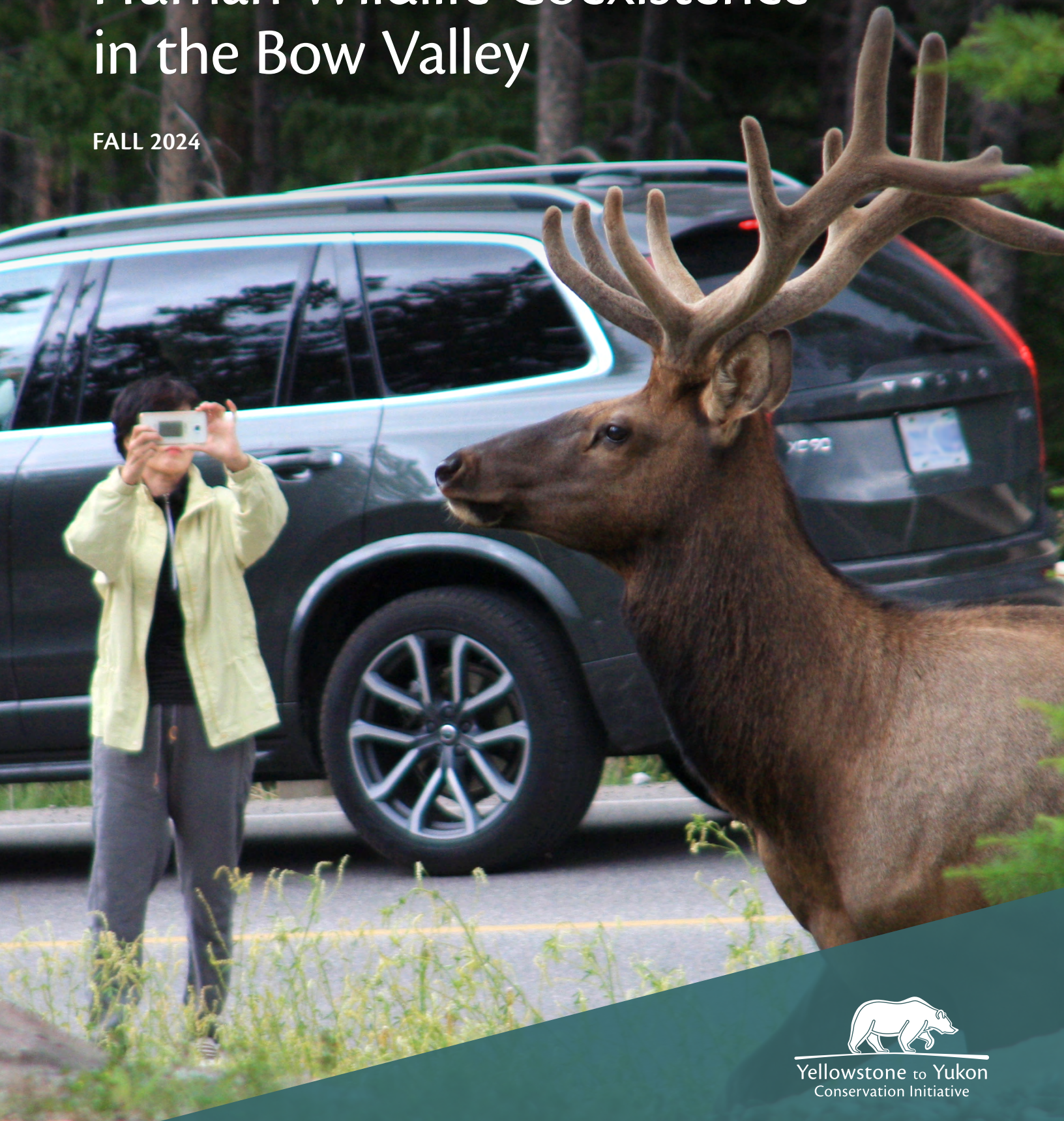# Wise Practices for Human Wildlife Coexistence in the Bow Valley

FALL 2024

Yellowstone to Yukon
Conservation Initiative

INTRODUCTION

The Frame

The Eastern Slopes of the Canadian Rockies are sacred purveyors of life. They are places of ancestral connection, of unparalleled recreation, and of freshwater for a wide range of plant and animal life and the systems upon which those species, including the grizzly, depend.

Because the Bow Valley is an increasingly popular place to live in and to visit, the cumulative impacts from human development have never been so great nor the presence of wildlife so low. As our human communities grow — reducing the availability of safe, undisturbed habitat — human-wildlife conflict is expected to grow too. Some bear biologists have claimed that the Bow Valley is the most developed community in the world that still has grizzly bears. If we don't take strong measures to manage people and growth differently, there is a real risk that grizzlies will disappear from the Bow Valley like they have from countless others.

The Bow Valley can stay prosperous through carefully planned development and recreation management. This means keeping the natural areas connected and protected, so we can share space with wildlife and make sure they are here for the long-term.

The Context

Why does the Bow Valley matter?

The Bow Valley is a gravel riverbed system. Examples of low, warm valleys that run east-west across the Rocky Mountains are few. Gravel riverbed valleys support over half of the plant life and more than 70% of bird species found in the Rockies (Hauer et al. 2016). In addition, they provide essential habitat and migration corridors for nearly all the large mammals that characterize this region.

Banff National Park and the Towns of Banff and Canmore are well known among mountain communities for their innovative and broad approach to keeping bears alive and thriving. Innovations like bear-proof garbage bins, wildlife attractant bylaws, and an incredible system of wildlife crossing structures across Hwy 1 have helped set the standard for mountain towns in the Rockies. But these efforts haven't been enough to stop the loss of bears.

Why focus on grizzly bears?

Grizzly bears *(Ursus arctos horribilis)* are culturally significant for Indigenous peoples who have lived in the Bow Valley for millennia. In the context of western science, they are known as an "umbrella species" whose large home ranges and habitat needs overlap with many other species in the landscape. They are also an indicator species whose presence indicates a healthy and intact landscape.

Practicing "two-eyed seeing," a phrase coined by Mi'kmaw Elder Albert Marshall, is the ability to hold western and Indigenous ways of knowing simultaneously. Doing this with the grizzly, as was achieved in the 2016 Stoney Nakoda Nations *Cultural Assessment for the "Enhancing grizzly bear management programs through the inclusion of cultural monitoring and traditional ecological knowledge"*, helps us see that they embody cultural values as well, and that their health can be an indicator for health of the societies who hold these values which transcend western science.

Each of scenarios modeled by the 2022 *Grizzly Bear Movement and Conflict Risk in the Bow Valley: A Cumulative Effects Model* proved effective at reducing the risk of human-grizzly conflict and could be considered as three areas where large gains could be made in improving human-wildlife interaction. In the report that follows, we consider the current trajectory for the Bow Valley when it comes to human recreation and development and look to see what best practices and ideas would best inform the maintenance of the vision for this place as one where people and wildlife can coexist in perpetuity.

Our Collective Future

Our report builds upon the essential work of the 2018 Recommendations for Improving Human-Wildlife Coexistence in the Bow Valley by exploring a collection of wise practices that achieve carefully-planned development and well-managed recreation.

In 2018, government biologists, town officials, ENGO representatives and others released a report entitled **Recommendations for Improving Human-Wildlife Coexistence in the Bow Valley (2018 HWC report).** This report summarized conflict data from different agencies managing land and wildlife in the Bow Valley and made 28 recommendations to improve coexistence. These recommendations are being implemented at different rates by the AB government, Parks Canada, the Towns of Canmore and Banff, and the Municipal District of Bighorn today.

Leading up to the 2018 report, both the Coexistence Roundtable and Technical Working Group were formed to coordinate efforts to mitigate conflict between humans and wildlife. The resulting report is a western science-based definition of 6 key issues and 28 corresponding recommendations to improve human-wildlife coexistence. It was also a call to action:

> *Everyone who lives in, or is a visitor to the Bow Valley has an important role to play in achieving human-wildlife coexistence. Through collaboration, cooperation and compliance, this collective effort will contribute to the survival of wildlife in the Bow Valley while remaining a to destination for people to live, work and play. (p.50).*

The 2018 report provides a core plan of action to improve human-wildlife coexistence here in the Bow Valley. Since it was published, various recommendations have been completed, while the implementation of others is still underway.

Much has changed in the past six years. The region is still recovering from the impacts of a global pandemic, while the effects from a changing climate continue to intensify. And the number of visitors and residents continues to increase each year.

In the Bow Valley, our current ways of planning development and managing recreation are out of step with the community's goal of coexisting with wildlife. Coexistence is more than just conflict mitigation and requires consideration of nature as more than just a "resource." Rather, its sustained health and protection is a core tenet of the prosperity of the region.

Acknowledging all the information and ideas available to us will enable us to learn, better predict future scenarios, and establish the conditions necessary for the natural world to regenerate and for all life in the Bow Valley to thrive.

The Approach

We showcase precedents in this report as Indigenous knowledge keepers do as "wise practices." Best practices can act in ways that undermine a collective understanding; the precedents to follow were chosen because they are "idiosyncratic, contextual, textured, and not standardized," as wise practices are typically defined to be (Davis 1997).

In producing this report, we engaged with partners — local, regional, and international — to collaboratively confront the coexistence challenge for the Bow Valley. Given their trajectory, as outlined in the 2022 Grizzly Bear Movement and Conflict Risk in the Bow Valley: A Cumulative Effects Model, we focused especially on reducing the impacts of recreation and development.

The goal of this work is to advance cultural alignment with coexistence. We prioritized those wise practices that demonstrate how to shift the mindsets of others to achieve a change in culture. The more recommendations that are met, the better chance we have at realizing the 2018 report's vision to have wildlife in the Bow Valley be "able to effectively utilize natural habitats with minimal human disturbance and seldom venture into developed areas."

By focusing on shifting the mindset around human recreation and development, we have a better chance and ensuring conditions remain favourable to wildlife in this valley in perpetuity.

This *Wise Practices for Human Wildlife Coexistence in the Bow Valley* report contains precedents that are related to Limited Expansion, Informal Trail Mitigation, and Managed Recreation. Specific practices showcased include the following:

1 **Conservation Development**
2 **Conservation Funds & Land Trusts**
3 **Natural Asset Inventories & Ecosystem Service Assessments**
4 **Visitor Use Management**
5 **Trails Alliances & Campaigns**
6 **Indigenous Land Guardians**

The learnings from this report are meant to build on the excellent work done on human-wildlife coexistence in the Bow Valley in the last five years. United by our brilliance and passion, we can realize a prosperous future shaped by peacefully coexisting with wildlife.

Growth Management

A Note About Managing Growth

In communities rich with natural amenities like clean water, healthy forests, and or populations of rare wildlife species like grizzly bears, there is value in phasing development and using a growth management plan (GMP) to help sustain these primary sources of prosperity. Growth management is used globally to help plan for development and infrastructure to manage anticipated population growth within a community. In conjunction with this, there are other tactics like conservation development, land trusts, and natural asset inventories that can also help steward natural resources and manage the amenities derived from them. However, when used in isolation, the impacts of tools and concepts are limited. The *2018 Recommendations for Improving Human-Wildlife Coexistence in the Bow Valley* report (henceforth, HWC report) discusses another key importance — maintaining habitat security.

Parks Canada's National Program for Ecological Corridors identified the Bow Valley, from Banff through to Kananaskis Country, as a **National Priority Area for Ecological Corridors**. This program recognizes that ecological corridors transect jurisdictional boundaries and exist outside of parks, and that "improving or maintaining ecological connectivity in the priority areas will greatly benefit biodiversity conservation and climate change adaptation."

