

Moose Mountain Bike Trail Society Trails Master Plan



August, 2021

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Endorsement of the Moose Mountain Bike Trail Society Trails Master Plan

This Trails Master Plan is hereby endorsed by



Rob Simieritsch, Executive Director

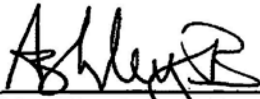
August 31, 2021

Date

Lands Delivery and Coordination South Branch

Lands Division

Alberta Environment and Parks



Ashley Blumhagen, President

August 5, 2021

Date

Moose Mountain Bike Trail Society

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Executive Summary

In pursuit of a shared vision for the development, management and maintenance of the trail network in the Moose Mountain area, Alberta Environment and Parks in partnership with the Moose Mountain Bike Trail Society (MMBTS) has prepared this Trails Master Plan. MMBTS, founded in 2009, is a not-for-profit group with a mission to advocate for, develop and maintain mountain bike trails and to promote active, fun, environmentally responsible community involvement.

The purpose of the Trails Master Plan is “To develop a world class trail system that provides quality and sustainable trail experiences to meet the needs of local users and visitors, while mitigating or eliminating negative environmental impacts and conflicts between recreationists and other land users.”

The geographic scope of the plan is the Moose Mountain area, in the foothills of the Rocky Mountains. The plan area is within the Kananaskis Country Public Land Use Zone and encompasses the North Central recreation management unit, an administrative unit for the purposes of recreation planning and management.

The Moose Mountain area is multi-use; with recreation, forestry, grazing, traditional land use and oil/ gas activities all occurring in the same area. This means that trail use activity is one of many activities and cooperation among land users is necessary. Regular communication and problem solving is required among all users to reduce and mitigate issues.

The Government of Alberta Trail Development Guidelines for Alberta’s Public Land (Government of Alberta, 2019) informed the plan development, with a goal of ensuring provincial consistency for the planning, classification, design, construction and management of trail experiences on public lands.

The plan inventories the existing 43 trails in the area for a total of ~113 kilometres, of which MMBTS is the trail operator for ~63 kilometres. The plan makes recommendations for another 14 future trails, adding ~30 kilometres that will enhance the network and provide year-round, high quality, sustainable trails that meet the needs of mountain bikers, hikers and other users.

Potential environmental impacts are identified, with the help of known research, scientific studies and subject matter experts. The plan identifies mitigation options to address negative impacts to environmental, cultural and historic resources and potential conflicts among recreation users and other land users.

The plan represents the results of many discussions, and commitment to a partnership between the Moose Mountain Bike Trail Society and the Government of Alberta in the stewardship of the

trail system. The plan describes the processes for ongoing management, monitoring and maintenance of the trail system, including mitigations to address environmental and safety issues.

Introduction

Purpose

The purpose of the Moose Mountain Bike Trail Society Trails Master Plan is:

To develop a world class trail system that provides quality and sustainable trail experiences to meet the needs of local users and visitors, while mitigating or eliminating negative environmental impacts and conflicts between recreationists and other land users.

This document will provide a blueprint for the mountain bike trail system in the Moose Mountain area, in the North Central Kananaskis Recreation Management Unit, an administrative unit for the purposes of public lands trail planning and management. The document is focused on mountain bike trails designed, built and operated by the Moose Mountain Bike Trail Society (MMBTS), and on the maintenance and inspections on these trails. The other trails in the area are acknowledged but are not the focus of operations and management at this time/in this document.

The plan catalogues the existing trails and identifies strategic locations for proposed trail developments to support increased recreational opportunities, while mitigating issues identified in the environmental review. The plan describes the processes for ongoing management, monitoring and maintenance of the trail system.

The scope of the plan is limited to the North Central Kananaskis Recreation Management Unit (also called the Moose Mountain area or trail system in this plan) with consideration for activities in adjacent areas and existing and future regional trail connections. Opportunities for future regional trail connections are included in the plan but approval decisions on these trails are outside the scope of this plan.

Land Acknowledgement

We acknowledge that this plan area is within Treaty 7, the homeland of Indigenous peoples for generations. Indigenous peoples have a very long and very deep connection to this land.

Plan Principles

The following principles will be used to guide the planning and management of the trail system:

- **Planning:** The trail system and individual trails are purposefully designed to provide desired recreational opportunities, by identifying the trail user objectives, preferred trail activities, the recreation setting, the level of challenge and natural region.
- **Opportunity:** The Moose Mountain trail system provides unique recreation opportunities, which when combined with the other trail systems in the region provides diverse trail experiences for a variety of skill levels and interests. These opportunities will appeal to locals and attract tourists to the area.
- **Partnerships:** Cooperation and partnerships are key to the success of the trail system. Cooperation among recreational users and other land users ensures potential conflicts are identified and addressed.
- **Low-impact:** The trail system and individual trails are designed to minimize the impact of recreation activities on environmental, cultural and historic resources. We will advocate for responsible and respectful use of public lands.
- **Quality:** Trails are built and managed with sustainability first and foremost in mind so as to limit environmental impact, reduce long term costs and need for future maintenance.
- **Diversity of recreation:** There are a diversity of users who use the trails. Some trails will be optimized for a particular activity type (e.g. mountain biking, equestrian use) but they will remain multi-use trails, which is dependent on the cooperation, respect and tolerance among recreational users.
- **Reconciliation:** We acknowledge that the trails are on the traditional lands of Indigenous peoples with which they hold a deep connection. We will work to ensure the trail system continues to be open and accessible to support Indigenous cultural practices on the land.
- **Safety:** The trail system is managed to maximize user safety.

Plan Objectives

1. Map the existing trails and recommend additions to the system to provide good quality, sustainable trails that meet the desired recreation experience.
2. Recommend solutions or measures to mitigate identified negative impacts to environmental, cultural and historic resources and potential conflicts among recreation users and other land users.
3. Create a stewardship plan for the trails operated by MMBTS, including work commitments and decision protocols for trail maintenance, building and events.
4. Make recommendations to enhance public safety through trail monitoring, maintenance and education.

The Trails Plan provides guidance for achieving these objectives. The plan is organized by the following topics: the context and existing policy direction, the overall purpose of the trail system, an environmental review, maps and descriptions of existing and proposed trails to complete the

trail system, and the operations and management of the trail system with stewardship partners, including the maintenance and inspection strategies.

