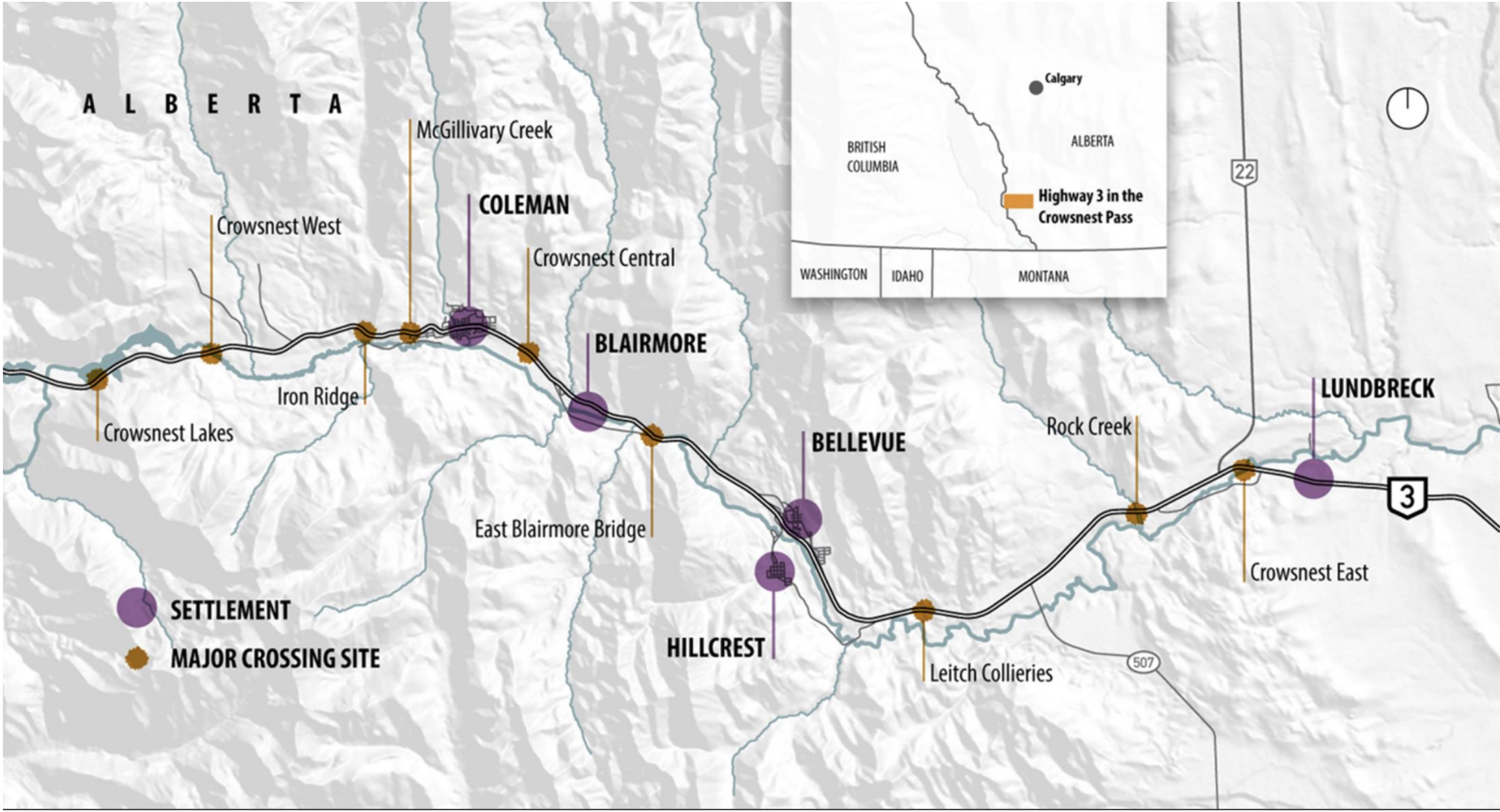
Working Together: Science and Management

Elements of Success: Reconnecting the Rockies Alberta

Danah Duke



ALBERTA CHAPTER OF THE WILDLIFE SOCIETY ANNUAL CONFERENCE
February 28 2026


ALBERTA
McGillivary Creek
COLEMAN
Crowsnest West
Crowsnest Central
BLAIRMORE
Iron Ridge
Crowsnest Lakes
BELLEVUE
Rock Creek
LUNDBRECK
East Blairmore Bridge
Crowsnest East
HILLCREST
Leitch Collieries
SETTLEMENT
MAJOR CROSSING SITE
Calgary
BRITISH COLUMBIA
ALBERTA
Highway 3 in the Crowsnest Pass
WASHINGTON
IDAHO
MONTANA
22
3
507