Fragmentation of habitat caused by development has greatly reduced the amount of secure habitat within the Bow Valley, and consequently the ability of the valley to support wildlife. Habitat Security Mapping has been used to improve or maintain habitat security in Banff National Park for the past two decades. Recommendation #10 of the HWC report calls for habitat security mapping as a tool for informing where and how growth happens throughout the Bow Valley.

> *"Quantifying the effects of current and future anthropogenic development on movement behaviour, resource selection, habitat patches, and connectivity may support better land use decision making for wildlife conservation and management of ecosystem-level processes"* (Whittington et al, 2022).

The South Saskatchewan Regional Plan establishes the broad land uses for the region encompassing the Bow Valley. Municipal development plans and subsequent area development and redevelopment plans establish greater specificity for the intention of development. However, municipal-wide phasing, timing, and limits to growth and development — highly consequential components associated with curbing exurban sprawl and preventing degradation of important wildlife habitat — are largely missing in communities like Canmore.

Canmore does not have a growth management plan (GMP) in place to guide "orderly and appropriate growth" for the community as a whole like the nearby town of Cochrane **does**. Instead, the Town counts on **the combination** of its municipal development plan, its collection of area structure plans and area redevelopment plans, and the urban growth boundary to collectively guide development. It does not have clear time-bound targets for things like resident population or commercial square footage, as could be included in a GMP, and as a result, the Town's growth is largely dictated by market forces.

When market forces are the primary orchestrator of development within a community, it decreases the ability for that community to address the cumulative effects associated with its environment. When growth is not strategically managed at the scale of the municipality, it is more difficult to consider larger-scale systems, such as wildlife habitat connectivity, that flow through the community. GMPs can provide this lens and offer municipalities the means to more effectively consider not only habitat security, but also such things as wildfire risk, infrastructure and transportation needs, and water security.

Twenty kilometers west of Canmore, the Town of Banff has a comprehensive GMP. Banff is unique in that it resides within a National Park and has federally mandated legislation (Canada National Parks Act) in place to limit development by means of a commercial growth cap (currently set at 361,390 square metres). Population is not directly capped in Banff; rather, it's anticipated that this commercial growth cap, in conjunction with the requirement that all residents must have a place of employment in Banff, will keep the town's permanent resident population under 10,000.

While Canmore may not have as many jurisdictional powers that a national park has to limit development, more could be done to plan for and manage development in ways that minimize the overlap with key wildlife habitat and movement corridors. Greater collaboration between jurisdictions could effectively help to guide and manage regional growth in ways that guide market forces, respond to the scale at which nature functions, and reduce the risk of human-wildlife conflict that development traditionally increases. A successful model that can be emulated is the Human-Wildlife Coexistence Technical Working Group of the Bow Valley. Using the HWC report as a guide, their collective efforts have demonstrated successful collaboration to mitigate conflict between humans and wildlife several times over in the six years since the publication of the report.

Conservation Development

Relevancy to 2018 HWC report

Conservation development — which can be summarized as controlled land-based development that allows for limited sustainable development while protecting rural character and key landscape features, such as agricultural land or wildlife habitat — is most relevant to achieving the recommendations related to Habitat Security (see Sec. 4.4 of 2018 HWC report).

> *"Predictability is key for successful coexistence — for both people and wildlife. The greater the certainty provided for both people and wildlife, the more success there will be in modifying human and wildlife behaviour to increase separation in space and/or time, thereby reducing human-wildlife occurrences" (P.24).*

Implementing conservation development can provide the predictable spatial and temporal separation — through permanently protected open space — that human-wildlife coexistence in urban and exurban settings requires.

Introduction

In mountain communities, people prefer to build on and live in valley bottoms, which are warm, productive, protected, and relatively flat. These lands are also the most ecologically rich lands, and often contain the highest-quality habitat for wildlife. Development is therefore a driver of habitat loss and fragmentation and is often at odds with conservation goals.

Conservation development, also known as conservation design, uses smart growth principles — such as prioritization of infill development or redevelopment (versus greenfield development), creation of walkable neighbourhoods, and ensuring preservation of open space — and a first step is to identify ecologically sensitive and valuable lands. In contrast to green belt creation, which is driven by preserving a larger connected regional network of parcels, conservation development is often considered at the community scale. It's an effective tool to help patch together key parcels to achieve the regional habitat connectivity that a greenbelt is intended to achieve at once. Both green belt design and conservation development consider larger ecological integrity and connectivity needs; they simply address them at different scales. Conservation design is suited to the scale of a municipality or town and considers regional connectivity needs in its sizing and location of designated undeveloped open space.

Typically, at least 50% of the total land is set aside to be protected by a conservation easement, or held by a conservation organization, while allowing development to occur around it. Because the land set aside are intended to have human uses, like recreation, applied to it, its designation would fall under the **IUCN's Category V "protected area" designation**. Developing land in this way utilizes development revenue to finance protection of the conserved areas, ensuring there is ongoing stewardship of the protected portion of the parcel.

"Suburban, exurban, and rural development is a leading cause of biodiversity loss and natural resource degradation... conservation development [is] a way to combine land development with functional protection for conservation resources." (Milder, 2007)

Existing development in Banff and Canmore has reduced the amount of high-quality habitat available to carnivores by more than 35% and has reduced connectivity from reference conditions by an average of 85%. Ecological modeling predicts further declines with additional future development (Whittington et al 2022). Whittington et al (2022) suggests that proposed development proposals should consider the use of the landscape by wildlife, as human developments have a strong and cumulative effect on wildlife behaviour and ecological connectivity. Such considerations would help to establish some baseline criteria for implementing conservation design in the Bow Valley. The International Union for Conservation of Nature (IUCN) Guidelines for conserving connectivity through ecological networks and corridors from Hilty et al (2020) provide in-depth tools and best practices for developing ecological networks and preserving ecological connectivity.

Precedents

Building a community park and affordable housing in Bozeman, MT

Gallatin County, where Bozeman is located, is the fastest growing county in Montana, which currently is one of the fastest growing states in the United States. Seventy-five percent of surveyed residents in the county believe development is proceeding at an unsustainable rate. To respond to this challenge and public sentiment, the City of Bozeman and Gallatin County finalized their draft **Sensitive Lands Protection Plan** in 2023 which contains actions to secure long-term ecological health, including adequate habitat, for the region.

The neighbourhood of Bridger View and Story Mill Park preceded the Sensitive Lands Protection Plan and has become one of the state's preeminent examples of conservation development. The land of Story Mill Park in northeast Bozeman was slated for development of a 1,200-home neighbourhood in the early 2000s, but after the developers filed for bankruptcy, the land was acquired from the bank, and public, private, and non-profit organizations joined forces to envision a different option for the lands.

The core of the resulting development consisted of 60 acres of parkland and ensured habitat connection through much of the site. This land, which was purchased by the city from the Trust for Public Land, acting as an intermediary, and converted into a 40-acre wildlife sanctuary with a focus on wetland conservation and remediation of land impacted by industrial use. The remaining land was converted into recreational areas, an off-leash dog-park, and a community garden. Adjacent to the park, the Bridger View neighbourhood was developed, with 62 planned homes on eight acres, providing an equal mix of market-rate and below-market affordable housing partially funded by philanthropic donation. All buildings were certified LEED Platinum or Gold, built on smaller lots with a goal of maximum energy efficiency and situated to create a human-centered walkable neighbourhood.
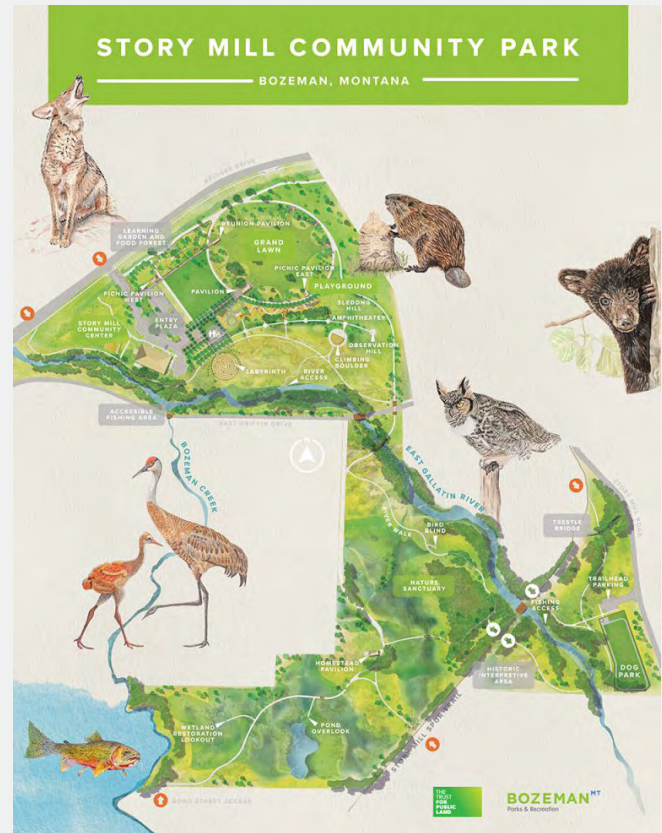

Illustration of Story Mill Community Park plan.
Image credit: The Trust for Public Land

Links

Gallatin Valley Sensitive Lands Protection Plan:
gallatinvalleyplan.bozeman.net

The neighbourhood:
bridgerview.org

The community housing trust:
headwatershousing.org

Prairie Crossing, Illinois

The community of Prairie Crossing in Grayslake, Illinois developed less than 25% of the units it was permitted through local zoning to realize its vision rooted in conservation development. The 274 ha community was designed to preserve open space and did so by setting aside 142 ha of protected land (60% of the land), including 65 ha of prairie restored from former agricultural use. The community includes wetlands, connections to the adjacent 2,000 ha Liberty Prairie Reserve. A total of 359 single-family homes and 36 condominium units were developed around constructed wetlands that serve as green infrastructure to remediate stormwater.

The development was triggered by the proposal of a new toll road, which motivated the community to want to protect existing open space. As a result, there was an intentional focus on providing large areas of unfragmented undeveloped land and restoring native habitat development. A public-private partnership was formed to establish the Liberty Prairie Reserve and the development continues to thrive, based on its ten guiding principles. The first principle is: *environmental protection and enhancement.*

Prairie Crossing neighbourhood and constructed wetland. Photo credit: Liberty Prairie Reserve.

Links

The neighbourhood:
prairiecrossing.com/conservation

The prairie reserve:
libertyprairie.org

Guidelines

Based upon background research and conversations with communities that have implemented conservation development, note the following:

Estimated Timeline:
~10 years from land acquisition to homes being occupied

Key Takeaway:
Because of the neighbourhood-scale of conservation development, ecological benefits can only be fully realized if they are connected to regional-scale wildlife habitat and connectivity.

Essential Metric:
Of all the potential things to measure, it is essential to document the baseline condition of habitat and ecological function of the pre-development state. Typically, the baseline state just prior to development is understood as part of an environmental impact assessment or statement. However, assessing the *historic* state and function of the land would provide a community with a better understanding of the desired future state of the land and could contribute to the vision for restoration and/ or regeneration of the undeveloped parcels

Tactics to Support Conservation Development:

• **Cluster development** – Design criteria that support compact homesites and less-dispersed acreages, so that natural amenities can be conserved.

• **Conservation buyer** – Attract conservation buyers — real-estate purchasers who have interest in conserving the ecological values of a tract of land and can work with a land trust to design a conservation easement that fits their goals.

• **Conservation Easements** – Conservation easements are voluntary agreements that limit the uses of land in perpetuity for the protection or conservation of ecological values.

• **Land trade** – The process by which gifts of property with little to no conservation value are sold by land trusts to fund land conservation initiatives and/or acquisitions.