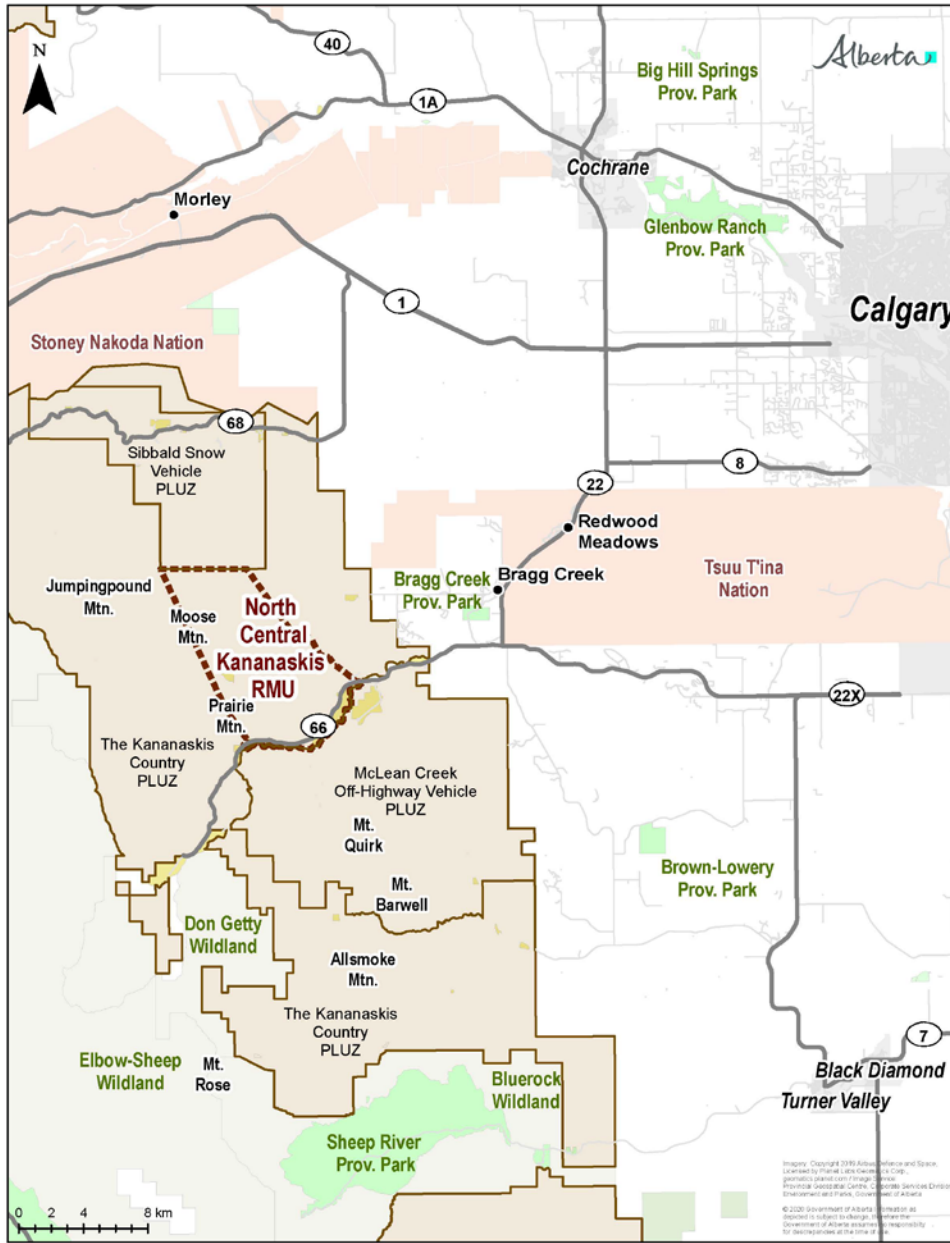
Background and Context

Geography

The Moose Mountain Bike Trail Society Trails Master Plan (herein after called the Trails Plan) applies to the existing and proposed trails on and adjacent to Moose Mountain and the east shoulder of Prairie Mountain in the Elbow Valley. The trail system is located in the foothills of the Rocky Mountains in southwestern Alberta. The plan area encompasses the North Central Kananaskis Recreation Management Unit (RMU), an administrative unit for the purposes of public lands trail planning and asset management (see Figure 1).

The Hamlet of Bragg Creek is the closest town located to the northeast approximately 20 km (via Highway 66 and Highway 22). The City of Calgary is located approximately 30 km east of Bragg Creek (via Highway 22 and Highway 8). The trail system is unique due to its close proximity to the City of Calgary and multiple staging areas. The adjacent paved and gravel roads provide easy access to a natural, semi-wilderness environment.

Figure 1: Trails Plan Area in Regional Context



Relevant Policy and Regulations

The trail system is located in the northeast portion of Kananaskis Country within the unincorporated municipality of Kananaskis Improvement District (KID). The area is within the Kananaskis Country Public Land Use Zone (PLUZ), which is administered by Alberta Environment and Parks (AEP). The Kananaskis Country PLUZ regulations are within the Public Lands Administration Regulation (PLAR) under the *Public Lands Act*. PLAR prohibits off-highway vehicle use in this area.

There are four Provincial Recreation Areas (PRA) within or adjacent the area that are managed by the AEP Parks Division: Moose Mountain Trailhead PRA, Ing's Mine PRA, Elbow Falls PRA, Elbow River PRA. The South Saskatchewan Regional Plan (Government of Alberta, 2017) proposes new and expanded recreation and parks areas that include sites in the Elbow Valley (see Figure 7). The PRAs listed above through reclassification, consolidation and expansion, will form part of the Elbow Valley Provincial Park.

Other land uses in the area are administered through other departments: the Forest Management Agreement (FMA) area administered by Alberta Agriculture and Forestry; grazing allotments (GRL) are administered through Alberta Environment and Parks; and oil and gas dispositions through the Alberta Energy Regulator.

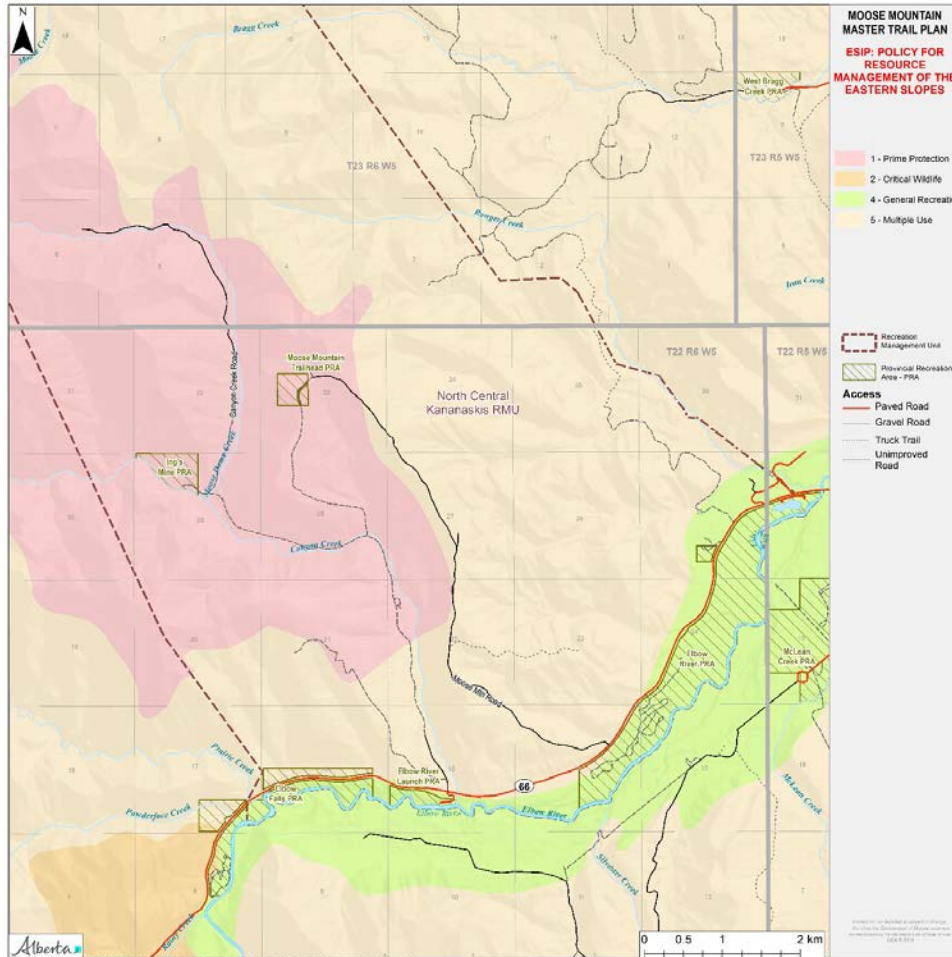
The 1986 Kananaskis Country Integrated Resource Plan (IRP) is a land use plan that continues to provide direction on the allowable and compatibility of uses in Kananaskis Country (Government of Alberta, 1986). The Trails Plan area is within the IRP's Elbow/Jumpingpound Resource Management Area (RMA) (see Figure 2 below). Zoning in the area is Zone 1- Prime Protection (around the summit of Moose Mountain), Zone 4- General Recreation (along the Elbow River and Highway 66) and Zone 5 Multiple Use (everywhere else). The first management priority in this IRP RMA is to maintain the water quality, quantity and flow regime. Second-level priorities are to provide for recreational opportunities, and for the management and development of renewable and non-renewable resources. The third level priority is to maintain or enhance the abundance, diversity, distribution and recreational use of the fish and wildlife resources, and the fourth level priority is to protect areas of ecological, archaeological and historical significance. Specific management objectives are to protect the alpine/subalpine interface on Moose Mountain, to provide a wide range of recreational, leisure and tourism activities and to protect key wildlife populations and critical ranges (e.g., Mountain Goat, Bighorn Sheep). In Zone 1, intensive recreation and serviced camping is not permitted but extensive day use and interpretation facilities are compatible uses. Non-motorized recreation is a compatible use in all zones (Government of Alberta, 1986).

The Kananaskis Recreation Policy (Government of Alberta, 1999) sets the development parameters for the area, clarifying that there will be no town sites, and permanent or non-permanent residency. The intent of the policy is to preserve the wilderness character of Kananaskis Country. The surrounding communities are meant to be service centres for Kananaskis Country and no large scale developments (over 15,000 square feet) are permitted in Kananaskis Country. Small-scale recreation developments are permitted in PRAs and public lands.

The South Saskatchewan Regional Plan (Government of Alberta, 2017) recognizes the Kananaskis region for its year-round recreational opportunities and for its potential to become an internationally renowned nature-based tourism destination. The Plan identifies the need for additional recreational management planning building on existing plans and tourism destination management planning to enhance the region's potential as a tourism destination.

The Trail Development Guidelines for Alberta's Public Land (Government of Alberta, 2019) are a guide for the planning, classification, design, construction and management of trail experiences on public lands. The Guidelines provide provincial consistency for public lands management to ensure lasting, sustainable trails that avoid or mitigate environmental impacts, improve or reduce risk to public safety and are operationally viable. The Guidelines are referred to throughout this document.

Figure 2 Kananaskis Integrated Resource Plan Zones (shown as duplicated in the Policy for Resource Management of the Eastern Slopes)



Recreation

This section describes the visitor use and recreation activities in the plan area.

Visitor Use and Experience

Monitoring of visitor use and experience on the Trails Plan area does not occur in a comprehensive way to yield reliable statistics. In the absence of such data, highway traffic counts and social media platform information as well as observational experience lends insights into visitor use and experience. In an effort to begin to monitor use and experience, a user survey was

conducted in the summer 2020 at some of the parking areas in the Moose Mountain area and results will be published in a separate report in 2021.