Alberta Wildlife Watch 2026

Animal-Vehicle Collision Safety Program

CMA 26: Wildlife Collision Map Feb. 26, 2026

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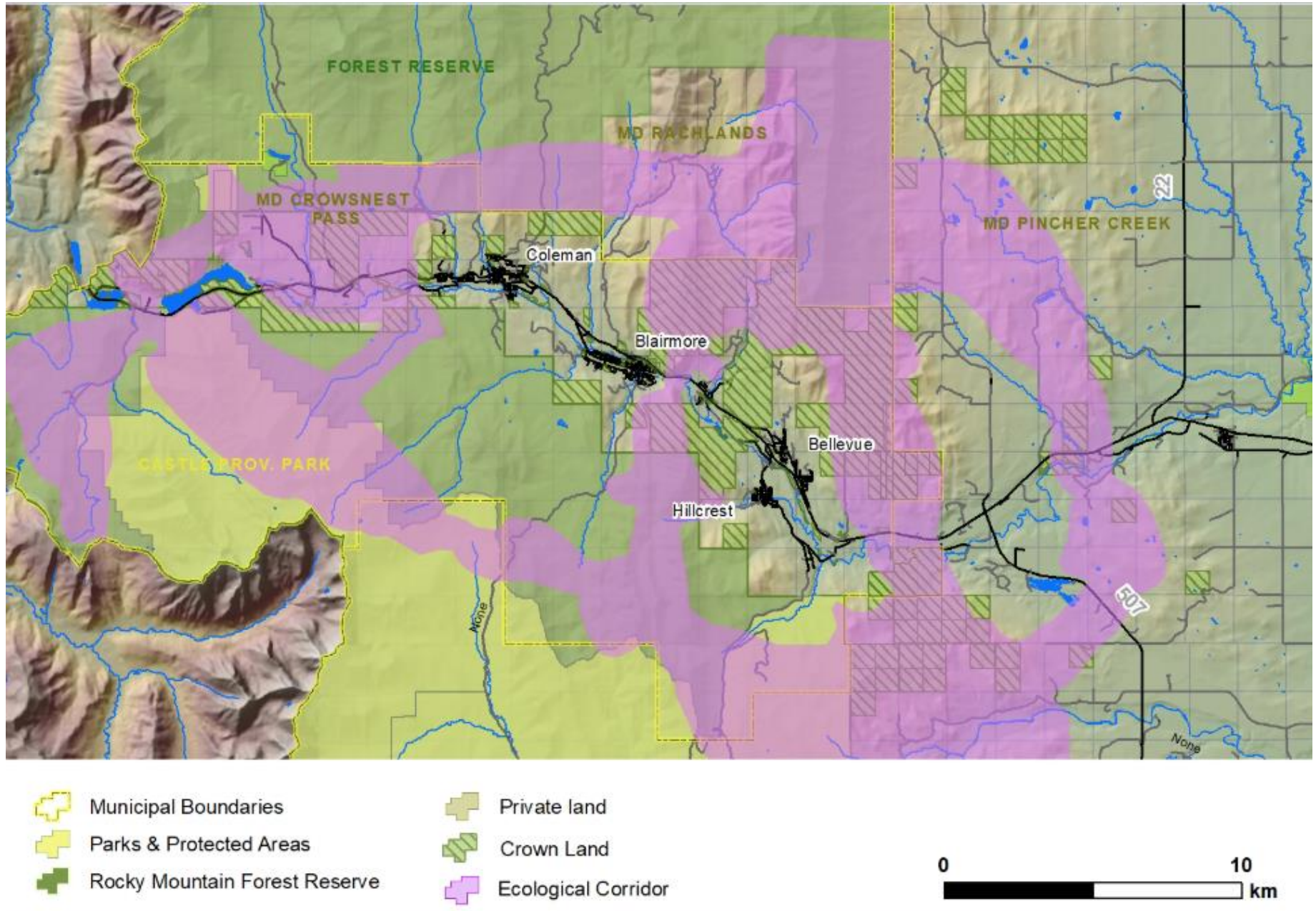

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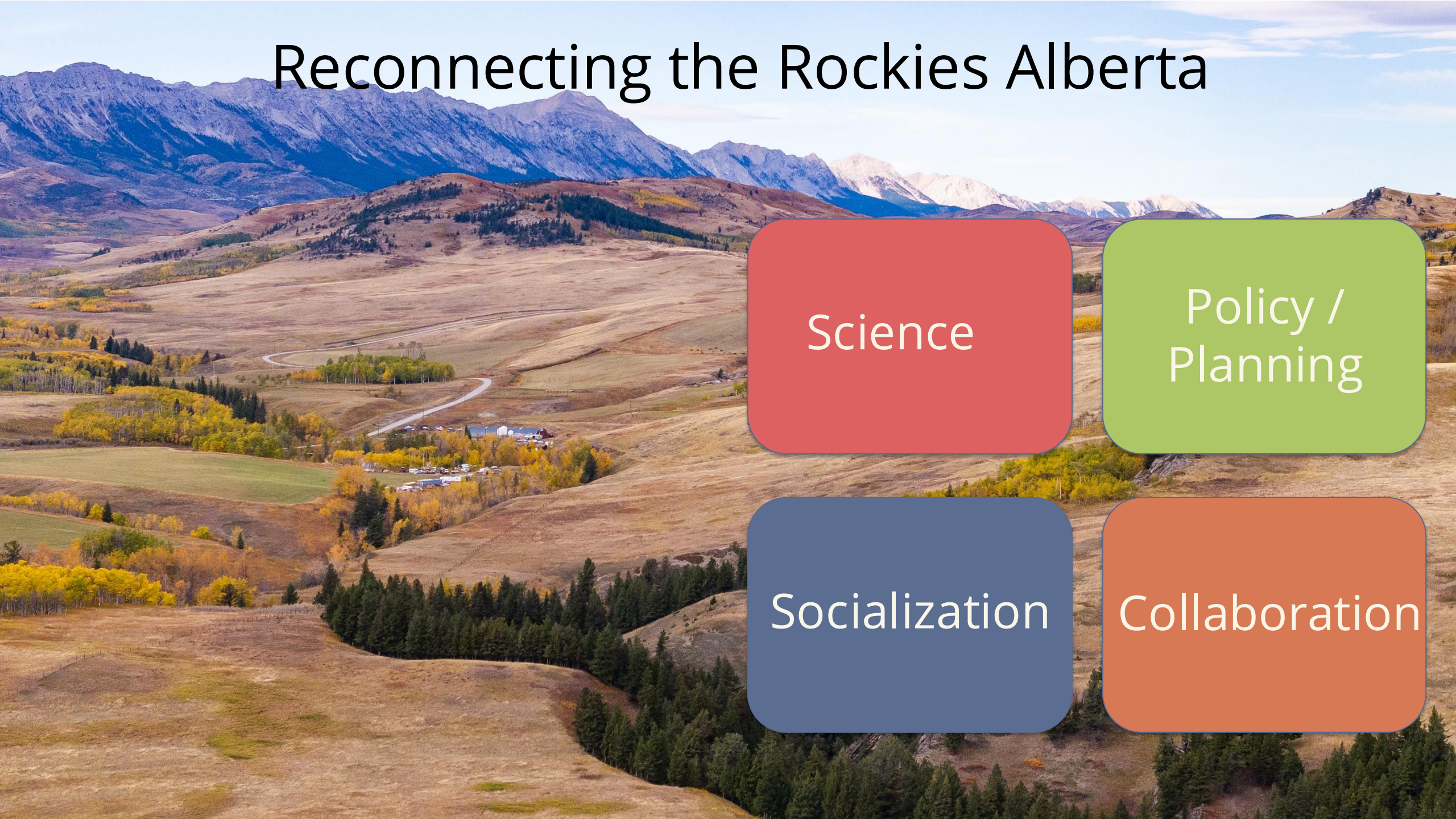
Reconnecting the Rockies Alberta



Science Team

Tracy Lee – Miistakis Institute

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Maria Didkowsky – Alberta Environment and Protected Areas