• **Public purchase of development rights or land** – The process by which a municipality purchases development rights for specific tracts of land.

Resources

1 The IUCN (International Union for Conservation of Nature) **Guidelines for applying protected area management categories** – A document, founded in global best practice and extensive consultation, that provides support for implementing the categories of protected areas.

2 **www.smartgrowth.org** – An online resource for smart growth resources for supporting the development of vibrant, healthy communities.

3 **Manitoba's Manual for Conservation Subdivision Design** – An exemplary manual for subdivision, the smallest scale of conservation design, that helps to protect rural community character and open space.

Recommendations

As part of development planning, identify valuable ecological features and resources for conservation, particularly ideal habitat areas.

Identify tools available and market mechanisms available to help offset a determined percentage of development (<50%) in favor of conservation (>50%).

Identify revenue sources to help finance protection.

Ensure ongoing stewardship, typically with help from an external nonprofit organization such as a park or open space conservancy.

Ensure protected open space is tied to regional planning and meets the needs of regional-scale wildlife habitat and connectivity.

Pursue opportunities for collaboration and partnership consisting of First Nations, nonprofits, public agencies, and private organizations to help with new funding and leveraging existing funding to conserve habitat and acquire land where necessary.

Consider animals' *rights* to access private land for basic needs — movement, sustenance, and shelter — by granting property rights to endemic groups of species.

Conservation Funds & Land Trusts

Relevancy to 2018 Report

Conservation Funds & Land Trusts are most relevant to achieving the recommendations related to Habitat Security (see Sec. 4.4 of 2018 Report).

> *"Many wildlife species require secure habitat away from disturbance to feed, rest, reproduce, and move, all to meet various life history strategies. The lack of secure habitat may result in increased wildlife occurrences in urban areas, increased interactions in human-wildlife interface areas, and increased human intrusions into areas that are closed to protect wildlife. All of these contribute to increased risk of human-wildlife occurrences" (P.23).*

The development pressures upon the Bow Valley from the housing industry are immense. As a result, the market value of non-conservation lands continues to increase, which, in turn, makes it increasingly difficult for acquiring land for purposes other than housing development. Conservation funds and land trusts are two tools available to help alleviate some of this pressure by offering means to acquire and hold land for uses other than development.

Introduction

"The creation of a regional conservation fund was a major accomplishment for the Regional District of Okanagan-Similkameen [(RDOS)] Board. This fund will allow for the preservation of land and species at risk through opportunities of land purchases and/or environmental conservation projects through joint partnerships." – **KARLA KOZAKEVICH, RDOS DIRECTOR**

Future development of the eastern portion of Canmore's undeveloped lands accounts for 85% of the expansion of Canmore's settlement footprint. The *Grizzly Bear Movement and Conflict Risk in the Bow Valley: A Cumulative Effects Model* report found that considering a mitigation scenario that limited urban development reduced — by 35% — instances of moderate to high risk of human-wildlife conflict. This modeled reduction was due a lessened impact on wildlife related to a decrease in habitat loss, as well as levels of recreational activity.

The wildlife and people of Bow Valley would benefit from having a conservation fund that serves the purpose to acquire and hold capital for creating easements and acquiring conservation lands. Complementing this would be a land trust — a legal entity that would take ownership over specific private property rights at the voluntary action of the landowner. By voluntarily placing land under an agreement, such as a conservation easement, the landowner limits, or eliminates future development and specific uses of that land. To reflect shared needs and values, conservation easements are defined by legal agreements tailored specifically to the landowner and a land trust.

More specifically, there are two types of funds used to acquire lands for the purposes of conservation, known in some locales as: 1) parkland acquisition funds, and 2) conservation funds. Parkland acquisition funds can be set up by local governments to help achieve their amenity and public open space objectives. This type of fund would be realized through taxation of residents and/or funded by businesses through development charges; in-kind contribution, or dedication, of parkland; and/or cash-in-lieu when land is subdivided.

Conservation funds are also established by local governments as a service funded through a dedicated fee or tax, and used specifically to realize projects that support community sustainability and conservation goals. This type of fund would have a broader application and would be realized by whomever benefited from the fund. It could also be used to support local priorities related to protection of public open space, as well as, for example, any of the following:

- **Protection of water sources**
- **Restoring wildlife habitat**
- **Enhancing local food production**
- **Maintaining ecosystem health in light of climate change**

Each of the two types of funds would be held and overseen by a local government. However, in the case of the Bow Valley, where there is a high level of affluence and philanthropic giving, either fund could be supplemented by private donations, potentially held and overseen by a nonprofit organization acting in partnership with the local government.

Conservation funds and land trusts can exist independently, yet they function best when paired together.

Precedents

People on the land in the Columbia River Basin. Photo credit: Kootenay Conservation Program.

Kootenay Conservation Program, British Columbia

The Kootenay Conservation Program (KCP) coordinates and facilitates conservation efforts on private land, and generates the necessary support and resources for this. Rather than directly pursuing conservation projects, KCP partners with various conservation groups (e.g., the Nature Conservancy of Canada, Nature Trust of BC), government agencies, First Nations, and resource industries throughout the Kootenays in Canada. After 20 years of existences, it functions in partnership with 85 organizations in commitment to land conservation, stewardship, sharing knowledge, and building financial tools to support the collaborative work.

The KCP also partners with local governments in the delivery of several Local Conservation Funds (LCF). Two of particular relevance to the Bow Valley, due to similar ecologies and demographics, are the Columbia Valley LCF, and the Regional District of Central Kootenay LCF. The Columbia Valley LCF was the first of its kind established in Canada, with property owners in the area voting to pay a portion of their property taxes towards the fund since 2008. Its funding is dedicated to conservation projects that reduce a known threat to biodiversity. Central Kootenay LCF was established on a similar model in 2015, servicing communities throughout the West Kootenays.

Links

More on the fund:
**https://kootenayconservation.ca/**

Wolfville Watershed, NS. Photo credit: Scott Munn.

Habitat Conservation Fund, Nova Scotia

Established under the Nova Scotia Wildlife Act to help protect and enhance wildlife habitats. This conservation fund is unique in that it is supported through Wildlife Habitat Stamp purchases from hunters, trappers, and others — groups that benefit directly from the program's existence. The fund focuses on enhancing wildlife and wildlife habitats, land acquisition, research, and education. Others can also make monetary gifts, donations, and bequests to the fund. Occasionally, land is acquired and sold so that the revenue can also support the fund. To apply for the funds, there is an application process that includes a requirement for letters of support from matching funding sources; funding is allocated on a cost-share basis up to 75% of the total project cost.

Links

More on the fund:
novascotia.ca/natr/wildlife/habfund/
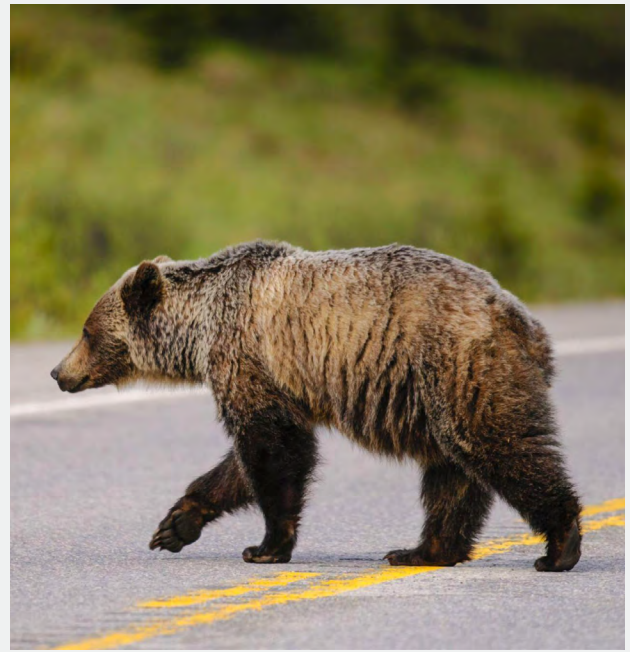
Grizzly crossing the road. Photo credit: Shutterstock.

Vital Ground, Missoula, Montana

There are several land trusts in Montana. Vital Ground is a non-profit land trust, based in Missoula, Montana, and noteworthy for their focus on protecting key movement areas for grizzly bears and other wildlife. They achieve this via land purchases or conservation easements, as well as providing grants to local partners for projects that help reduce human-wildlife conflict. They have been successful in securing multiple locations for grizzly movement, where crucial territory is divided by rivers, highways, and neighboring developments. Each project they fund has a unique timeline and sometimes takes years to solidify the easement. For example, the Wild River Estates project preserved 42.5 acres in 2017, 10 acres in 2019, and 3 acres in 2020 to help establish habitat connections for grizzly bears in the Cabinet-Yaak ecosystem, that crosses from British Columbia into Idaho and Montana.

Links

Vital Ground's habitat projects:
vitalground.org/habitat-projects/

Guidelines

Based upon background research and conversations with organizations helping other communities facing similar challenges to Canmore, related to acquiring and protecting open space, note the following:

Key Takeaway:
To realize conservation goals related to ensured protection of key habitat areas and wildlife corridors, it's recommended that a conservation fund be established in partnership with a land trust. Enabling the acquisition of land for conservation purposes is only effective if there exists an entity adequately resourced to hold the land in perpetuity, or until it is ready to be transferred to a jurisdiction who can legally designate its continued protection.

Essential Metric:
Of all the potential things to measure, it is valuable to determine the natural asset inventory and/or ecosystem service value of the lands in question. This would help to establish a quantifiable dimension to shared values and help contrast them to corresponding threats to things a community wishes to protect.

Resources

1 **British Columbia's Parkland Acquisition Best Practices** – provides guidelines to support a consistent policy approach for local governments pursuing parkland acquisition:

2 **Local Conservation Funds in British Columbia: A Guide for Local Governments and Community Organizations** – provides guidelines for communities to work together to protect local environments in order to support thriving livelihoods:

Recommendations

Consider how the specific parcel of land targeted to be converted into conservation lands (e.g., parkland, easements, etc.) could support the greater wildlife habitat of the region. A parcel that is already surrounded by development, for example, would be less beneficial to conserve version a parcel next to open space.

Enable as much time as possible to negotiate conservation agreements — they often require a great deal of time and patience to create, and details vary from case to case.

Ensure clarity around the common questions associated with such things as conservation easements, including the financial incentives to landowners, such as that provided by **Montana Association of Land Trusts** and **Southern Alberta Land Trust Society.**

Ensure appraisal policies, for either easement or purchase processes, do not inflate local land prices.

Consider resilience goals, sustainability goals, impacts to local taxes, and growth management plan of the community.

For conservation funds, consider a range of financing options that include: property value tax, parcel tax, local area service tax, and/or fee-for-service from users.

Ensure that clear processes, resources, and staffing are available for regular monitoring and enforcement of terms associated with conservation lands.

Seek to obtain *resort municipality* status. This would help exercise expanded taxation powers that could be put towards protection and/or acquisition of conservation lands.

Ecosystem Services & Natural Asset Inventories

Relevancy to 2018 Report

Ecosystem Services and Natural Asset Inventories are most relevant to achieving the recommendations related to Habitat Security (see Sec. 4.4 of 2018 Report).

> *"To encourage the separation of wildlife and human development, not only do wildlife attractants and refuge options need to be removed from within the urban footprint, but alternative secure habitat that is comparatively more attractive to wildlife needs to be supplied nearby. This means providing enough secure, quality habitat with low levels of human disturbance, as well as secure movement corridors to allow wildlife to move around, rather than through, urban areas"* (P.23).