Alberta Transportation has maintained an automated traffic counter on Highway 66 located west of the junction of Highway 66 and Highway 758 since 1987 (Government of Alberta, Alberta Transportation, 2020). Table 1 provides information on the trend of the Average Annual Daily Traffic (AADT) on Highway 66. The first AADT recorded for 1987 was 1090 compared to 1880 in 2016, a 73% increase. Lower AADT in 2013-2014 is due to an Elbow River flood and variability and between 2017-2019 due several day use areas closed for flood restoration work.

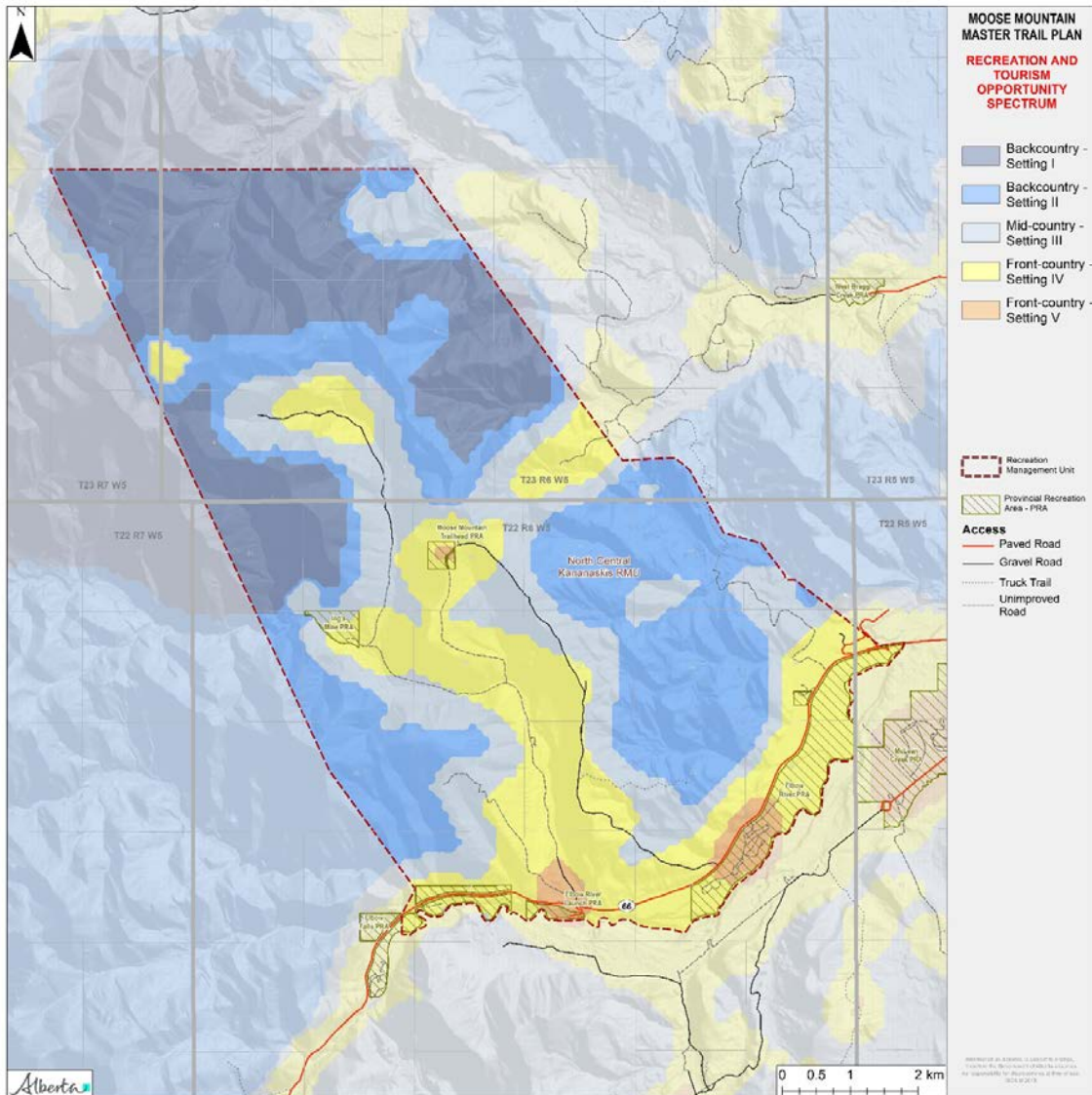
Table 1: Average Annual Daily Traffic - Highway 66

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1440	1470	1470	1570	1360	1580	1780	1880	1790	1590	1673	2581

The diversity of recreation opportunity in the Elbow Valley is one of the drivers for visitor use to the area. Recreation opportunity is “the ability for an individual to engage in a preferred recreation activity within a desired recreation setting and natural region to obtain a desired experience” (Government of Alberta, 2019). It is the combination of the activity, the level of challenge, the natural region and setting that changes the recreation experience. Below is a map of the recreation settings in the plan area, based on a computer-drawn Recreation and Tourism Opportunity Spectrum (RTOS) model as per 2014 data. The setting is the “combination of physical, biological, social and managerial conditions that give value to a place for recreation or tourism purposes” (Clark & Stankey, 1979). In the RTOS model the settings are determined by a combination of the following factors:

- Remoteness (the extent to which users are removed from human activity)
- Naturalness (the degree of human modification in an area)
- Social Conditions (the potential for human interaction, either directly or indirectly, and the extent of management presence)

Figure 3 Recreation and Tourism Opportunity Spectrum



Together, the RTOS map represents the range of settings from remote, wilderness to urban, highly accessible and social places. Below is a short description of each:

Backcountry - Setting I: Typically large and un-modified, undisturbed natural landscapes with little or no recreation or tourism infrastructure. Afford visitors the experience of solitude, high personal risk and challenge.

Backcountry - Setting II: Generally un-modified, moderate to large natural landscapes with minimal to no recreation or tourism infrastructure and limited evidence and interaction with other visitors and management controls. Inaccessible to motorized vehicles. In this setting, visitors can expect to experience solitude, isolation, closeness to nature, risk, and personal challenge.

Mid-country - Setting III: Landscapes that are modified to a small degree, accessible by motorized vehicles (via unimproved roads) supportive of both motorized and non-motorized recreation and tourism activities. Limited evidence and interaction with other visitors and management controls. This setting affords the visitor a lessened sense of isolation and a moderate degree of risk and personal challenge.

Front-country – Setting IV: A natural appearing setting with higher degree of human modifications that, for the most part, blend with the surroundings. Recreation and tourism infrastructure and management controls may be evident, as could be resource development activities. The area is easily accessible and evidence and interaction with other visitors is common. This setting affords visitors less frequent opportunities to experience solitude.

Front-country – Setting V: A substantially modified landscape with obvious development and resource use. Recreation and tourism infrastructure and management controls are common and desired. Motorized and non-motorized activities occur. Evidence and interaction with other visitors and management is frequent. Visitors may experience some modern conveniences and a feeling of security from personal risk.

The motivations of recreationists (described for biking, hiking and trail running below) affect their selection of settings, depending upon what experience that wish to obtain. Trail planning, design and construction must consider the combination of the setting, the level of challenge, the natural region and the activities to meet the range of needs of trail enthusiasts (Government of Alberta, 2019).

Mountain Biking

Mountain biking is one of the most popular recreation activities in this area. There are four types of mountain biking experiences in the area defined by the terrain and the types of natural or built challenges along the trails: cross-country mountain biking, downhill mountain biking, enduro mountain biking and winter fat tire biking. According to the Calgary results from the 2017 Alberta Recreation Survey, the top five motivations for mountain bikers are for a challenge, for pleasure/fun, to be away from family, for physical health or exercise, and to be creative.

Hiking and Trail Running

Hiking from the end of the Moose Mountain Road to the Moose Mountain Summit is the most popular hike in the plan area, seconded by the Canyon Creek Ice Cave Trail, according to alltrails.com. Hiking is growing in popularity on the trails on the east shoulder of Prairie Mountain. Hikers emanate from Paddy's Flat Campground, on the south side of the highway, and have created a loop from the campground, along the river west towards Elbow Falls and then across the highway to Elbow Valley Trail and Sulphur Springs Trail. A number of well used hiking trails begin at Station Flats parking area, including the Ridgeback Trail loop and the long distance trail Tom Snow that follows Ranger Creek 25 km north to the Jumpingpound Creek. The top five motivations of hikers from Calgary, according to the 2017 Alberta Recreation Survey are to enjoy nature, for physical health or exercise, for pleasure/fun, to relax and to be with family.

Trail runners use the trails for training, seeking both challenge and exercise. Many of the trails described as mountain bike trails on alltrails.com are also recognized as hiking or trail running routes on strava.com.

Caving and Climbing

The most well-known cave in the area is Canyon Creek Ice Cave¹, formed by water carving out the limestone. The trailhead is 7km from Canyon Creek Road gate (which is closed to the public), accessible by hiking or mountain biking. The climb to the ice cave is steep and finishes with a scree slope scramble. Proper experience and gear is necessary as risk inside the cave is extreme.