Erin Miller – Alberta Environment and Protected Areas

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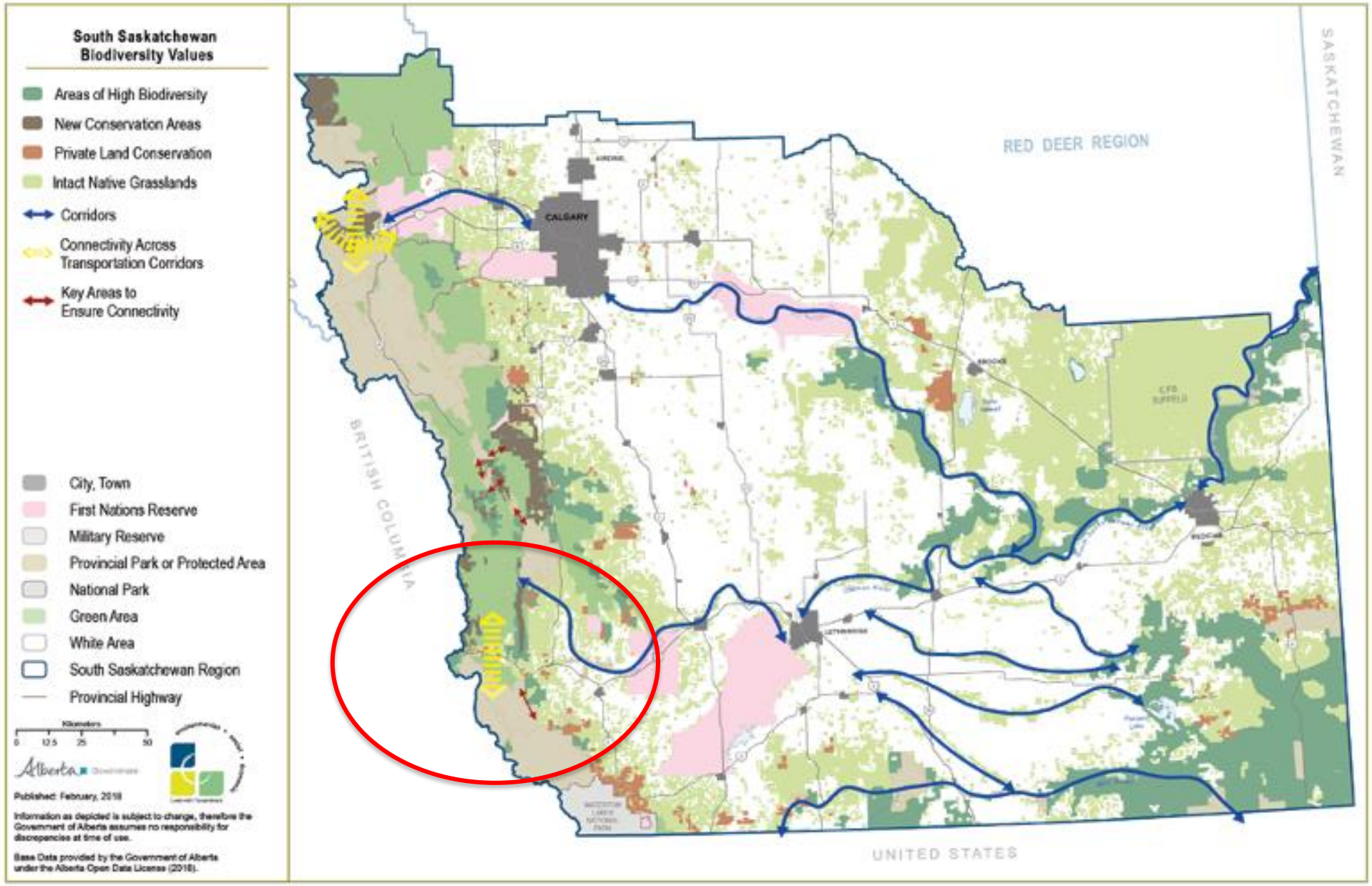
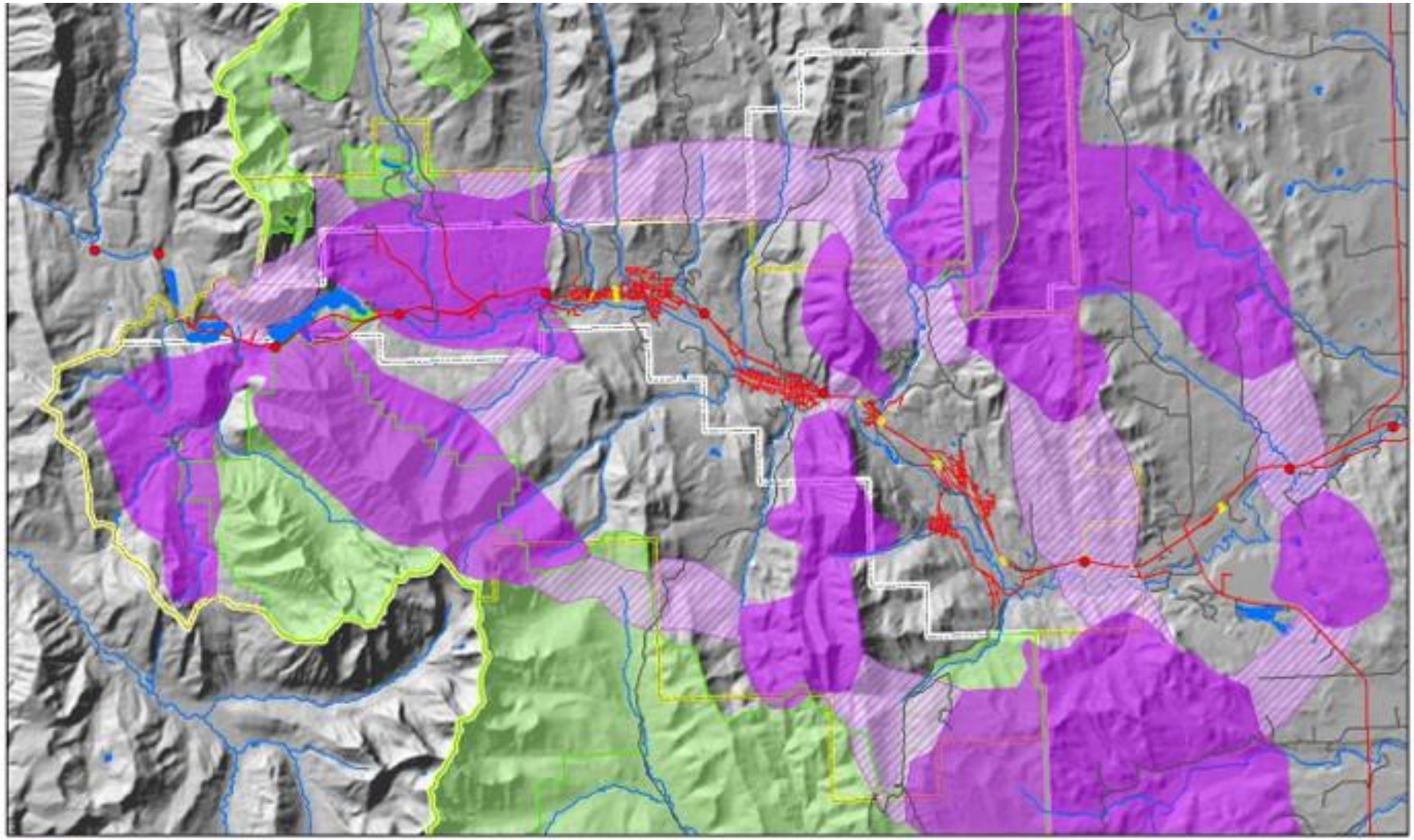
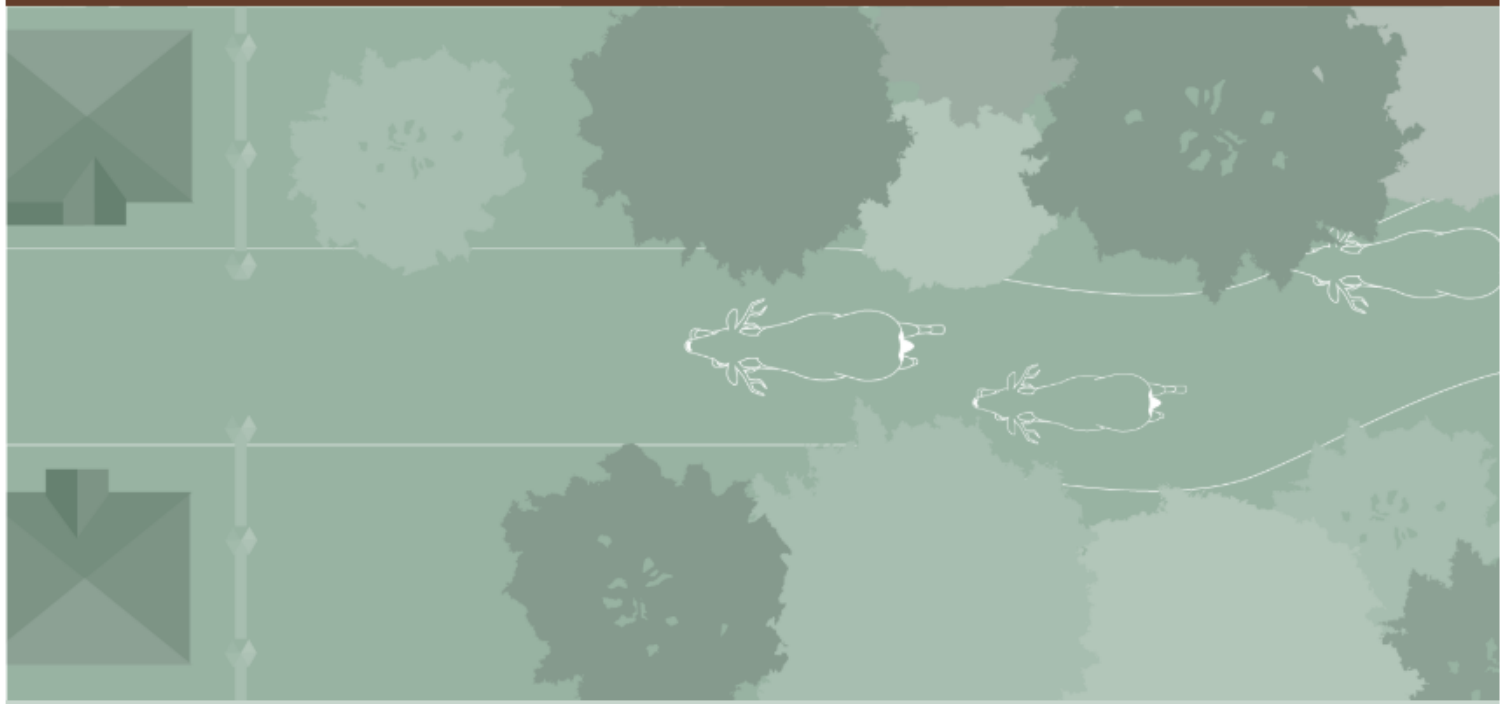
Emilie Brien – Nature Conservancy Canada