The presence of charismatic migratory species like grizzlies is one of the key reasons people visit this region from all over the world. Without functional wildlife corridors connecting habitat within Banff National Park to habitat beyond its boundaries, and through communities like Canmore, these species run the risk of extirpation. Their continued presence is integral to the cultures of the region and what they need are assets worthy of consideration to help retain and protect secure and connected habitat.

Introduction

"The economic values of biodiversity, ecosystems and their services need to find their way into societal decision making if they are to help reduce and halt the loss of biodiversity." (Santos, 2012)

Ecosystem services are the benefits that people derive from natural ecosystems, whether it be freshwater, food, pollination, or aesthetic inspiration, cultural identity, places to recreate, a sense of home, or a spiritual experience related to the natural environment. They are often used to conservatively quantify nature and the value of its conservation or preservation in the context of proposed human development.

It is important to consider, but difficult to quantify, the benefits derived from natural assets — including those gained from recreation or from exercising spiritual or cultural practices. The United Nations defines these cultural services or assets as "The non-material benefits people obtain from ecosystems are called 'cultural services'. They include aesthetic inspiration, cultural identity, sense of home, and spiritual experience related to the natural environment. Typically, opportunities for tourism and for recreation are also considered within the group. Cultural services are deeply interconnected with each other and often connected to provisioning and regulating services: Small scale fishing is not only about food and income, but also about fishers' way of life. In many situations, cultural services are among the most important values people associate with Nature — it is therefore critical to understand them."

Knowing how we benefit from healthy ecosystems, and quantifying those benefits, can help us to better protect these ecosystems. Research from Yellowstone to Yukon Conservation Initiative, Wildlife Conservation Society Canada, Universities of British Columbia, Carleton and McGill, maps out three key benefits that people get from nature — crucially and unusually, the methods included both nature's capacity to supply these benefits as well as human demand for them: 1. Climate regulation (i.e., carbon storage); 2. Freshwater (e.g., for drinking, irrigation, hydroelectricity); and 3. Nature-based outdoor recreation.

This work also models and maps human access and demand, and identifies where people actually receive these benefits from nature. Alberta's eastern slopes and the Canmore area are clearly identified in the results as the area with the greatest combined value of these three components throughout all of Western Canada (Mitchell et al. 2021).

With the importance of managing natural assets being increasingly recognized within Canada, the Municipal Natural Assets Initiative (MNAI) has worked with municipalities to provide a consistent approach to identifying, valuing, and accounting for natural assets in their financial planning and asset management programs. They have defined Municipal Natural Assets as the stocks of natural resources or ecosystems that contribute to the provision of one or more services required for the health, well-being, and long- term sustainability of a community and its residents. (MNAI, 2019)

GLOBAL GOALS

The Aichi targets included prioritization of the conservation of areas that are of particular importance for ecosystem services and the safeguarding of essential services provided by ecosystems.

In some countries, including Brazil, Portugal, and throughout Europe, compensation payments are being provided to municipalities or private landowners where they have designated land for ecosystem service provision (Ring, 2008; Santos et al., 2012).

Precedents

Okotoks, Alberta

A Natural Asset Inventory and Ecosystem Service Assessment report was prepared for the Town of Okoktoks by Fiera Biological Consulting in 2020. The report created an inventory of natural and semi-natural assets within the Town and assigned a condition score and monetary value to each. Fiera Biological created a "natural area land cover" for the Town, an asset classification schema, and then considered seven key ecosystem services. The project received the Canadian Association of Municipal Administrators' Environment Award in 2021.

"This ground-breaking data will be used to develop a strategy for natural resource management that will help reduce Okotoks' ecological footprint, enhance environmental protection, support public health and safety, and improve operating costs and efficiencies that align with Okotoks' community values. The data will help the Town identify, prioritize, and preserve natural assets in areas slated for development and allow for the measurement of the carbon sequestration as a key factor in meeting the Town's target of achieving Carbon neutrality by 2050." (Town of Okotoks, 2021)

The total estimated value of the ecosystem services evaluated in the Town of Okotoks is approximately $84 million ($2020). This includes estimates for water flow regulation, climate regulation, recreational/aesthetic attractiveness, water quality control, native pollinator habitat, and soil erosion potential. The inventory is intended to be used to help support evaluation of proposed land development scenarios. The impact was, however, delayed — an asset management strategy was required to operationalize their natural asset report.

Researcher conducting a field assessment for natural asset inventory. Photo credit: Susan Smith

Links

Town of Okotoks Natural Asset Inventory and Ecosystem Service Assessment:
okotoks.ca/sites/default/files/2020-12/Okotoks %20Natural%20Asset%20Inventory%20Report.pdf

Measuring cultural ecosystem service impact: How big is the outdoor recreation industry?

In Alberta – Outdoor recreation contributes $2.3 billion annually to the province's GDP (0.8% of provincial GDP) and provides 6.1 times more employment than the forest and logging industry. The study undertaken by the Tourism Industry Association of Alberta (ATIA, 2021) also recommends the treatment of outdoor recreation as an industry comparable to other traditional crown land industries and encourages future public and private investment in recreation infrastructure.

In the US – According to Headwaters Economics, outdoor recreation contributed $454 billion to the nation's GDP in 2021. Three times the size of the contribution from oil and gas development)
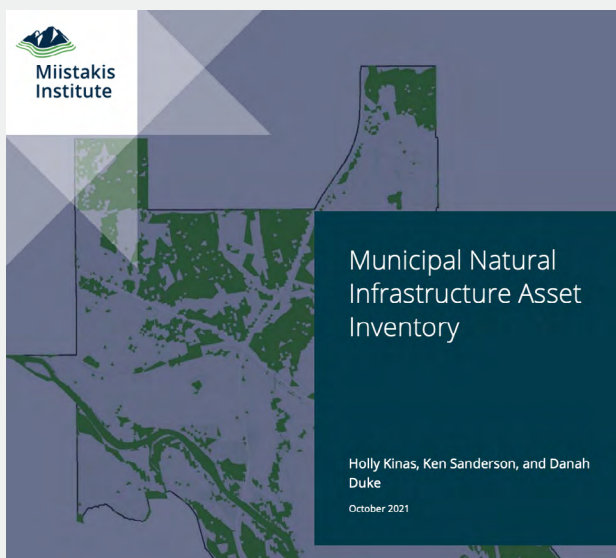
Miistakis' Municipal Natural Infrastructure Asset Inventory. Image credit: Miistakis.

Cochrane, Alberta

The Mistaakis Institute, together with the framework provided by the **Municipal Natural Assets Initiative**, created a **Working With Nature Toolkit** — a free online resource created for local governments wanting to understand, conserve, and plan for their natural infrastructure. The toolkit was piloted with the Town of Cochrane to create a **natural infrastructure asset inventory** for the Town. At the time the inventory was created, no further action was taken because the Town had not yet assigned the management of the assets to a department or individual.

Links

Municipal Natural Infrastructure Asset Inventory: **rockies.ca/files/reports/FINAL_Municipal_NI_asset_Inventoryv2.pdf**

Working with Nature Toolkit: **working-with-nature.ca**
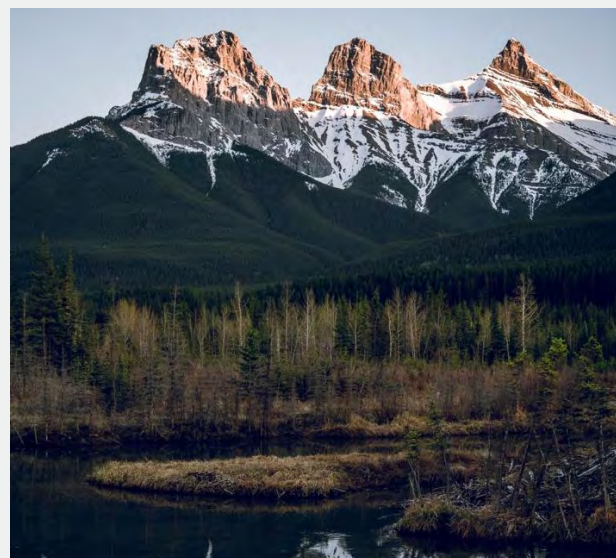
The Three Sisters peaks above Canmore. Image credit: Devon Hawkins.

Canmore, Alberta

Locally, the Town of Canmore is exploring the potential to create a Natural Asset Inventory, the first step of this process was the hiring of the Parks Planner position in 2023. The future Natural Asset Inventory will be designed to track details of the location, type, extent, and condition of natural assets, and will be a great first step towards more fulsome consideration of management, valuation, and protection of natural assets and may assist in mitigating negative impacts on wildlife movement in the future. The Town of Canmore in partnership with the University of Alberta has contracted an ART Intern to support the Town by incorporate climate resilience into the parks planning process.

One aspect of this project is to complete a high-level natural asset mapping and inventory process Canmore. Additionally, during the Committee of the Whole meeting on April 19, 2022, Canmore's Town Council received **a series of recommendations** related to the scoping work necessary for the creation of a Natural Asset Inventory. To supplement this work and provide additional insight to Town administration, and other audiences, are the following guidelines.

Calgary, Alberta

The City of Calgary partnered with Earth Economics in 2019 to develop a Natural Infrastructure Blueprint, outlining the four main steps of:

1. **creating a natural inventory;**
2. **setting targets and design projects to meet them;**
3. **implementing projects; and**
4. **monitoring outcomes.**

Following on from this Blueprint, Calgary engaged Associated Engineering and Green Analytics to undertake their natural assets inventory (Valuation of Natural Assets). The study demonstrated that natural assets provide approximately $2.5 billion in value annually to the City of Calgary, considering aspects such as recreation, habitat, water retention, carbon storage and urban heat reduction. The blueprint offers excellent guidance as to process and resources including those for valuation, target setting, and monitoring. Furthermore, it has helped to build the business case for the City to implement more natural infrastructure, or green infrastructure, projects to help build more resilience to the impacts from climate change.

Calgary's natural assets. Photo credit: Kelly Hofer.

Links

Valuation of Natural Assets — Analysis Summary:
hdp-ca-prod-app-cgy-engage-files.s3.ca-central-1.amazonaws.com/6616/5369/8199/Natural_Asset_Valuation_Summary.pdf

City of Calgary Natural Asset Dashboard:
go.greenanalytics.ca/calgary

Natural Infrastructure Blueprint for the City of Calgary:
calgary.ca/content/dam/www/cs/documents/resilientcalgary/Natural-Infrastructure-Blueprint-The-City-of-Calgary-by-Earth-Economics-2019-December.pdf

Guidelines

Based upon background research and conversations with towns that had gone through an assessment, for a Natural Asset Inventory to cover the municipal land base for a town the size of Canmore, note the following:

Estimated Cost:
$75,000 to $100,000

Estimated Timeline:
~12 months

Key Takeaway:
It's essential for management of the natural assesses to be part of the organizational plan and be operationalized. An individual's or department's role needs to have the inventory as part of its organizational plan to be successful.

Essential Metric:
Of all the potential things to measure, it is essential to establish a baseline condition, and periodically update the data to compare status to that condition.

In the case of Alberta, the Municipal Government Act states that "Alberta's municipalities play an important role in Alberta's economic, environmental and social prosperity today and in the future" and offer that a municipal purpose is to "foster the well-being of environment" (s. 3). This power could be exercised through a municipality's plans and bylaws, whereby the scale and scope of future development would be dictated by the *well-being of environment* status.

Essential Questions:

- What is the spatial extent of the inventory?

- Will the inventory consider just assets which the Town controls (e.g. within municipal boundaries) or also assets that contribute to what the Town benefits from (e.g. provisions from the mountains and area surrounding the town)?

- What is important to measure? What data already exists? How will new data be collected and visualized?