There are several sites popular for climbing in the area. Along the Canyon Creek Road, there are at least four areas and crags for climbing along the cliffs of Moose Mountain, among them areas called the Dust Bowl and Moose Patch (Ghost River Productions, 2018).

Special events

Alberta Environment and Parks authorize several recreation special events in the area throughout the year. Several parking areas including Station Flats and pull-offs along the Moose Mountain road provide staging for trail-based special events.

¹ Also known as Ing's Mine cave and listed as #9 of 15 things to do in Bragg Creek on tripadvisor.com, as of September 17, 2020.

Equestrian

Station Flats provides parking for equestrian users, with larger stalls and hitching rails. From here a number of low elevation trails are used for horse trail riding, such as the Diamond T Loop, Elbow Valley Trail and Sulphur Springs Trail.

Other Land Uses

Oil and Gas

Two companies, Cenovus (formerly Husky Oil Operations Limited) and Pieridae Energy operate oil and gas wells and facilities in the area. There are twelve active sour gas wells in the area that were drilled between 1960 and 2007. Another sixteen oil and gas wells are dry and abandoned, some of which date back as far as 1929. Three gas batteries and two compressor stations operate in the area, accessed by the Moose Mountain road and the gated Canyon Creek and Prairie Mountain roads. Over 33 kilometres of pipelines run underground through the area.

Forestry

The plan area is within the B12 Forest Management Agreement (FMA) area, which provides for the right to establish, grow, harvest and remove timber. Spray Lake Sawmills is the primary tenure holder regulated under the *Forests Act*. Harvesting is subject to many provincial regulations, policies, guidelines and operating ground rules designed to protect the watershed and the environment, minimize conflict with other land uses and ensure prompt and effective reforestation. Forest Management Plans (FMPs) must be completed by the tenure holder and approved by the Government of Alberta every 10 years. FMPs provide the twenty-year strategic plan for the FMA and include a 20 year spatial harvest sequence and a visual quality strategy map. A revised forest management plan was submitted to the Government of Alberta in September 2020.²

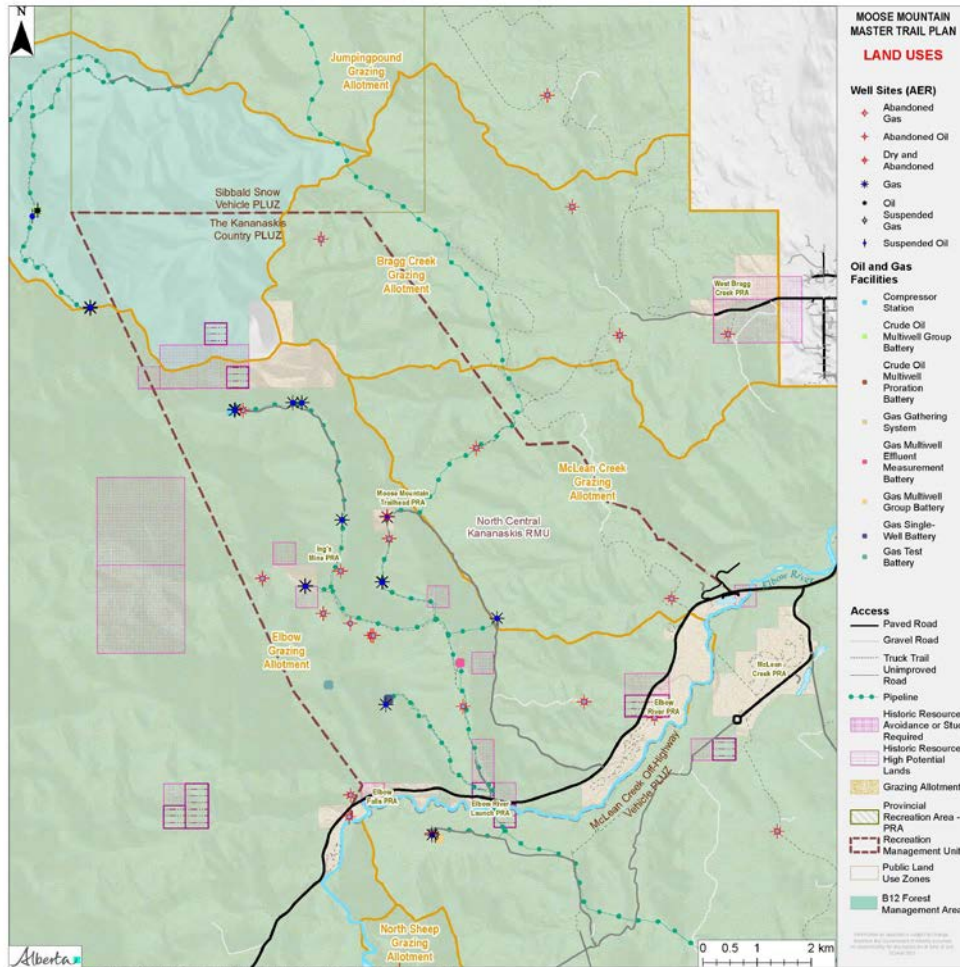
Livestock Grazing

The plan area includes portions of three range allotments: the Bragg Creek, Elbow and McLean Creek allotments. The season of use is typically from June 15 - October 30 with some variation year to year. Recent range inventories have been conducted for all three allotments, providing

² The current forest management plan and operating ground rules are available at <http://www.spraylakesawmills.com>

information on vegetation types in the area, and range and riparian health assessments. This information supports determination of ecologically sustainable stocking rates and is the basis for developing range management plans for each allotment. The Bragg Creek range allotment has a signed range management plan, and the Elbow and McLean Creek range allotments have draft plans. Seasonal grazing occurs throughout the area where grass is present and forbs are dominant, mostly along roadsides, in grassland areas in the valley bottoms, or in the trembling aspen communities with grass cover. Any trails that cross allotment boundaries are particular concern because cattle may use these vectors for travel from one unit to another. Range allotment preference quota holders have also raised concern about trails that require wide tread and heavy equipment as they risk changing the nature and aesthetic of the natural environment. Mitigation to address these concerns will be considered during the detailed trail design stage. Mitigation may include rerouting the trail, altered trail tread design, employing fences, gates, cattle guards and signage for users. Any new trails that may affect livestock grazing will be reviewed by AEP's rangeland agrologist and the grazing allotment holders during the detailed trail design stage.

Figure 4 Regional Land Uses



Indigenous Cultural Practices

Indigenous peoples have lived on this land for thousands of years. They have shaped the land and built many cultural sites still used to this day. The area also contains Indigenous stories associated with the land that are important to Indigenous cultural transmission. The Moose Mountain area is a cultural landscape used by Indigenous peoples to practice their culture, which includes harvesting food and medicines, holding ceremonies, and connecting to the land.

Hunting and Trapping

Regulated hunting of ungulates and other species occurs in the area from mid-September until the end of November. No commercial hunting operations are known to occur here. Two Registered Fur Management Areas overlap with the Trail Plan area.

Television and Film

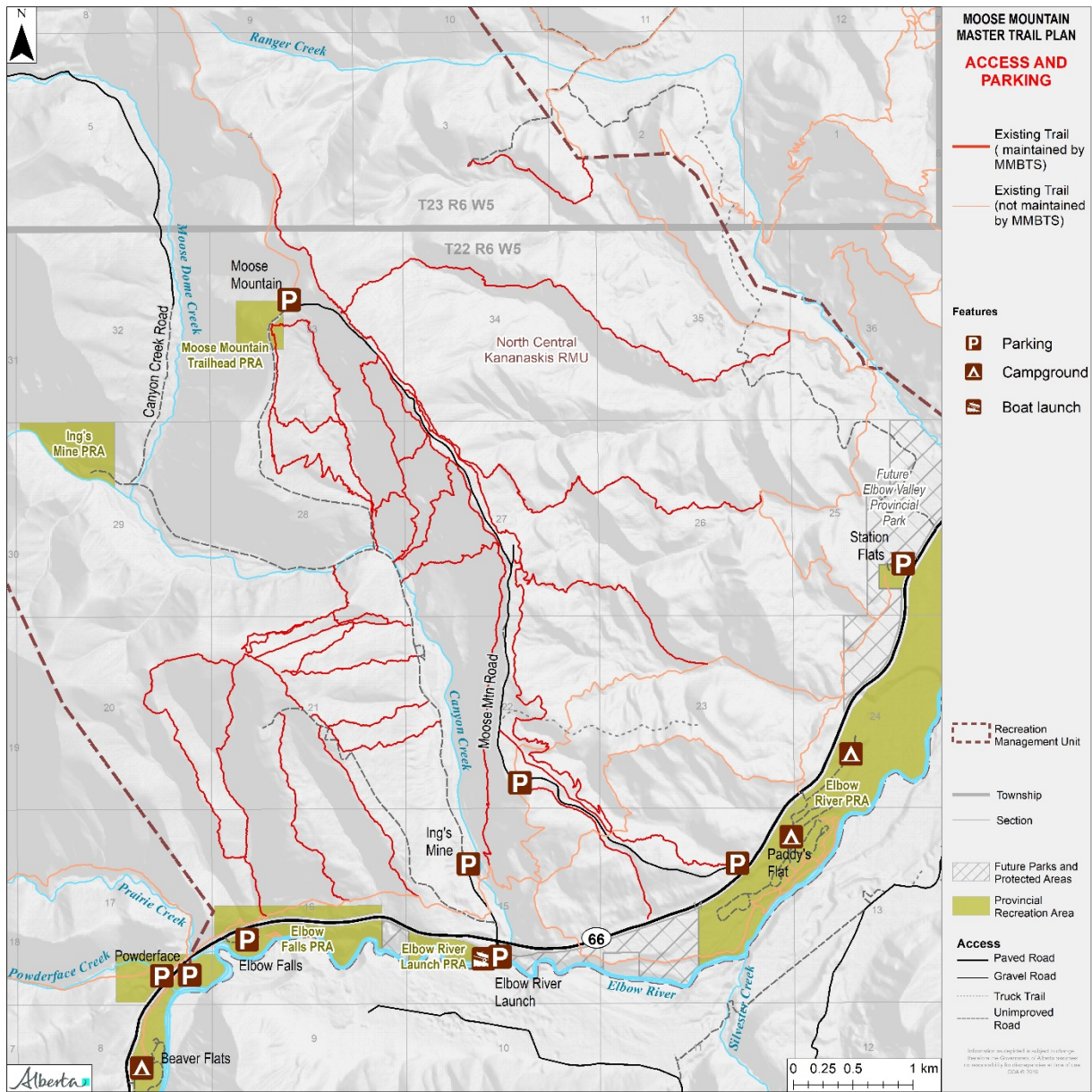
The area is used as sets for television and film operations and have received approval in recent years to operate along the gated Canyon Creek road.