South Saskatchewan
Biodiversity Values
Areas of High Biodiversity
New Conservation Areas
Private Land Conservation
Intact Native Grasslands
Corridors
Connectivity Across
Transportation Corridors
Key Areas to
Ensure Connectivity
City, Town
First Nations Reserve
Military Reserve
Provincial Park or Protected Area
National Park
Green Area
White Area
South Saskatchewan Region
Provincial Highway
Kilometers
0 12.5 25 50
Alberta
Published: February, 2018
Information as depicted is subject to change, therefore the Government of Alberta assumes no responsibility for discrepancies at time of use.
Base Data provided by the Government of Alberta under the Alberta Open Data License (2018).
RED DEER REGION
CALGARY
SASKATCHEWAN
BRITISH COLUMBIA
UNITED STATES


Habitat patch
Primary wildlife corridor
Secondary wildlife corridor
Highway mitigation sites
Protected area
0
2.5
5
10
Kilometers

WELCOME TO THE WILDLIFE MOVEMENT TOOL

Helping to answer: how will a new development impact our ecological corridor?



The municipalities of Crowsnest Pass and Pincher Creek have recognized the importance of ecological corridors (also called wildlife linkages) within their jurisdictions.

These ecological corridors provide necessary movement for large mammals such as grizzly bear and elk, which are vital to our ecosystems, tourism and local community identities. However, both municipalities are experiencing growth, and developments are being proposed within and adjacent to these important ecological corridors. The opportunity and challenge lie in encouraging growth to occur in a way that does not negate the municipalities' commitments to protecting the ecological corridors and the wildlife movement they provide.