- What services are to be considered for each natural asset? Biophysical/economic/social? (e.g. climate regulation, water quality control, recreation and tourism, aesthetic inspiration, cultural identity, sense of home, and/or spiritual experience related to the natural environment)

- What are the values or benefits of each ecosystem service? How might they be quantified? Qualified? Prioritized?

- What is the monitoring requirements and management response required for each asset?

- What are the scores of the condition of each natural asset? What are the scores of the risks they each face?

- How might the inventory be integrated into an existing asset management framework (that currently does not account for natural assets)?

Resources

1   The Miistakis Institute's **'Working with Nature'** toolkit provides a guide for undertaking a natural asset inventory. It contains parameters could be modified and/or expanded to identify assets of value relevant to the municipality

2   National Standard of Canada for **natural asset management** – The "**Specification for natural asset inventories**" has being published by a technical committee formed by the Environment and Climate Change Canada (ECCC), CSA Group, and the Municipal Natural Assets Initiative (MNAI). The voluntary Standard, published through CSA Group, outlines minimum requirements and provides guidance to complete natural asset inventories.

Recommendations

Using the guidelines provided by the '**Working with Nature**' toolkit and the **CSA W218:23 Specification for natural asset inventories**, as well from the precedents provided, hold workshops to help define scope and assets to be inventoried/valued.

- Hold an internal workshop with relevant internal stakeholders to determine the rationale and potential scope for a natural asset management approach that would provide the highest strategic benefit to the community.

- Hold an external workshop including experts from such entities as Banff National Park, Town of Banff, and members of Human-Wildlife Coexistence Technical Working Group.

- Compile all the necessary imagery and data related to applicable natural assets. Ensure monitoring is standardized and data is collected at relevant intervals to support science-based decision making.

Integrate the inventory of natural assets and their associated condition, value, and other relevant characteristics within existing asset management strategy or framework — this integration will ensure that natural assets become a part of regular decision-making processes.

Ensure that there is a department and associated staff member whose duties include the monitoring and management of the natural assets.

Consider adopting natural infrastructure (green infrastructure) as a means to integrate natural assets with constructed assets and build resilience to climate-related impacts.

Seek to integrate into relevant management plans of adjacent communities, parks, municipal districts.

Understand that while the initial work may include only a natural asset inventory, a thorough ecosystem services assessment (which would consider the full variety of ecosystem services provided) should be implemented as well. Coupling this work with that of a natural asset inventory will help determine valuable additional information via the analysis of the extended cultural, spiritual, and recreational values of an ecosystem area.
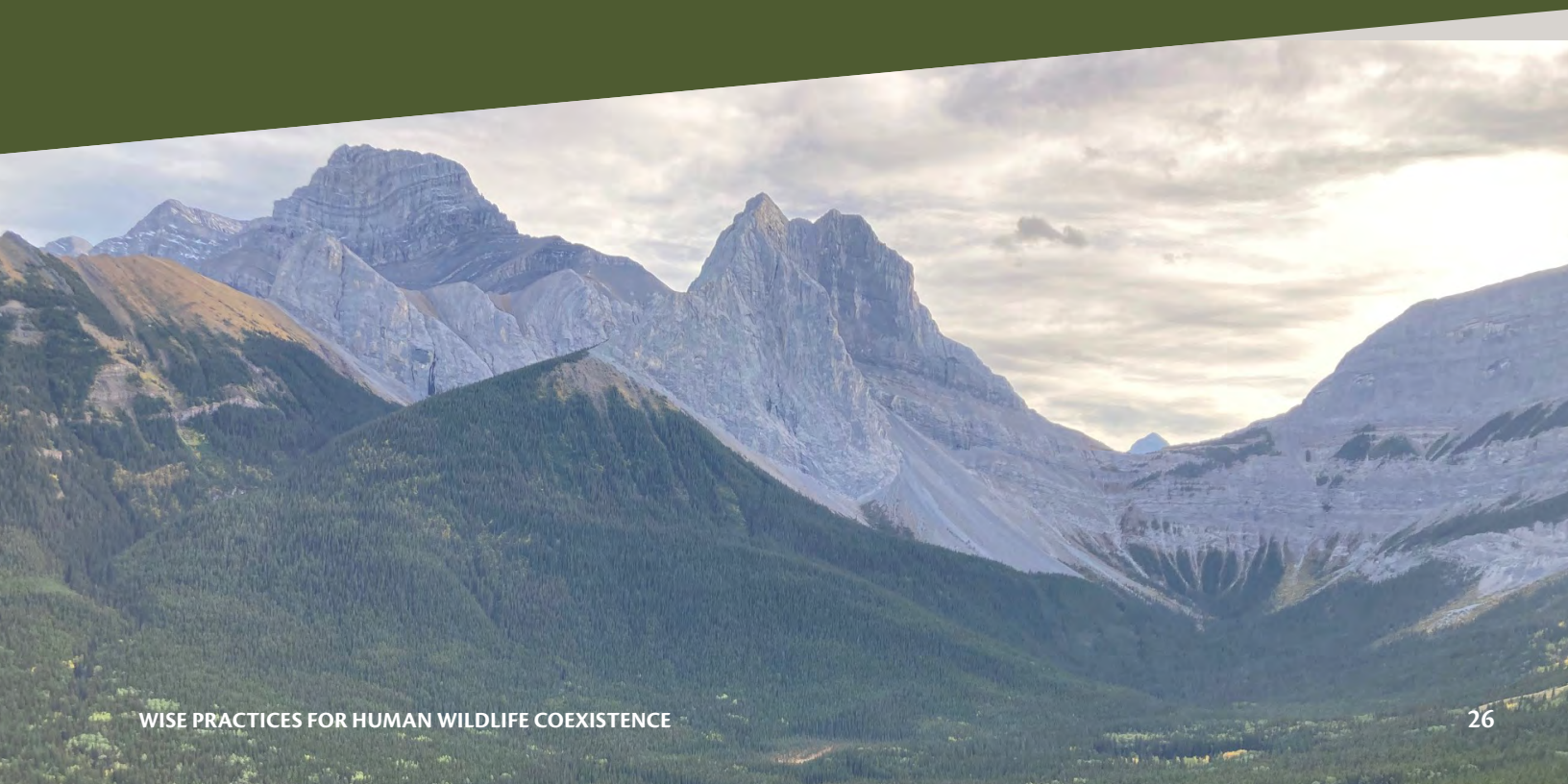
Visitor Use Management

Relevancy to 2018 Report

Visitor Use Management is most relevant to achieving the recommendations related to Habitat Security (see Sec. 4.4 of 2018 Report).

> *"The key variables that can be controlled in either identifying or maintaining wildlife corridors are the proximity of human development and levels of human use, respectively. Corridor use can vary considerably in both the timing and frequency of use by carnivores" (p.30).*

The designation of wildlife corridors and secure habitat is essential to establishing human-wildlife coexistence. However, without effectively managing people using and recreating in these areas, corridors and habitat can lose their functionality. Furthermore, wildlife corridors extend beyond jurisdictional boundaries. To this end, in gateway communities, it is essential to consider similar approaches for implementing visitor use management to what is used in adjacent protected areas.

Introduction

"Our goal is to increase overnight visitation." **– EXPLORECANMORE.CA**

"Sustainable Tourism: Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities." **– UNITED NATIONAL WORLD TOURISM ORGANIZATION**

Canmore can be understood as a gateway community, or a town situated adjacent to scenic public lands or national parks that receives economic benefit and identity associated with this proximity. Gateway communities are increasingly popular places to live and visit, and many are quickly increasing in size (Stoker et al. 2021). But as discussed by Stoker (2021), while that popularity can create tourism dollars, it can also lead to issues with housing affordability, traffic congestion, and impacts on both community character and natural resources. However, it has all of these challenges without the ability to regulate them with the same set of legislative powers available to other jurisdictions, like national parks.

The **Town of Canmore's Regenerative Tourism Framework** (2021) helped to advance efforts to address challenges associated with tourism. The framework recommended several key actions regarding regenerative tourism, including: 1) consulting Indigenous businesses in the development of the framework for regenerative business practices; 2) the creation of regenerative tourism ambassadors to interact with visitors and locals; 3) the creation of a regenerative tourism recognition program for business; and 4) the establishment of a centre to teach regenerative tourism principles. Town Council approved the framework in October 2021, and as a follow up action, directed administration to work with Tourism Canmore Kananaskis and the Tourism Round Table to create a process to oversee and monitor progress and facilitate a broader community dialogue.

Meanwhile, in Banff National Park, visitation has also increased — 30% in the last decade — with an increase in people visiting more in fall and spring as well (Parks Canada, 2022). The Banff State of the Park Assessment (Parks Canada, 2018) noted that some park infrastructure and facilities were at or near capacity more frequently and for longer periods.

In August of 2022, a panel convened by Parks Canada published their report titled, *Expert advisory panel on moving people sustainably in the Banff Bow Valley* (Banff Bow Valley Movement Plan 2022). The eight strategies detailed in the report were to: 1) reduce private vehicle arrivals, 2) create mobility hubs, 3) improve and diversify public transportation options, 4) develop and encourage active transportation, 5) create a comprehensive and unified transportation service, 6) develop partnerships with stakeholders and Indigenous Peoples, 7) use pricing as a tool to influence behavior, and 8) better understand visitor experience and transportation use.

Managing visitation while sustaining the ecological and heritage values is outlined in the 2022 *Parks Management Plan* as one of the major challenges faced by Banff National Park over the next decade. The plan states the need to "plan for and manage visitation in high-use areas to ensure the experience is authentic, sustainable and safe". It will be important that the sustainability aspect of this plan includes maintaining ecological integrity, which is an essential component of the "true-to-place experience" they aim to provide.

> *"Managing visitor access and use for recreational benefits and resource protection is inherently complex…Proactively planning for visitor use maximizes the ability of agencies to encourage access and protect resources and values. Further, having a professional approach and clear and consistent guidance is important for effective and efficient management of federal lands and waters."*
> – The National Interagency Visitor Use Management Council

It is specified that visitor management plans for high-priority areas will be created in the future, with no specific timeline attached. Their objective 2.1 relates to visitor management as follows: "Through site-specific visitor use management planning, Banff's visitor experiences foster appreciation and safe enjoyment of the park without harming the park's resources or impairing natural processes." Targets to accomplish this include compiling site-specific data and using this to undergo a defined planning process. This process will identify desired visitor experience objectives, establish a means to monitor indicators and thresholds, and develop strategies to achieve the desired conditions.

Aside from Jasper National Park to the north, there currently are no plans to implement a process similar to this throughout any of the lands adjacent and ecologically-connected to Banff National Park.

Essentially, this work is to set capacities for visitors for specific areas at specific times and to establish a means to manage to those capacities.

Precedents

Jackson Hole, Wyoming

Jackson Hole is the gateway to the Grand Teton National Park and Yellowstone, two of the most popular national parks in the United States. Like many other gateway communities in the Mountain West, it is experiencing record tourism numbers. Travel and tourism are responsible for over half of Jackson Hole's economic activity, and Teton County is experiencing many similar challenges to the Bow Valley, with a high cost of living and workforce shortages, concern about increasing levels of visitation, and a growing awareness around the need to protect natural resources and wildlife.

Within this context, the Jackson Hole Travel and Tourism Board set out to answer the question of how travel and tourism can contribute to the health and well-being and the community and environment without degrading it, and what does the community want tourism to look like. The resulting Sustainable Destination Management Plan was adopted in December 2022 (Teton County 2022). Goal 2 of their action plan highlights their collaborative, cross-jurisdictional approach to the challenges associated with visitor use management.