Staging and parking

Several of the formal parking and staging areas in the area are managed by the Parks Division. The Parks Division is conducting facility planning for Station Flats PRA, Ing's Mine and Moose Mountain Road parking areas. Station Flats is currently noted as a special events staging area under the Kananaskis PRA and Bragg Creek Provincial Park Management Plan. In addition, the day use site provides parking and facilities for hiking, biking and equestrian use. The Parks Division is exploring options to upgrade the site that will include expanded parking for special events as well as day use for hiking and biking recreationists.

Safe parking and staging areas are requirements for all good trail systems. Safe parking and staging options need to be planned, managed and maintained. A number of the trailheads along the Moose Mountain Road do not have formal staging and not all staging areas provide enough space for vehicles to turn around and park. It is recommended that a parking assessment for Crown lands staging areas in collaboration with the Department of Transportation be completed within three to five years of the finalization of this plan.

Figure 5 Access and Staging



Trail System Purpose

The trail system provides a unique recreational opportunity in the region. The terrain provides trails with a difficult degree of challenge and front-country access to backcountry settings. These factors make the trails desirable for a variety of mountain bike users: cross-country mountain biking, downhill mountain biking, enduro mountain biking and winter fat tire biking. Hiking is also popular in the area for people who are motivated by challenge, exercise and desire to be in a natural, semi-wilderness environment.

Mountain bike trails in the nearby regions of West Bragg Creek, Canmore and Cochrane offer a large variety of entry level terrain with several green and blue trails. The Moose Mountain area is unique as it is topographically inclined to providing steeper grades and more advanced blue, black and double black trails for the region. The south facing slopes extend the use of the trails as the trails are usable earlier in the spring and later in the fall than other north facing areas in the region. The mountain bike trail system in the Moose Mountain area fills a niche that is not met elsewhere in the region and keeps riders within Alberta, as well as it brings tourists and economic value to this region.

The variety of mountain bike trails in the Elbow Valley (including West Bragg Creek and Moose Mountain) positions the area to become a tourist destination with comparable offerings of trail distances to other popular mountain bike systems in Western Canada (see Table 2).

Table 2 Number and Kilometres of Mountain Bike Trails by Region³

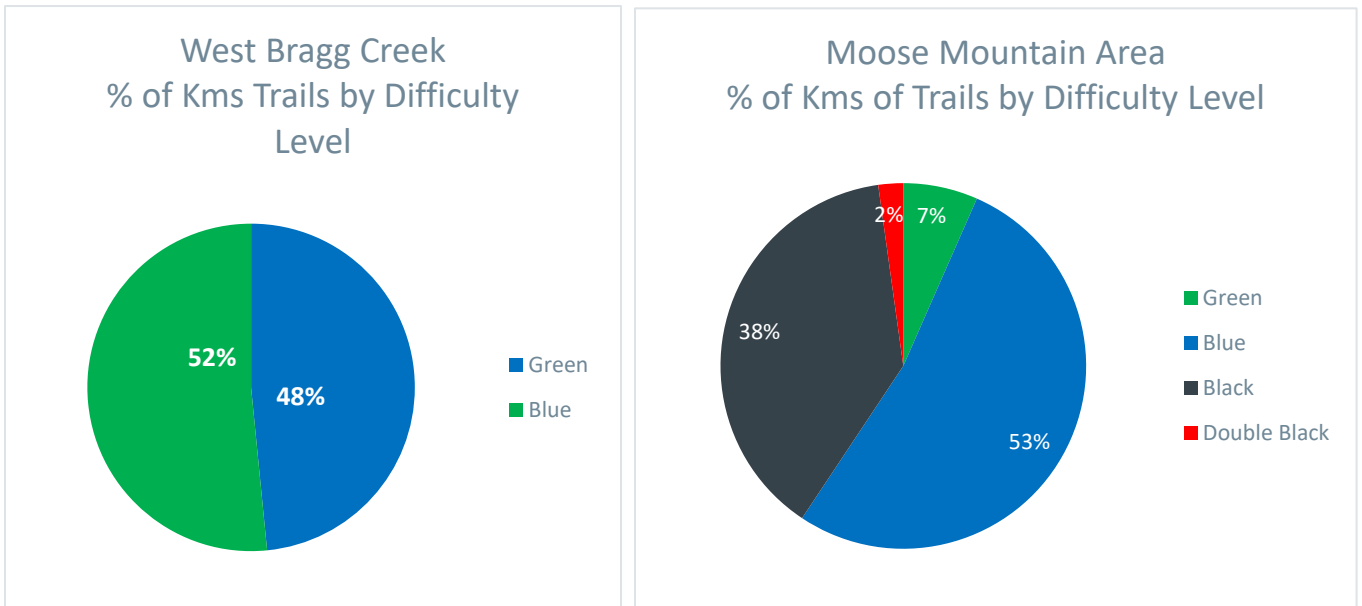
	Elbow Valley	Fernie	Rossland	Nelson	Squamish	Revelstoke
Total Number of Trails	91	347	160	363	536	215
Total Kilometres of Trails	412	764	276	578	580	387

³ trailforks.com; retrieved January 31, 2020

The Moose Mountain trail system, combined with the adjacent West Bragg Creek trail system, provide users with options for difficulty and differing levels of riding experiences. The organization “Bragg Creek Trails” has a plan to continue to add more beginner/green level mountain biking, and hiking terrain in the West Bragg Creek area, and is working with equestrian groups to build equestrian specific trails. The Moose Mountain area terrain presents the opportunity for additional mountain bike specific trails that allows users to experience higher levels of challenge and risk than elsewhere in the region. The charts below (Figure 6) show the percentage of trails in each difficulty rating type across West Bragg Creek and Moose Mountain trail networks.

More information on the popularity of trails in the West Bragg Creek and Moose Mountain area are shown in the Appendix “Trail Statistics and Usage Information,” based on detailed table of trail statistics and user data from 2018 and 2019 on strava.com.

Figure 6: West Bragg Creek and Moose Mountain Area % of Kms of Trail by Difficulty Level



Network Description and Classification Standard

Description of Existing and Proposed Trails

The Moose Mountain area has approximately 113 kilometres of trails. MMBTS is the trail operator for 63 kilometres of the existing trails. This plan proposes an additional ~30 kilometres of trail with MMBTS as trail operator. Below are maps of existing and proposed trails in the area.

In Appendix E: Trail Descriptions, Objectives and Operators is a description of each of the existing and proposed trails, trail user objectives⁴, level of development⁵, and trail operator.

⁴ The trail user objectives are referred to in the Government of Alberta's Trail Development Guidelines (Government of Alberta, 2019) and describe the main desired trail user objectives to be applied during the rehabilitation or building of each trail or incorporated into design features on the trail. There are 12 trail user objectives with common terms and definitions in the guidelines.

⁵ The level of development defined in the Government of Alberta's Trail Development Guidelines (Government of Alberta, 2019). In this plan, level of development is primarily referring trail structures. On minimally developed trails, there are few structures and no bridges. On moderately development trails, there may be bridges and structures of limited size, scale and quantity and typically constructed of native materials.