This **Wildlife Movement Tool** was designed to assess if and how a potential development would impact the functioning of the ecological corridors to provide for large mammal movement. It should be used when a proposed development is within or directly adjacent to the ecological corridor and provides strategies that would mitigate impacts. The results can help to inform the preparation of planning documents such as Intermunicipal Development Plan Negotiations, Municipal Development Plan preparations and Area Structure Plans, and to make informed decisions on rezoning/ designation application reviews, development permits and subdivision applications.

See the **Wildlife Movement Tool** page to enter in a proposed development details and generate a report.

ECOLOGICAL CORRIDORS EXPLAINED

An ecological corridor (also referred to as wildlife corridors or linkages) is a geographical space that is deliberately managed so wildlife can move through to reach protected habitat. For large mammals to use them, ecological corridors must be wide, naturally vegetated, and have no to little human activity. See background report to learn more about ecological corridors.

ADVISORY COMMITTEE

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Diane Horvath, Oldman River Regional Services Commission
Gavin Scott, Oldman River Regional Services Commission
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Maria Didkowsky, Alberta Environment and Parks

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HOW TO USE THIS TOOL:

1. On the Interactive Map use the [+] tool to zoom into the development area, (click on quarter section to view label)
2. Use either the [⬟] or [■] tool to draw your development area (if using the [⬟] tool you need to click on the finish
3. Use the [✎] button if you want to change the area of your development
4. Use the [🗑] button to delete a development area and restart or assess a new development
5. Complete the Connectivity Risk Assessment Form
6. Submit and review the Connectivity Risk Assessment Report

	QTR	SEC	TWP	RGE
JUMP TO QTR SECTION:	SW	1	6	2

REDRAW DEVELOPMENT

CONNECTIVITY RISK ASSESSMENT FORM

ECOLOGICAL CORRIDOR COMPROMISED

The results indicate that if the proposed development continues as-is, the following high-risk impacts will occur to the ecological corridor. Wildlife movement is not likely to be maintained.