The plan developed outcomes based on study of visitor and resident experiences and desires, as well as the community's vision for tourism. It outlines a holistic set of outcomes that will impact resident quality of life and the visitor experience, from overall management of

Bison jam near Jackson Hole. Image credit: Teton County.

tourism, resident and visitor education and engagement, transportation and traffic, workforce development and housing, and climate action. The plan is built on destination management principles, and is based on a collaborative management approach that involves all lands and all communities. Measurable key performance indicators are set for each outcome, as well as priority actions to accomplish the objectives.

Additionally, the Mountain Neighbor Handbook has been created as "A Local's Guide to Stewardship in the Tetons" and a similar tool could be used to educate visitors and residents about how to "… navigate the realities of living here and offer ways we can all take a little less, and leave a little more" in the Bow Valley. To foster a positive culture change that supports visitor use management strategies, a movement 'Becoming Jackson Whole' has successfully encouraged mindfulness and compassion among the community and supported the broader implementation of the Sustainable Destination Management Plan.

Links

Jackson Hole Sustainable Destination Management Plan proposal and budget:
http://www.tetoncountywy.gov/DocumentCenter/View/5536/4C-SustainableDestinationManagementPlan

Jackson Hole Sustainable Destination Management Plan:
http://visit-jackson-hole.s3.amazonaws.com/assets/pdfs/Teton-County-SDMP.pdf

Mountain Neighbor Handbook: **www.mountainneighbor.org**

Becoming Jackson Whole: **https://becomingjacksonwhole.org/**

Sedona, Arizona

In 2016, struggling with over tourism, Sedona undertook a comprehensive assessment with the Global Sustainable Tourism Council. This assessment identified strengths and weaknesses within Sedona's current tourism management strategies. Following this work, Sedona Destination Marketing Organization (DMO) partnered with the City of Sedona and external teams to create a Sustainable Tourism Plan that was approved by Council in 2019.

Their Sustainable Tourism Plan (STP) relies on four strategic pillars for managing sustainable tourism:

1   **Environment;**

2   **Resident Quality of Life;**

3   **Quality of the Economy; and**

4   **Visitor Experience.**

The plan contains success tracking metrics for every aspect, refined with direction from the Sustainable Tourism Action Team. Each tactic included has a lead person or organization. As a result, there is frequent communication and engagement with aspects of the plan with residents and dialog around what activities to undertake to reach alignment with the plan.

"There are really just a handful of communities that are trying to do management rather than marketing. A lot of DMO's don't want to get into visitor management… But in fragile destinations it's the only way to be successful."

– JENNIFER WESSELHOFF, CEO OF SEDONA CHAMBER COMMERCE AND TOURISM BUREAU (2020)

Their Sustainable Tourism Plan (STP) relies on four strategic pillars for managing sustainable tourism. Photo credit: City of Sedona.

Since completing the plan, Sedona continues to provide regularly updates every 3 months on progress and actions taken for each aspect of the plan. Their five "road signs" to a new beginning after the launch of the STP have resulted in the following lessons: "locals are deeply engaged in defining the experience," "visitors desire 'temporary localhood,'" and "data, data, data." Tactics to accomplish their goals include the use of technology to communicate real-time traffic and trail conditions, encouraging active transportation, obtaining stable funding for trail maintenance, enhanced visitor education and 'Leave No Trace' education, and developing and promoting 'Volontourism' programs, so visitors can experience temporary localhood.

Links

https://visitsedona.com/sustainable-tourism-plan/

Bull elk in Estes Park. Image credit: Ohara Photography.

Estes Park, Colorado

Estes Park sits just outside of Rocky Mountain National Park, with Denver a 1.5 hour drive away. Like Canmore, it is well-placed to attract both day-trippers from the city, and tourists visiting the adjacent destinations. Recent tourism growth has led to residents complaining of symptoms of overtourism, such as overcrowding and traffic. In the summer months, Estes balloons from its winter population of about 7,000 to as many as 3 million people.

Rocky Mountain National Park is one of a handful of US national parks that have recently implemented a timed entry reservation system during peak times. High visitation numbers are best managed by exercising more control over the mobility system, by controlling how many visitors arrive, when they arrive, and how they arrive. Within Estes Park, a free shuttle system has been instituted to help manage the cue of visitors waiting to access the national park. However, traffic problems continue to increase as visitation numbers continue to climb.

Visit Estes Park, Estes Park's DMO, has increasingly been focusing on a sustainable tourism model and relies upon its four pillars of addressing: sustainable management, socio-economic impacts, cultural impacts, and environmental impacts. Projects have included a sustainability-focused video series called "Do Estes Right." In addition, they are providing information to tourists about how to beat the crowds by avoiding peak travel times and providing live streams of popular locations to aid with travel decisions.

Links

https://www.visitestespark.com/do-estes-right/

Guidelines

Based upon background research and conversations with communities that have similar challenges to Canmore associated with visitation and recreation, note the following:

Key Takeaway:
It's essential to consider the same suite of tools used by any adjacent protected areas; cross-jurisdictional management consistency is essential to ensuring wildlife corridors remain effective and habitat remains secure.

Essential Metric:
Of all the potential things to measure, it is important to understand what your community feels about the state of tourism and recreation. Create a baseline survey, then administer predictable follow-up surveys to invite feedback from the community while engaging progress.

Resources

The Interagency Visitor Use Management Framework is the benchmark for visitor use management, specifically on public land in North America. Significantly, their limits are set based on visitor experience and the desired conditions of the visiting public. Additionally, the Global Sustainability Tourism Council sets the criteria are the minimum for businesses, governments, and destinations to achieve social, environmental, cultural, and economic sustainability.

1   **Interagency Visitor Use Management Framework (IVUMF)** – Widely-used framework for managing visitor use for federally managed lands in the United States.

2   **IVUMF Decision Support Tool** – Part of the framework that offers a simple workbook to help with decision making.

3   **IVUMF Monitoring Guidebook** – Part of the framework that provides guidance to develop and implement a visitor use monitoring strategy.

4   **IVUMF Visitor Capacity Guidebook** – Part of the framework that provides tools and processes to develop long-term strategies for visitor capacity management.

5   **Global Sustainable Tourism Council** – Certifying body for global standards for sustainability in travel and tourism.

Recommendations

Call for regional collaboration to help designate sensitive areas (outside those already protected), as well as a collective visitor capacity based upon various measures of carrying capacity (e.g., ecology, infrastructure) and desired experience of both residents and visitors.

Established desired conditions of the public realm as defined by the broader as well as separately by visitors.

Gather baseline visitor use data. Ensure data collection is ongoing and standardized to help identify changes in desires, perceptions, use, etc.

Understand environmental carrying capacities based upon such things as temporal conditions, linear disturbance thresholds, and various measures of ecological integrity.

Utilize technology (e.g., text or email notifications) to notify visitors and residents to receive notification about trail closures, re-openings, or any other changes that may help manage access.

Seek to obtain *resort municipality* status. This would help a gateway community retain a higher percentage of sales tax revenue, which could in turn be used to support public infrastructure or fund restoration, protection, land acquisition, and data collection to maintain healthy ecosystems that are impacted by visitation.

Consider novel methods to count visitor use and recreation such as with **Y2Y's Recreation Ecology Project** and **Headwaters Economics work**.

Consider supporting the establishment of an Indigenous Land Guardians program to help with community engagement, monitoring, science, restoration, and compliance/enforcement.

Trails Alliances & Campaigns

Relevancy to 2018 Report

Trails Alliances and Campaigns are most relevant to achieving the recommendations related to People Compliance (see Sec. 4.6 of 2018 Report).

> *"The Bow Valley is one of the most popular tourism destinations in Canada and is a highly sought-after location for people to live, work and play. Providing opportunities for human enjoyment and experiences along with recreation and leisure activities is an ongoing challenge. Specifically, the Bow Valley is faced with ensuring the ecological integrity and health of wildlife populations and the demands for providing opportunities for human enjoyment and quality visitor experiences"* (P.38).

The Bow Valley is approaching a tipping point related to its uses associated with recreation. Those attributes that make it a special place are also what make it finite and fragile. We have a collective responsibility and ability to protect and grow the natural assets, particularly related to recreation, that can sustain its associated wealth for future years, and generations of wildlife, residents, and visitors. This culture change is underway in the Bow Valley, but still requires care and leadership from all sectors for it to be fully realized. A focus on solutions that are community-driven, particularly related to trails alliances and public campaigns, have a central role to play in changing culture.

Introduction

"Rogue builders are saying, 'The existing trails don't reflect how I want to ride.' If we're building the right mix of new trails, so they represent the entire riding community, no one is going to go out and build on their own."

– AJ STRAWSON, INTERNATIONAL MOUNTAIN BIKE ASSOCIATION, CANADIAN CHAPTER

Recreation expansion, increase in intensity, and the growth of informal trails are problems communities are grappling with across North America. Larger mammal species are more negatively affected by human presence, and most, including black bears, elk, and wolves, have thresholds in their tolerance for human disturbance that, when breached, make the habitat no longer viable (Suraci et al, 2021). As outlined in the Human Wildlife Coexistence Bow Valley 2018 report, thresholds for human use in areas designated for wildlife have been established for some species (eg. Banff National Park Grizzly Bear Habitat Security Model). Suraci (2021) suggests that considering these thresholds is critical to maintaining functional connectivity in a landscape.

The Human Wildlife Coexistence Bow Valley 2018 report recommends that human footprint in corridors should be reduced (recommendation #11), and that land managers should remove, relocate, or consolidate existing trails within wildlife corridors. However, without the cooperation and commitment from various user groups, attempts by land managers are likely to be subverted. Successfully limiting the creation of informal, unsanctioned, or illegal trails requires a change in culture.

Carlson (2022) considered the scenario of 'No Informal Trails' in his cumulative effects modelling, where recreational activity not on designated trails, or outside of a development footprint, does not occur. It was found that this scenario reduced instances of moderate or high-risk human-wildlife interactions by 41% compared to the base scenario, and was particularly effective in the Canmore area.

Over the past several years, the Town of Canmore and its partners have worked towards decreasing trail density and creating official trail networks in the Eagle Terrace Conservation Easement, Quarry Lake area, and South Canmore habitat patch river trails. However, increases in use, coupled with unsanctioned trail building, continues to be an issue.

A key facet of balancing local recreation needs with the needs of local wildlife, is related to the culture of how people view their impact on the landscape. Coexistence requires acceptance of us not having all the access… all the time… everywhere… on the landscape, and therefore managing access and behaviours is to persevering the very thing recreationists seek to enjoy.

Precedents

Finding mediated solutions in Teton Pass, Wyoming

Sometimes great relationships can be built from challenging situations. Illegal downhill trails were being built by mountain bikers in Bridger-Teton National Forest Wilderness — crossing trails used by horseback riders, passing through a congressionally designated Wilderness Study Area, and damaging the land.

The US Forest Service (USFS) had been posting signs asking people to stop, but the signs would disappear overnight. In 2004, the situation came to a head, and rather than writing tickets, the recreation, wilderness and trails manager, Linda Merigliano, invited the trail builders to meet with USFS officials to start a dialogue with the goal of finding a sustainable and reasonable way to share a public resource and important wildlife habitat (Mander, 2018).

> You don't create accountability just through regulation. It has to come from an internal sense of ethics, where there is a community norm of "that's just the way we do things here. We're respectful of other people and wildlife".
> – LINDA MERIGLIANO (FROM O'NEIL, 2017)

Following a series of one-on-one conversations with different user groups, Merigliano contracted the Center for Conflict Resolution to facilitate an initial meeting of 100 people from all user groups, including land management. Attendees came up with proposals that gave trails to everyone, with each group ceding some of their terrain, and some specific downhill-only freeride bike trails being created.