Figure 7 Existing Trails

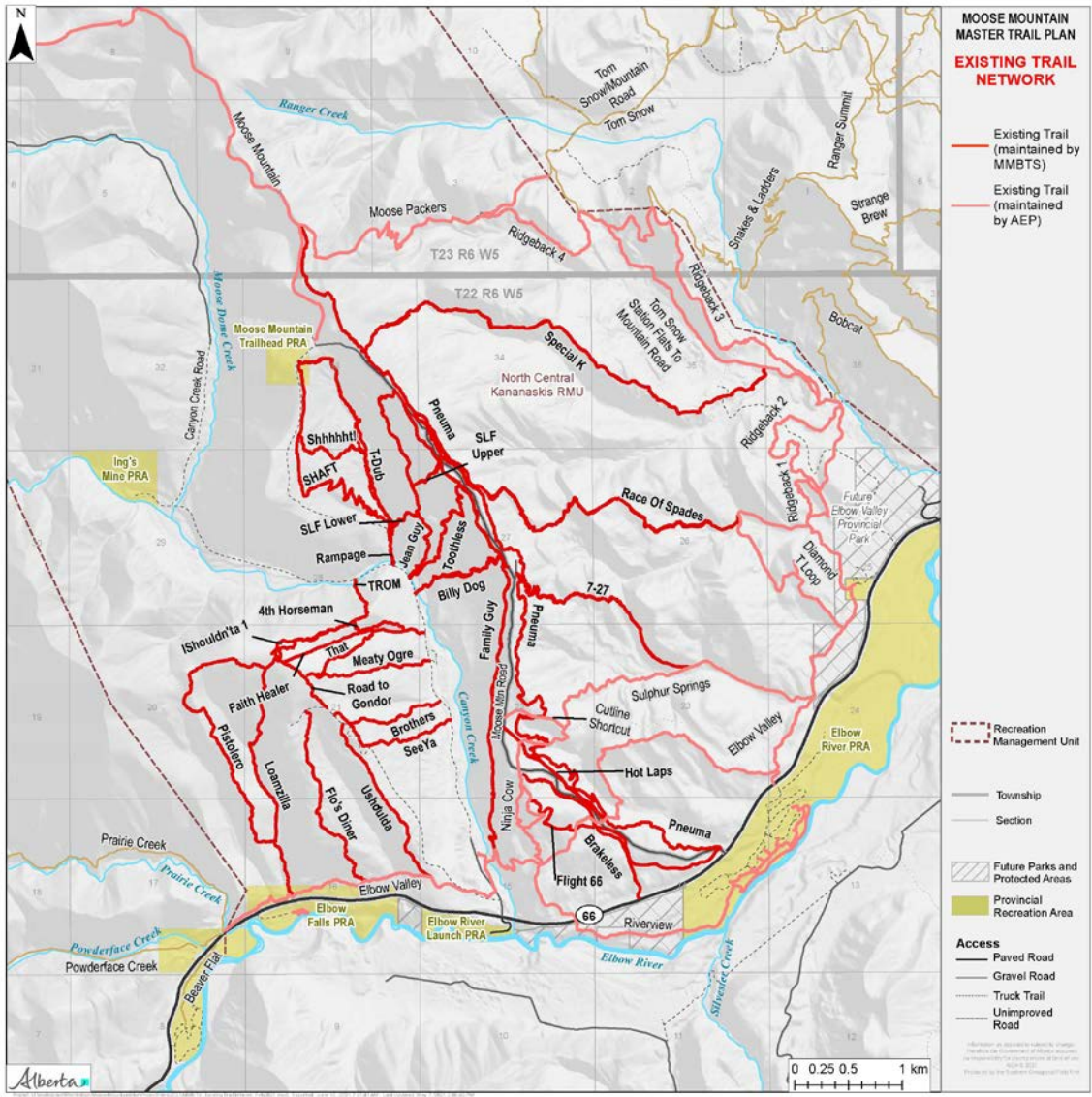
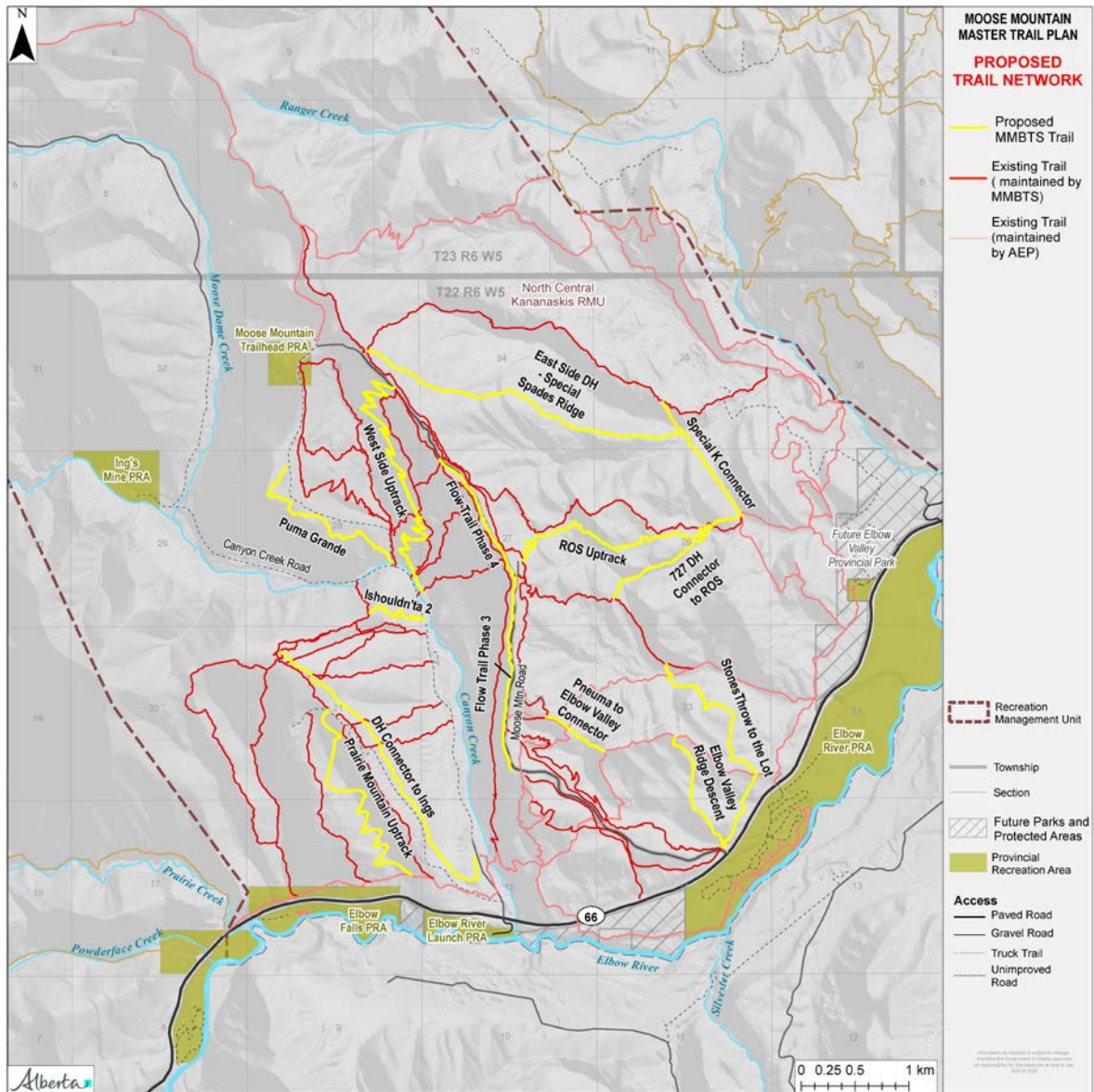


Figure 8 Proposed Trails



Proposed mountain bike trails for the Moose Mountain trail network fall under three categories:

1. **New trail experiences** - This includes new trails that add to the variety of available trail experiences in the network. These trails can be built by volunteers, but more complex builds will require professional trail building labour and machinery (i.e. contractor required).

2. **Connectors** - This style of trail further enhances the use and experience of the existing trail infrastructure within the network. A connector/ enhancement can repurpose older trail alignments and help develop connections between different trails and staging areas.
3. **Enhancement of existing trails or linear disturbances** - This style of trail is designed to repurpose previously disturbed terrain (either an existing mountain bike trail, a disturbance due to oil and gas activities or forestry access, or old hiking trails) into an appealing trail experience and provide options for lower effort and less costly trail construction.

A number of potential regional trails that extend beyond the planning area are identified in Appendix D: Regional Trail Connections and Potential Future Connectors. These potential regional trails are not part of the scope of the plan and will be considered as part of future sub-regional recreation management planning.