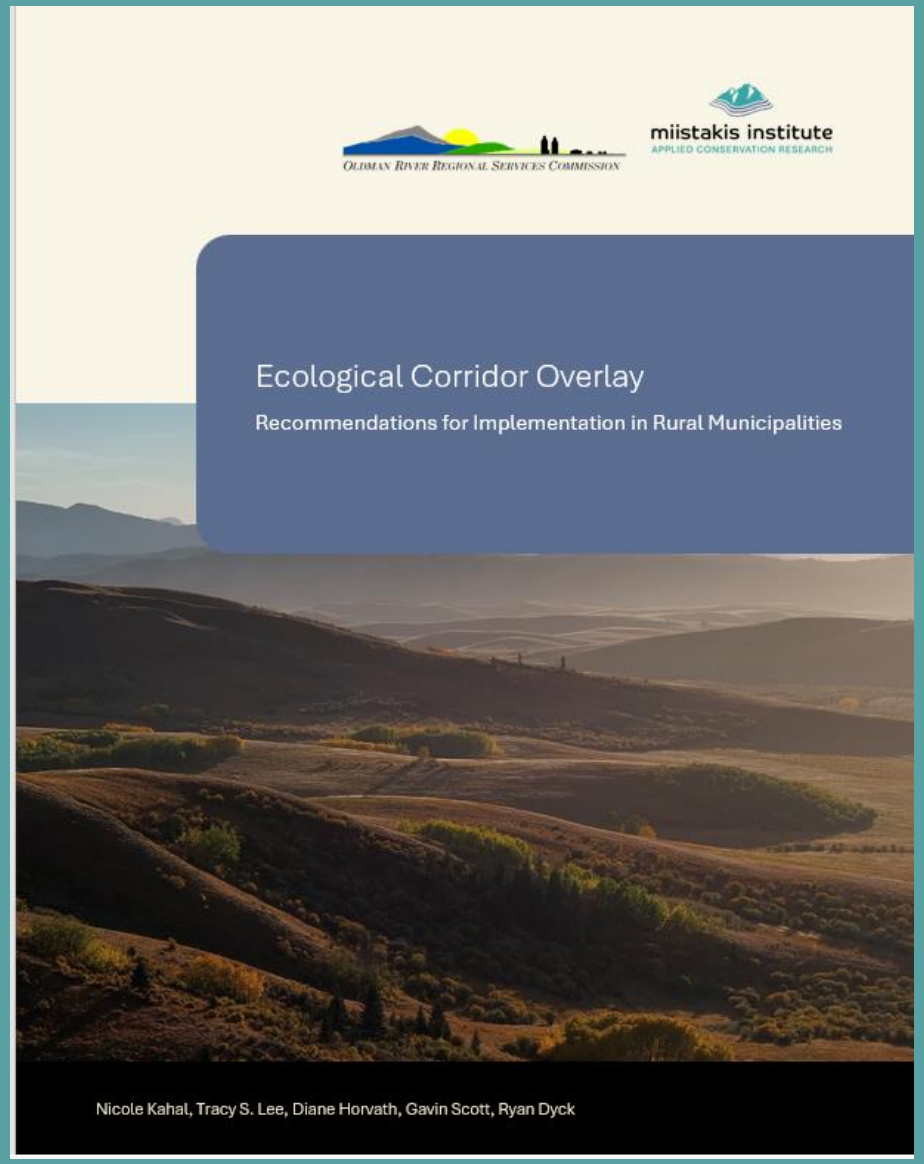
MITIGATION RECOMMENDED

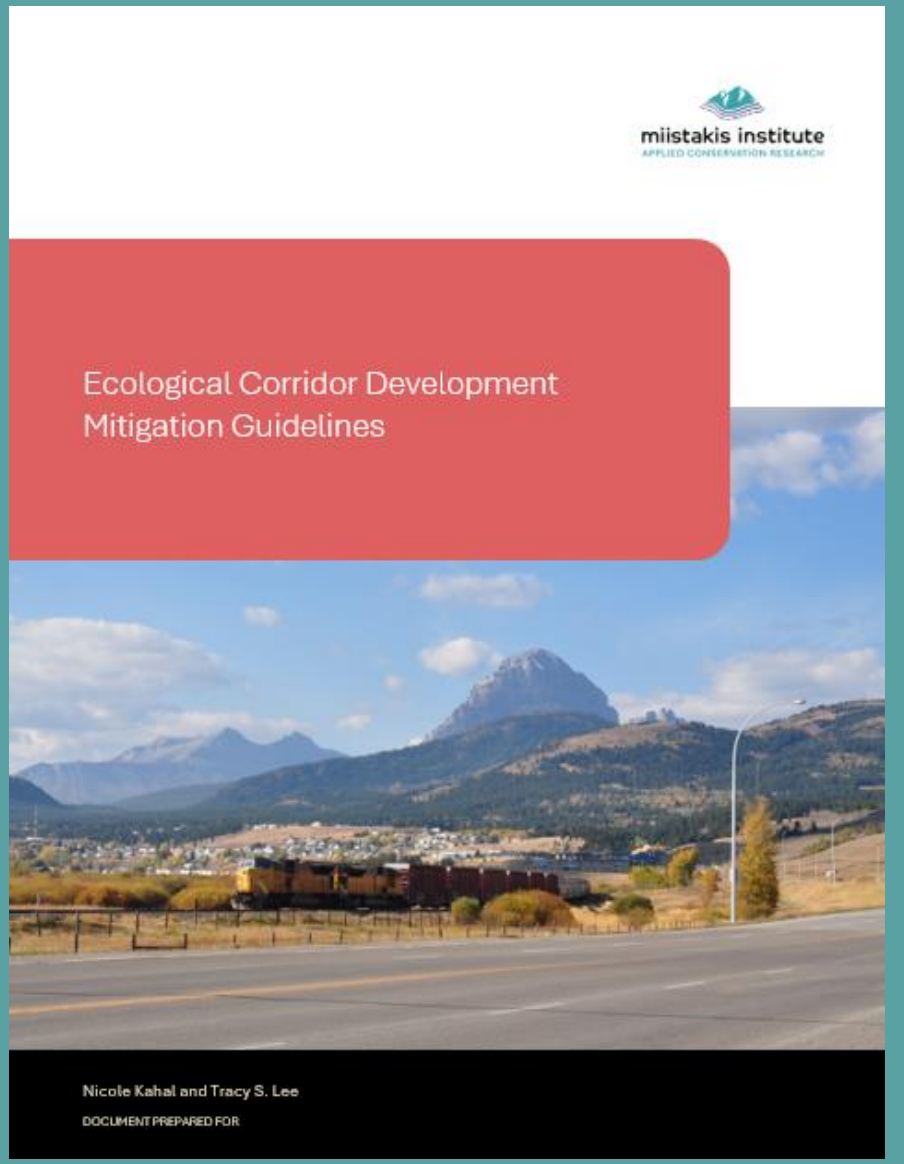
The following areas should be mitigated to continue to allow for wildlife movement. See the Ecological Corridor Development Mitigation Guidelines for details on the listed options.

LOW IMPACT

The development will have a low impact the following areas necessary for a functioning ecological corridor. Wildlife movement is likely to be maintained.