The mountain bikers organized and formed a non-profit, the Teton Freedom Riders, and signed a MOU with the Bridger-Teton National Forest shortly afterwards. They had been trusted with an opportunity which required to maintain their trails, decommission the trails that were not accepted into the official network, and to self-police everyone who rode them. The Teton Pass agreement has become a model for mountain bike advocates across the country, including Forest Service and BLM staffers (O'Neil, 2017).

Annual Trail Maintenance in Teton Pass.
Image credit: Teton Freedom Riders.

Teton Freedom Riders continue to rely on the sense of ownership of the trail system, and act as ambassadors and educate visiting riders. The area sees almost no illegal trail work, and any non-sanctioned work that does occur is quickly removed by the Teton Freedom Riders as they now have a whole trail system and trusted relationships that could be lost if illegal work occurs (Mander, 2018).

> Teton Freedom Riders and Friends of Pathways have helped create a really sustainable, good trail system… They've fostered respect for other users and respect for the land. There's a big respect for wildlife.
> – LINDA MERIGLIANO (FROM MANDER, 2018)

Links

More on the Teton Freedom Riders:
https://tetonfreeriders.org/

Shuswap's relationship-based community-driven model

The Shuswap Trails Alliance is a collaboration of community partners — First Nations, municipalities, the regional district, recreational clubs, environmental groups, businesses, industry, and community members — that work together to create purpose built, sanctioned and sustainable trails throughout the Shuswap region. Their vision is connected trails, healthy communities, and thoughtful collaboration to develop, operate, maintain, and promote non-motorized trails throughout the Shuswap region.

The alliance covers the Traditional Territory of the Southern Secwépemc First Nation. The Indigenous communities in this region, who have preserved the abundance of wildlife and the natural beauty of the land for generations, ask that visitors treat the land and the people with respect. This is reflected in the core values of the Shuswap Trails Alliance:

1 **Proactive Collaboration**

2 **Cultural Respect**

3 **Community Building**

4 **Care for the Land**

To produce what they call "well-designed, well-signed, well-maintained, well-promoted" trails has required a series of tools to be developed since their inception in 2004. These shared tools include the following:

- **Regional Trails Strategy**
- **Shuswap Trail Protocol**
- **Design Standards**
- **Sign Standards**
- **Environmental Adaptive Plan**
- **Trail Development Team & Tool Room**
- **Trail Stewardship Program**
- **Shuswap Trail Guide & Website**
- **Trail Report**

Each shared tool has been integral to their success. What is behind their creation, particularly with the first two on this list, epitomizes some of the reasons why.

Kle7scén Working Group engaging in participatory decision making. Image credit: Shuswap Trails Alliance.

The Shuswap Regional Trails Strategy was developed and implemented by the Shuswap Trails Roundtable, who is guided by the Secwépemc idea of *Y'icwetsutce*, or "taking care of the land." The purpose of the strategy is to protect, enhance, and recognize trails as an integral part of the Shuswap lifestyle, culture, and economy, while protecting and promoting First Nations' interests. To arrive at this, they used a participatory, relationship-based, community-development model, whereby decisions were based in consensus between recreation users, government officials, First Nations, and industry partners.

The Shuswap Trail Protocol was formed using a values-based adaptive planning matrix. It functions by identifying core values, outlining methods to achieve desired results and desired behaviours, and measuring the relevant indicators. By articulating shared values, it is easier to all users to accept limits and alter behaviours. The core shared value driving the Shuswap Trail Protocol and its ability to reach the desired conditions is to *maintain and improve the health of the natural environment and water quality.*

Links

More on the Shuswap Trails Alliance:
https://shuswaptrails.com/

"Do It Like a Local" campaign graphic. Image credit: MoabFirst.

Everyone as a local in Moab, Utah

Visitor use management strategies impact both the parks that implement them as well as the *gateway communities* that surround them. Similar to Canmore, Moab, Utah, is one of the gateway towns to several National Parks, as well as being surrounded by a swathe of public lands, and experiencing rapid growth in resident and visitation numbers in regions already burgeoning with tourism. Parks have limited capacities of people they need to manage, so when visitation increases, people spill over into surrounding areas.

In response to the increased tourism and the spillover of visitation from Arches and Canyonlands National Parks, Moab created the "MoabFirst" group, consisting of community members, business owners, land agencies, and local government departments, with the goal of developing sustainable tourism criteria. In Utah there is a law in place that requires 47 percent of the visitor hotel taxes collected must be spent on tourism marketing, in Moab there has been a shift towards using this funding towards building tourist infrastructure, and tourist education.

In 2020 MoabFirst launched their 'Do it like a local' campaign, aimed at helping visitors get the most out of their visit while educating them on proper behaviour, etiquette, and stewardship of the environment.

"So be smart. Be Informed. Be courteous. Be a good steward."

The launch was accompanied by a marketing campaign with Leave No Trace and sustainability themes such as "Pack It In, Pack It Out," and "Don't Bust the Crust," telling people to stay on trails to protect the fragile cryptobiotic soil crust. Ads and articles were targeted to reach anyone with travel plans booked to Moab, and with more messaging continuing while tourists are visiting.

Links

More on the Do It Like A Local campaign:
www.doitlikeamoablocal.com

Guidelines

Based upon background research and conversations with communities that have similar challenges to Canmore associated with visitation and recreation, note the following:

Essential Metric:
Of all the potential things to measure, it is essential to survey all stakeholders and rightsholders to distill what shared values are at play. This is a point of strength from which successful alliances and campaigns are launched to help achieve *people compliance*.

Essential Questions:

- **How might we involve the community more?**
  Inclusive community-based visions for tourism marketing and recreation-based development are strengthened when trails alliances and their membership can see themselves as part of the solution, not just part of the problem.

- **How might we foster more collaboration?**
  Solutions that are based in shared values and are consensus-based can help to foster healthy, respectful collaboration and trust between user groups and can lead to a positive change in culture.

- **How might we expand education of visitors and stakeholders?**
  Campaigns for responsible recreation are often best championed by local associations and businesses. Modeling best practices for recreating in wildlife habitat is most effective when modeled within social networks.

Resources

1 **Visitor Use Management Framework: A Guide to Providing Sustainable Outdoor Recreation** (2016). Published by the Interagency Visitor Use Management Council (IVUMC) in Denver, CO, this framework emphasizes the inherent complexity of managing recreational visitor access while maintaining and protecting wildlife habitat, and the need to consider natural and social science studies, in combination with management experience and professional judgment.

2 **Environmental Intervention Handbook for Resource Managers: A Tool for Pro-Environmental Behavior Change** (2007). Based upon the research of social psychologist, Shawn Burn, and social science researcher, Patricia Winter, this handbook provides a guide for the US Forest Service for dealing with problem behaviors from the working. It includes a set of tools that lay out the types of problem behaviours, barriers to correct behaviour (e.g., social norms, competing attitudes, setting design, ignorance/misinformation, and bad habits), and possible interventions.

3 **Colorado's Guide to Planning Trails with Wildlife in Mind (**2021). Created by a taskforce, including the cities of Boulder, Crested Butte, Durango, Denver, the National Park Service, and the US Forest Service, this guide recommends tools for use when balancing conservation and recreation. It emphasizes the importance of human presence on trails to share wildlife and trail etiquette, rather than relying solely on signage and details recommendations for illegal trail creation monitoring, monitoring and recording of violations, and how data can best be used in an adaptive management approach.

Recommendations

Consider informing local and/or regional trails strategies with the community by using a participatory, relationship-based, community-development model, to result in approaches based in consensus between recreation users, government officials, First Nations, and business and industry partners.

Consider developing trail protocols for all individuals and groups engaging in the trail network that are based in a values-based adaptive planning framework.

Consider establishing an MOU between land managers and user groups to share roles ranging from compliance policing and trail maintenance.

Focus on working with communities to listen to the needs of every type of user, and educate them on how to recreate while being a part of the landscape and having responsibility to take care of the natural resources they enjoy.

Develop targeted messaging and communication campaigns focusing on positive messaging (e.g., Montana "**Outside Kind**" and "**Happy Trails**" campaigns) to encourage positive trail etiquette through signage placed at trailheads and throughout trail networks.

Consider establishing an *Adopt A Trail* program, or similar, that organizes volunteers from different groups within the community to help perform trail building and maintenance, remove trash, close informal trails, and educate trail users.

Consider supporting the creation of a full-time *trail conservation crew* that helps focus on adding density to existing trail networks to avoid fragmenting animal habitat further. It achieves this by leading efforts related to trail maintenance, trail building, protecting wildlife seasonal closures, training and leading volunteers, closing unsanctioned social trails, educating trail users at trailheads, removing garbage, and generally mitigating the impacts of recreation.

Consider supporting/ continue to support ambassador programs that offer on-trail responsible recreation outreach about such things as that proactive education about seasonal closures.

Consider supporting/ continue to support free programs aimed at providing guided outdoor activities and learning opportunities to community members who would otherwise be unable to access these services.

Consider supporting/ continue to support pledges to educate and enlighten visitors, while getting their buy-in for behaving in a low-impact way.

"Planners should consider how rules and regulations will be enforced on newly proposed trails in perpetuity, for regulations, such as seasonal closures, designed during the planning process are only effective if there are adequate levels of education and enforcement."

"It's critical to establish clear expectations for trail use, and how patterns of illegal or damaging use will lead to new levels of enforcement or adaptive management practices."

– COLORADO'S GUIDE TO PLANNING TRAILS WITH WILDLIFE IN MIND (2021)

Indigenous Land Guardians

Relevancy to 2018 Report

Indigenous Land Guardians are most relevant to achieving the recommendations related to Trans-Boundary Management (see Sec. 4.2 of 2018 Report).

> *"Inconsistent approaches to wildlife management amongst jurisdictions can create challenges for wildlife that move across these boundaries on a daily or seasonal basis... Ensuring consistent approaches to wildlife management, where possible, allows for an increased predictability for wildlife and may improve the chances of success for any particular management strategy"* (P.15).

One incongruency in achieving human-wildlife coexistence throughout the Bow Valley is that of scale. Nature knows no civic boundaries. In order to align management strategies with the needs of wildlife, we need to work at a larger scale and circumnavigate, where possible, the bureaucratic roadblocks innate to working across multiple jurisdictions. First Nations have lived in harmony with these lands for hundreds of generations and their traditional territory and traditional ecological knowledge (TEK) encompasses this larger scale. Establishing an Indigenous Land Guardians program could bring consistent approaches to wildlife management and people management, and improve the chances of success for several strategies envisioned in the 2018 Report.

Introduction

"Long-term engagement of non-Indigenous people and their willingness to step back and give space for Indigenous people to step into [Indigenous land management] roles are two attributes associated with effective relationships (Hill 2011; Walsh & Davies 2011)" Hill et al. (2013)."

Given the short window of time for development of the 2019 technical summary that followed the 2018 Report, the Technical Working Group did not incorporate TEK. However, it was noted that this important information was envisioned to be incorporated through the involvement of Indigenous subject experts by the Roundtable.

As the work around coexistence advances, the opportunity exists to fully embrace a 'two eyed seeing' approach, whereby Indigenous and Western worldviews and science are each incorporated and used to develop strategies to manage people on the land and monitor social and ecological changes over time.

This could include the pragmatic approach of implementing an Indigenous Guardian program. Guardians manage protected areas, educate and inspire, provide enforcement, restore animals and plants, conduct and evaluate Indigenous and western science, and monitor development. Support for Indigenous Guardians programs provide Indigenous peoples with a greater opportunity to exercise responsibility in stewardship of their traditional lands and waters. Support, such as funding, for Guardians initiatives also supports Indigenous rights and responsibilities in protecting and conserving ecosystems, developing and maintaining sustainable economies, and continuing the profound connections between natural landscapes and Indigenous cultures.