Trail Classification Standard

A multi-jurisdictional review was carried out to determine what trail standard would be best to apply to this area. See below a short summary of standards from nearby jurisdictions:

- West Bragg Creek trails network uses the International Mountain Bicycling Association (IMBA) standard as the area has less topography and coincides with a large double track network of cross-country ski trails and timber-harvesting routes. The trails are often built on existing cutlines and land disturbances and have a lower average trail grade, which aligns with the IMBA system. IMBA's Trail Manual does not accommodate for the topography of the Moose Mountain area.
- Fernie's Trails Master Plan (McElhanney , 2015) does not identify a trail building standard. Rather, Fernie's Trails Plan focuses on the benefits of trails to the community and multiple suggested routes, to be built at the discretion of local land managers.
- District of Squamish Trail Standards (District of Squamish, 2018) is a detailed and lengthy resource with definitions for "green", "blue", "black" and "double black" trails depending on the average grade and prevalence of technical trail features and inclined rock sections.
- The Whistler Off Road Cycling Association (WORCA), a long running and professional organization, maintains their trails to their own "Whistler standard" (Resort Municipality of Whistler, 2014) which contains detailed descriptions of each level of trail and what constitutes a "green", "blue", "black" designation.

- Pemberton (Village of Pemberton, 2014) reviewed their trail standards in 2014 and determined that a blend of the Whistler and Squamish standard would be applied to their trail system.

After reviewing the above trail standards, the Squamish trail standard is recommended for the Moose Mountain network. The Squamish standard was chosen as the area is very similar in terms of:

- The Squamish trail system is not lift accessed and is maintained by volunteers (e.g. Whistler is lift accessed and maintained by trail crew so the trail standard is not fully relevant for Moose Mountain)
- The Squamish trail system has advanced terrain and steep grades and operators manage for water drainage, erosion and sensitive environmental considerations while ensuring the trails enhance rider experience. These are the similar issues existing in the Moose Mountain area.
- The Squamish trail system is mature and internationally renowned. The Moose Mountain area is growing in popularity and MMBTS can learn from the Squamish standard to build a sustainable network.

Environmental Review

The purpose the environmental review is to provide an overview of the known environmental, cultural and historic resources in the Moose Mountain area, and to identify mitigation and recommendations to address potential negative impacts to environmental, cultural and historic resources. The assessment was prepared with available sources of past research and scientific knowledge of the area and a desktop review of publicly available background data.

Ecoregions

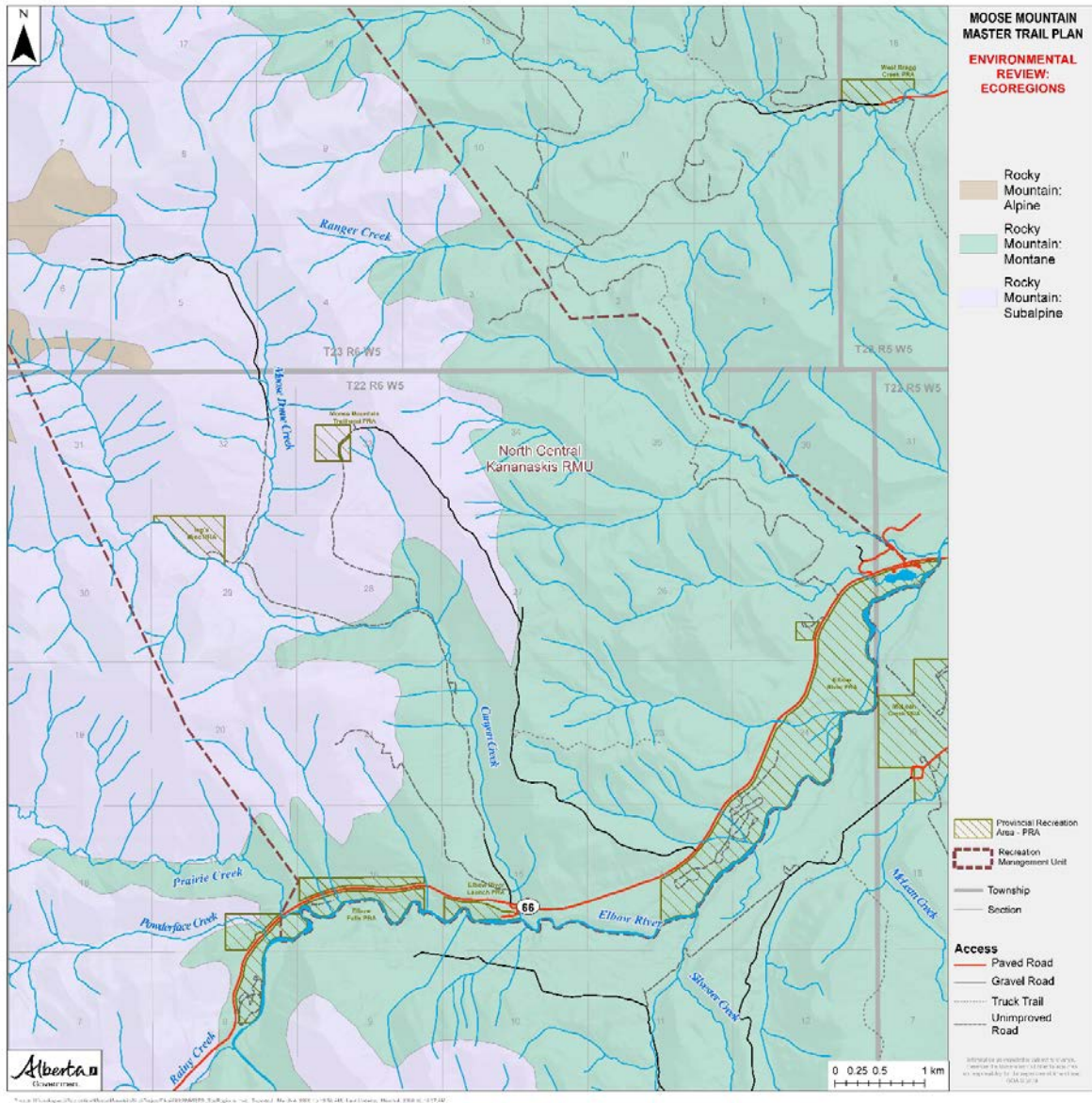
The Plan area is in the Rocky Mountain Natural Ecoregion and Subalpine and Montane Subregions (D.J. Downing, 2006). The Subalpine Subregion is regionally mapped at higher elevations and the Montane Subregion is mapped at lower elevations.

The Subalpine Subregion typically has short, cool, wet summers, and long, cold winters characterized by heavy snows, compared to the Montane Subregion which is characterized by mild summers that have high precipitation, and frequent Chinook winds that result in warmer winters.

Montane Subregions are generally characterized by valleys and foothills consisting of till with significant fluvial deposits, whereas Subalpine Subregions are characterized by till and residual

materials over rolling and inclined bedrock (D.J. Downing, 2006). Vegetation within Montane Subregions is generally characterized by mixed and pure forests, with some grasslands, whereas the Subalpine Subregion vegetation generally consists of mixed conifer forests.

Figure 9 Ecoregions



Topography

The Moose Mountain trail network is located on the west and east ridge of Moose Mountain and the east shoulder of Prairie Mountain. Moose Mountain elevation is 2,430 metres above sea level (masl) with the associated trails starting below the summit at 1,981 masl and some proposed trails to the north at 2021 masl. Topography within the trail system slopes down to the east, west and south of the summit. Slopes are generally gradual within the trail system.