Ecological Connectivity Overlay Policy and Mitigation Guidelines





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Elements of Success

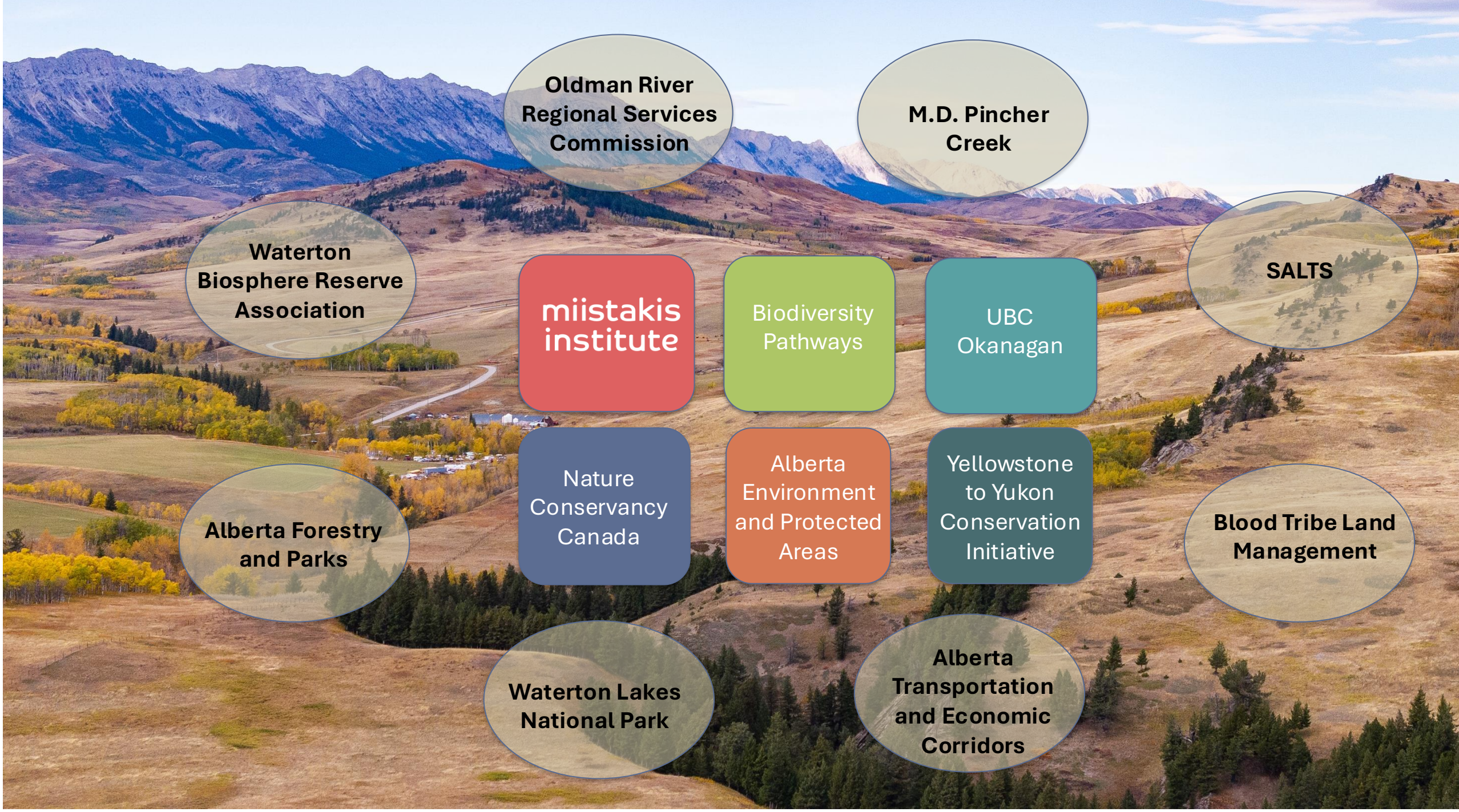
Collaboration

Building Trust

Context

Leadership

Leverage


Oldman River Regional Services Commission
M.D. Pincher Creek
Waterton Biosphere Reserve Association
SALTS
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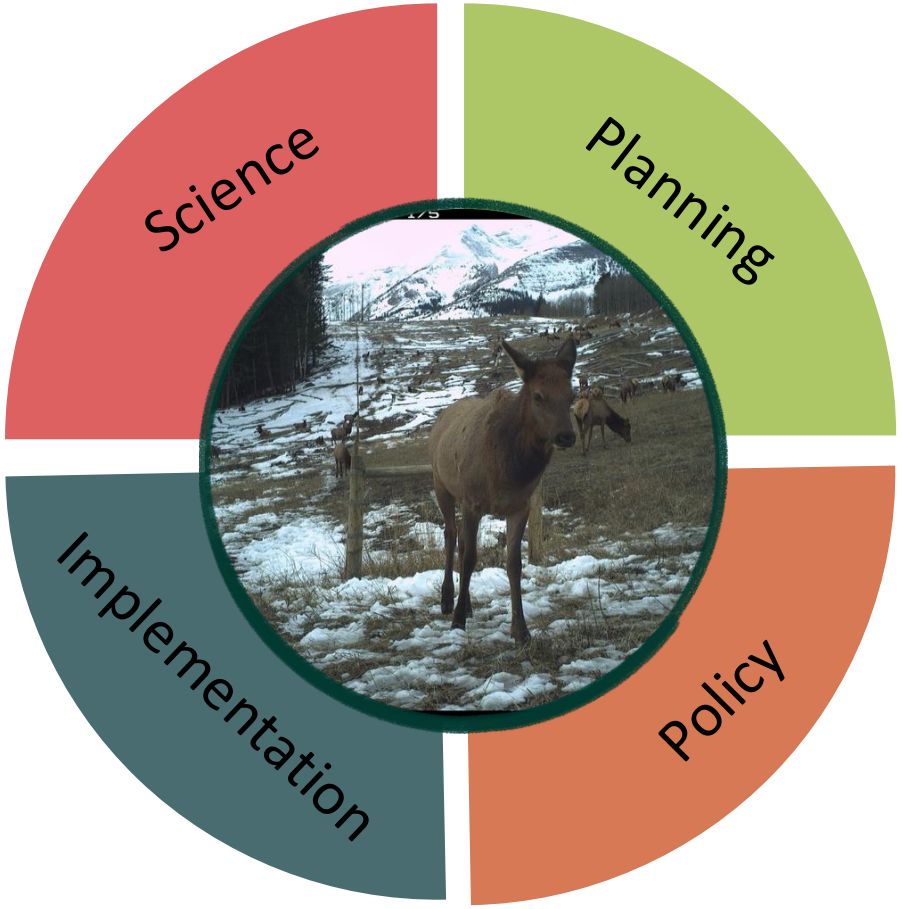
Biodiversity Pathways
UBC Okanagan
Nature Conservancy Canada
Alberta Environment and Protected Areas
Yellowstone to Yukon Conservation Initiative
Alberta Forestry and Parks
Blood Tribe Land Management
Waterton Lakes National Park
Alberta Transportation and Economic Corridors

Leadership



Leverage

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Developing a correction factor to apply to animal–vehicle collision data for improved road mitigation measures

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Abstract

Context. Road mitigation to reduce animal–vehicle collisions (AVCs) is usually based on analysis of road survey animal carcass data. This is used to identify road sections with high AVC clusters. Large mammals that are struck and die away from a road are not recorded nor considered in these analyses, reducing our understanding of the number of AVCs and the cost–benefit of road mitigation measures.

Aims. Our aim was to develop a method to calculate a correction factor for large mammal carcass data reported through road survey. This will improve our understanding of the magnitude and cost of AVCs.

Method. Citizen scientists reported animal carcasses on walking surveys along transects parallel to the highway and reported observations using a smartphone application at three sites over a 5-year period. These data were compared with traditional road survey data.

Key result. We found that many large mammals involved in AVCs die away from the road and are, therefore, not reported in traditional road surveys. A correction factor of 2.8 for our region can be applied to road survey data to account for injury bias error in road survey carcass data.

Conclusions. For large mammals, AVCs based on road survey carcass data are underestimates. To improve information about AVCs where little is known, we recommend conducting similar research to identify a correction factor to conventionally collected road survey carcass data.

Implications. Identifying road mitigation sites by transportation agencies tends to focus on road sections with above-threshold AVC numbers and where cost–benefit analyses deem mitigation necessary. A correction factor improves AVC estimate accuracy, improving the identification of sites appropriate for mitigation, and, ultimately, benefiting people and wildlife by reducing risks of AVCs.

Keywords: animal vehicle collisions, citizen science, road ecology, road mitigation.

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Introduction

Animal–vehicle collisions (AVCs), particularly those involving ungulates, are increasingly recognised as a significant concern for traffic safety, socioeconomics, animal welfare and wildlife management in the United States, Canada, Australia and Europe (Groot Bruinderink and Hazebroek 1996; Huijser *et al.* 2008; Ward *et al.* 2011; Ang *et al.* 2019). In the USA alone, it is estimated that 1 million deer (*Odocoileus* sp.)-vehicle collisions occur annually, with an associated cost of more than US$1 billion in vehicle damages and 29 000 human injuries (Conover *et al.* 1995). Similar patterns and growing concerns about vehicle collisions with large animals are found in Canada and Europe (Langbein *et al.* 2011; Vanlaar *et al.* 2012; Morelle *et al.* 2013; Rosell *et al.* 2013).