> *"Currently, western conservation paradigms play the dominant role in how Natural Resource Management is practiced and how broader policy is set, and ecological research on Indigenous land is still most often led by the Western ecologists. This can leave out the ideas of Indigenous people and does little to address underlying inequitable power relationships"* Barbour and Schlesinger (2012).

Research has demonstrated how Guardians programs deliver wide-ranging benefits and a large return on investment.

A **study conducted for the Australian Prime Minister and Cabinet** found that every $1 invested in combined Indigenous Ranger and Indigenous protected area programs generates up to $3 in social, economic and cultural benefits. Here in Canada, Guardians have delivered similar results. An **analysis** of two programs in the NWT found they create about $2.50 of social, economic, cultural and environmental results for every $1 invested.

There are many Guardian programs on the ground and even more in the design phase throughout Canada. The **Indigenous Guardians funding program** developed by the Government of Canada, launched in 2017, led to the support of 80 indigenous-led Guardians initiatives. There now are more than 160 First Nations Guardians programs now operating across Canada. (NOTE: Most Canadians — more than 75% — support such programs as illustrated by **this national poll**.) The work of the pilot continues to be supported with further funding from 2021-2026; enclosed **here** is a series of maps noting each initiative from the first five years of the program.

Precedents

Jimmy Morgan facilitates a conversation about challenges and successes of Guardian Programs in Manitoba. Photo credit: The Indigenous Guardians Technical Support Team

Saulteau Land Guardians, British Columbia

The Saulteau First Nations have created an **Indigenous Guardian Working Group** under the direction of Council. Working primarily in the Murray and Moberly Lake watershed areas, the Guardians protect and co-manage the expanded Klinse-za Twin Sisters Park with West Moberly First Nation and the BC government. Their primary goal has been to help bring back the Klinse-Za caribou herd, from a nearly extinct population of just 38 individuals ten years ago, to over 114 today. As grizzly bears are to Alberta's Eastern Slopes, caribou are central to thriving ecosystems and central to Indigenous cultures and ways of life for thousands of years.

The Saulteau Land Guardians have three main focus areas of work — science, monitoring and compliance, and cultural training, transmission, and community engagement. Their principles are based on Saulteau-led stewardship, shared responsibility, protection of habitat and ecosystems, maintaining Saulteau culture and Traditional Knowledge, and improving data management. The Nation is also currently working towards an alliance between guardian programs within Treaty 8. The hope of this alliance is to create cohesion and collaboration among guardians programs to further strengthen all.

Carmen Richter, the Program Advisor for the Saulteau Guardian Program, has shared that the establishment of any guardians programs should be based in shared goals and values. Seed funding is often essential, and funds ranging from $5k to $20k would help to hire a facilitator and develop the initial strategy for a program. The overall program for the Saulteau, which includes a caribou maternal breeding pen, is $500k. Lastly, universities and other post-secondary institutions can be excellent partners, assuming all data collected is owned and held by the Nation under *ownership, control, access, and possession (OCAP) principles.*

Links

https://www.indigenousguardianstoolkit.ca/communities/saulteau-first-nations-guardians-program

BC Parks Rangers and Coastal Guardian Watchmen working together. Photo credit: Tavish Campbell.

Kitasoo Xai'xais and Nuxalk First Nations, British Columbia

We've been here for thousands of years. We've learned to have a healthy respect for wildlife, such an important part of our culture. It's a part of our stories, part of our songs, part of our dances, part of our clan systems. Those stories are our law, our values.

– KITASOO XAI'XAIS CHIEF COUNCILOR, DOUG NEASLOSS

The Kitasoo Xai'xais and Nuxalk First Nations, in partnership with BC Parks, have **launched a new pilot program** that designates 11 Indigenous guardians with the same legal authorities as park rangers within the parks and protected areas in their ancestral territories. The pilot is rooted in the understanding that these Nations have the most experience to steward, monitor, and enforce within their territories.

Elected Kitasoo Xai'xais Chief Councilor, Doug Neasloss, shared how this development is historic and signifies a paradigm shift in how Nations and the federal government can work together: "These guardians have passed the parks boot camp … if there's an example of reconciliation, this is it." The initial 11 guardians passed the parks training, which includes standard government courses on equity, diversity, and standards of conduct, as well as self-defense, firearm and chainsaw safety, human-wildlife conflict resolution, and compliance enforcement.

The Nuxalk and Kitasoo Xai'xais Nations have had long-standing guardian watchmen programs, and collaboratively manage with BC Parks all provincial parks and protected areas in their territories. This includes having guardians monitor more than 40 protected areas, such as Tweedsmuir Park, the Fiordland Conservancy, Kitasoo Spirit Bear Conservancy and Dean River Conservancy. They are always out on the land patrolling, which has led to saving lives, doing conservation work, collecting data, and exercising their sovereignty in the process. It can be considered a 'win' on several fronts.

Links

https://news.gov.bc.ca/releases/2023ENV0050-001210

https://coastalfirstnations.ca/the-coast-is-our-lifeblood-first-nation-launches-world-class-marine-protected-area/

Park Canada staff working with the Broken Group Island Beach Keepers. Photo Credit: Parks Canada

Nuu-chah-nulth First Nations Beach Keepers

The Nuu-chah-nulth First Nations are composed of 14 individual nations. Each has an elected Chief and Council, as well as hereditary chiefs. Their collaboration offers insight into how to achieve a cooperative approach among Nations in a region who are home to multiple Indigenous Guardians, known as Beach Keepers. The roots of these programs date back to acts of civil disobedience to halt industrial logging of ancient old growth forests. As the era of resource extraction transitioned into a booming regional economy based in eco-tourism, the value of having Guardians on the land has increased exponentially.

Along with establishing cooperative management boards and working groups, the Nations have established teams of First Nation Guardians and Beach Keepers — **Huu-ay-aht, Ditidaht and Pacheedaht Guardians** and **Tla-o-qui-aht** and **Tseshaht Beach Keepers**. They each have various responsibilities, including monitoring, programming, mitigation, and restoration. An early success of this collaboration between Nations was taking over logging licenses for Meares Island, home to 1,000-year old growth cedars, and establishing Guardians programs that help oversee maintenance of the Big Tree Trail, one of the key tourism-draws for the region around Tofino, BC. To help grow their program, every summer, junior Guardians are invited to learn and gain practical skills required by Guardians that help with restoration and monitoring programs throughout their traditional territory.

In British Columbia, the tourism industry is responsible for more job creation than forestry. According to provincial data, tourism accounted for 149,900 jobs in 2019, while forestry was responsible for 17,200 jobs in 2020. Additionally, in 2019, tourism accounted for $8.7 billion of the Province's GDP, while forestry accounted for $1.6 billion. In Tofino, where the Beach Keepers perform some of their roles as guardians, tourism accounted for $220 million in annual GDP in 2020. Of this, $3 million of tax revenue went to the municipality, $24 million went to the Province, and $30 million went to the federal government. That same year, $106,499 went to the Nations from Tofino-based businesses as an "ecosystem service" fee to help offset their costs of protecting the *resources* all benefit from.

Links

https://parks.canada.ca/pn-np/bc/pacificrim/plan/premieresnations-firstnations

https://thenarwhal.ca/clayoquot-sound-tofino-after-war-woods/

Guidelines

Based upon background research and conversations with communities and First Nations who have implemented Guardians programs, for one to be established to cover a geographic and jurisdictional landscape similar to that of the Bow Valley, note the following:

Estimated Start-up Cost:
>$200,000

Key Takeaway:
Each Indigenous Guardian program is unique. However, most First Nations who have established them are willing to share their experience and learnings to help others create programs that would work best for them.

Essential Metric:
Of all the potential things to measure, it is essential to establish what are the key ecological needs of the region and what type of services would be most required to meet those needs. Guardians programs can offer help with a range of services, including: programming, community engagement, monitoring, science, restoration, and compliance/enforcement.

Resources

1 **Indigenous Guardians Secretariat** – This is home to all the information related to the Federal funding associated with establishing Indigenous Guardians programs to provide Indigenous Peoples "with a greater opportunity to exercise responsibility in stewardship of their traditional lands, waters, and ice."

2 **Indigenous Guardians Toolkit** – This resource provides a toolkit to support Indigenous communities across Canada "to learn, share and connect about Indigenous Guardian programs [and to] be inspired by other communities, find practical information, and share your experiences."

3 **Indigenous Leadership Initiative** – This resource provides guidance and support to help Indigenous communities "develop the skills and capacity that they will need as they continue to become fully respected and equally treated partners in Canada's system of governance and its economic and social growth."

Recommendations

Engage with relevant First Nations to understand priorities and initiatives of the Nations; be specific about the means in wish you are able to contribute (i.e., Update Land Use Bylaw to account for an Indigenous Guardians program; offer seed funding to help establish a program; etc.)

Contact Indigenous Guardians Secretariat — for teaching, best practice, guidance: **gardiensautochtones-indigenousguardians@ec.gc.ca**

Contact Indigenous Guardians Toolkit support team— for teaching, best practice, program templates, guidance: **https://www.indigenousguardianstoolkit.ca/meet-our-indigenous-guardians-technical-support-team**

Contact Indigenous Leadership Initiative for any counsel and support throughout the process: **https://www.ilinationhood.ca/**

Develop tailored workshops and conversations that support work Indigenous Guardians and their teams could and are doing. Common topics include program visioning and planning, governance structure, Indigenous Guardian workflow, tasks and operations, training and capacity building, safety procedures, policies, data collection, and monitoring.

Staff from those with jurisdiction over the lands (e.g., Province of Alberta, Town of Canmore, and Town of Banff) should seek interviews with relevant guardian programs and/or meet with an existing Guardian program. Those within the Bow Valley should seek to meet with the Banff Indigenous Advisory Circle.

If a Guardians program, or other land-based monitoring and conservation program, is a shared goal with a First Nation or collection of Nations, consider offering a sustained funding mechanism, which could be augmented with other community and ENGO funds, to assist them in developing a program.

Funding could provide for exploration, design, and/or administration and allow for Indigenous representatives to travel to Saulteau or other Indigenous Guardian network locations for an Indigenous Guardian workshop. Funding could also help facilitate the travel of a knowledgeable organization or individuals to travel to First Nation communities interested in establishing a program.

Conclusion

A key trait of resilient communities is their ability to learn. Learning requires the ability to exercise adaptive management to test ideas, monitor their outcomes, and mitigate uncertainty for both society and nature. What is underway with the current Human-Wildlife Technical Working Group of the Bow Valley is implementing these very steps. However, fully realizing coexistence will require interventions that come from ideas not yet tested.

This is where the content of this report can offer benefits.

The collection of wise practices offers ideas from outside the original 2018 *Recommendations for Improving Human-Wildlife Coexistence in the Bow Valley* report. They help to provide a frame for how to advance human-wildlife coexistence in the Bow Valley in ways that not just mitigate conflict, but enable a shift in mindsets that ultimately help to bring about a change in culture and a more socio-ecologically resilient community.

The communities of the Bow Valley are leaders. Banff is unique in limits to growth it has set to ensure health of the ecologies in which its embedded. Canmore is still held up globally as a leader in managing its waste for the sake of keeping wildlife wild. Yet, more is needed to ensure the place continues to be a model for the world and retains secure habitat and safe passage into the future. The insight from this collection of *Wise Practices for Human Wildlife Coexistence in the Bow Valley* can help reduce the risk of conflict between humans and grizzly bears, as it relates to three needs in the Valley — Limited Expansion, Informal Trail Mitigation, and Managed Recreation — and help realize our community's desire to strengthen its culture of coexistence with wildlife.

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