In an effort to reduce the frequency of AVCs, transportation agencies around the world have implemented road mitigation measures such as wildlife under- and overpasses, fencing, animal detection systems, and variable message signs (Huijser *et al.* 2008; van der Ree *et al.* 2015). AVC records are often used to locate optimal sites for these measures. For example, AVC data have been used solely, or in conjunction with, wildlife movement data to plan the location of mitigation measures on roads (Lenhert and Bissonette 1998; Van Manen *et al.* 2012; Gagnon *et al.* 2019). AVC data are also analysed together with landscape and road variables to identify where high AVC rates might occur, so as to help inform the underlying mechanisms leading to future AVCs (Ramp *et al.* 2005; Litvaitis and Tash 2008; Ward *et al.* 2011; Clevenger *et al.* 2015). For both

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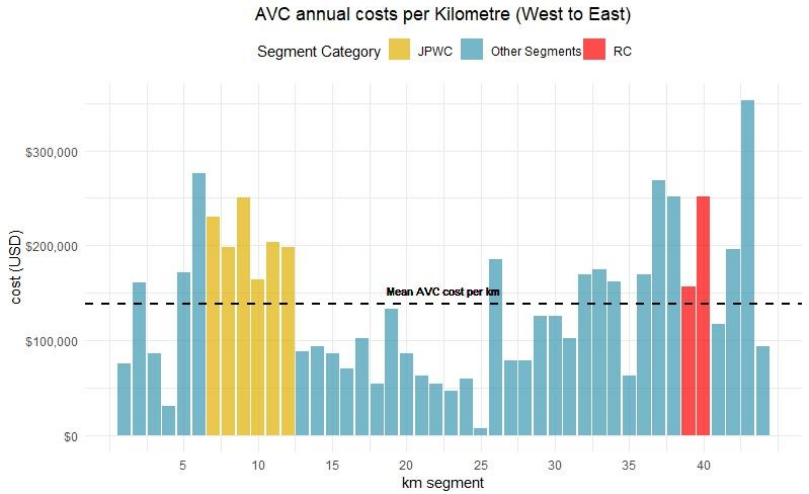

Adopt an Ecological Corridor Overlay

The following language for an EC overlay can be adjusted as necessary in an amendment to the land use bylaw.

Ecological Corridor Overlay Bylaw template:

1.1 Purpose

The purpose of the Ecological Corridor Overlay (EC Overlay) is to maintain ecological connectivity necessary for [as stated in the MDP, such as wildlife movement and/or ecological processes] while providing for economic growth in the [municipality].

1.2 Application

This Overlay applied to those lands within the ecological corridor boundaries as seen in Appendix X.

1.3 Development Regulations and Submission Requirements

For developments located within the EC Overlay, subsection 2 of this Bylaw shall apply. Submission of a [Wildlife Movement tool report, document describing corridor impacts, letter from environmental professional] shall be required.

1.4 Special Information Requirements

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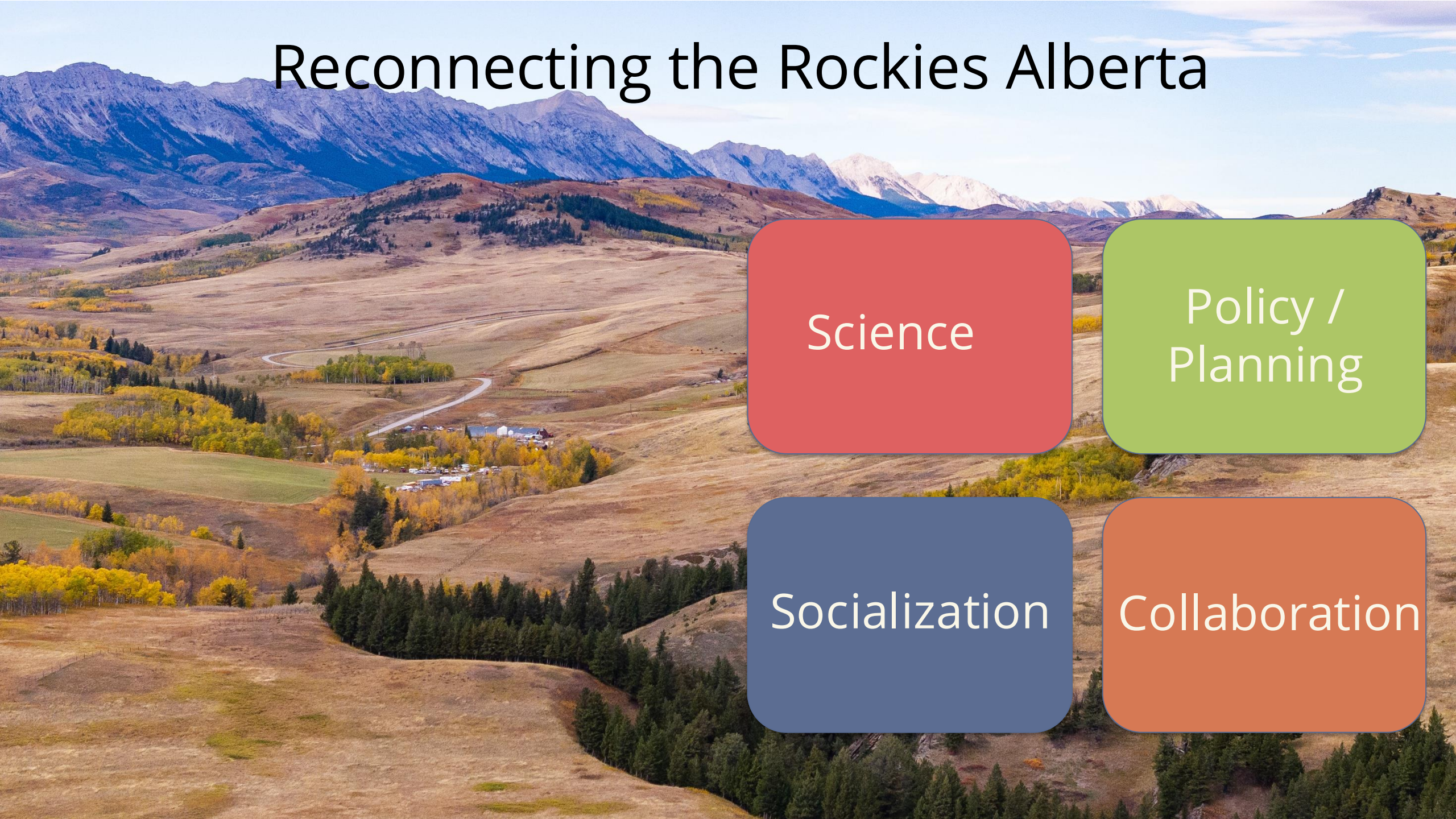

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