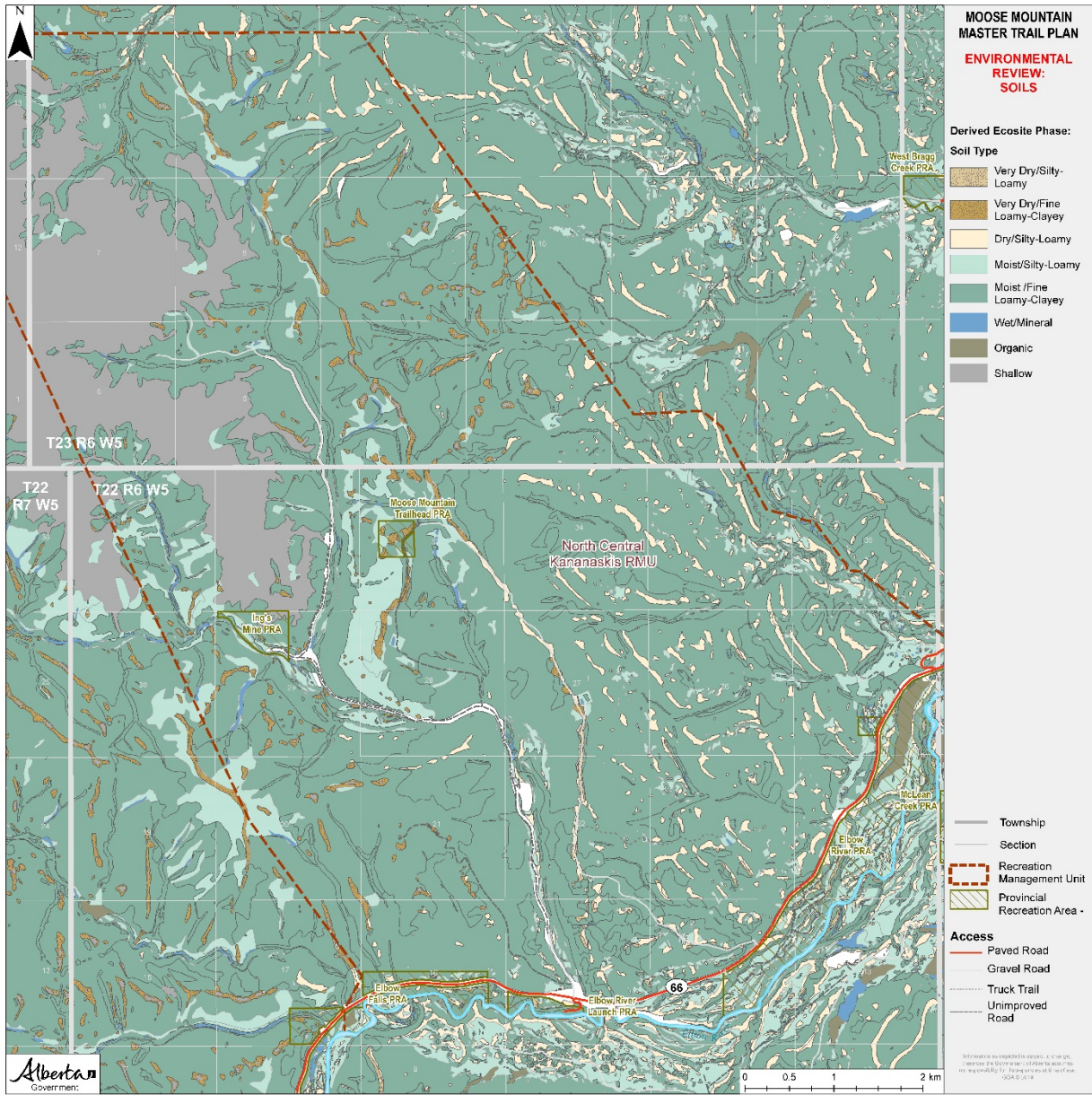
The east shoulder of Prairie Mountain has a local topographic high within the Trails Plan area, with an approximate elevation of 1,930 masl, which is lower than the actual peak of Prairie Mountain, which has an elevation of 2,214 masl. The existing trails reach an elevation of 1900 masl. Topography within the trail system typically slopes down to the north, east, and south of the local topographic high. Slopes are generally gradual within the trail system, with the exception of a northwest to southeast trending cliff band along the southwest side of the mountain.

Soils

The soils within the trail network area are typically well drained. Lower elevation soils are classified as Orthic Grey Luvisols developed on till with upper slopes comprised of Luvisols of a clay loam texture.

The soils within the trail network are typically loam textured (fine-grained) overlaid by a clay subsoil. Depending on aspect and vegetation cover the soils are generally moist under forested terrain and a drier fine loam on open slopes. Upper slopes have shallow rocky soils with little grass cover and dominated by bearberry (Alberta Sustainable Resources Development, 2006). The loam/silty loam topsoil is shallow and once disturbed the fine textured soil becomes dry and 'powdery'. Rocks and shallow soils are evident throughout the area.

Figure 10 Soils



Vegetation

The trail network is located within a forested area consisting of predominantly trembling aspen, spruce and pine with a woody understory and various native grasses and forbs consistent with the Montane and Subalpine Subregions.

Table 3 Common Vegetation Species in the Area

Common Name	Scientific Name
trembling aspen	Populus tremuloides
white spruce	Picea glauca
lodgepole pine	Pinus contorta
creeping juniper	Juniperus horizontalis
prickly rose	Rosa acicularis

An Alberta Conservation Information Management System (ACIMS) search conducted for the trail network area resulted in several non-sensitive element occurrences. These non-sensitive species are noted in the below table with the corresponding land location (section).

Table 4 ACIMS Search of Species in the Area

Common Name	Scientific Name	Sections
dwarf fleabane	Erigeron radicans	28 and 22-06 W5M
Hooker's cinquefoil	Potentilla hookeriana	16-22-06 W5M 15-22-06 W5M

variety of moss species		15, 16, 20 and 21-22-06 W5M
variety of lichen species		15, 16, 20 and 21-22-06 W5M

The trail system is generally not within the ranges for endangered and threatened plants, with the exception of limber pine (*Pinus flexilis*) and foothills rough fescue (*Festuca campestris*) communities (AEP, 2016).

Limber Pine

Limber pine is generally present at higher elevation areas near the tree-line and are tolerant of windy and dry conditions (Government of Alberta, 2018) (Government of Alberta and Alberta Conservation Association, 2007). Occurrences are associated with south- and west-facing slopes, along rocky ridges and steep rocky slopes, which are not prevalent in the network area. Limber pine can exist in mixed stands and quickly establishes itself after forest fires. There is the potential for limber pine to occur within the trail system area, particularly in poorly established soils and higher elevation areas that are regionally mapped as being within the Subalpine Subregion (Government of Alberta, 2006). Prior to construction of any trail within the trail network area, a survey will be conducted to assess for limber pine to ensure no limber pine are impacted by new trail construction.

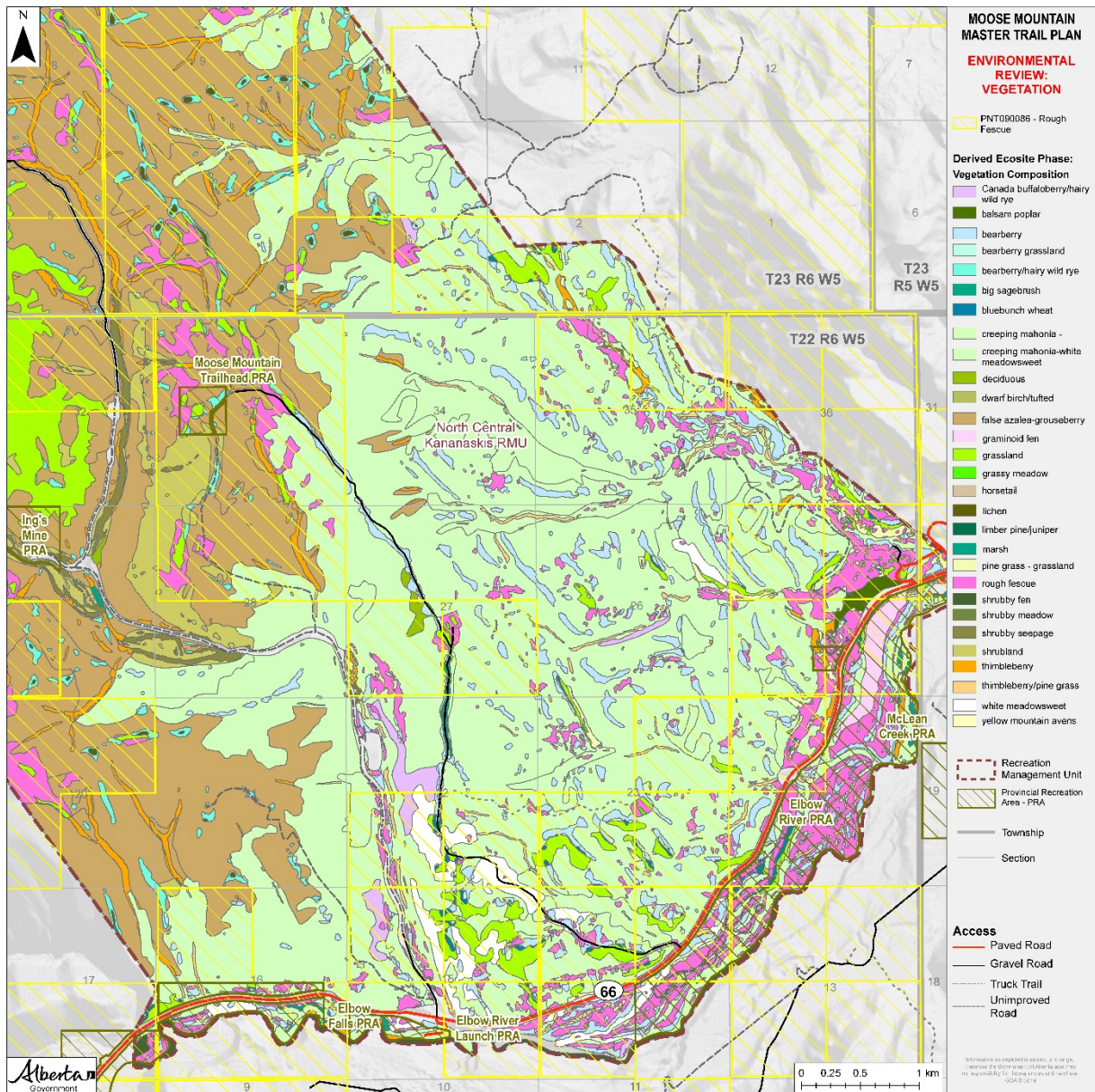
Foothills Rough Fescue Communities

The trail network is within potential terrain for foothills rough fescue grassland communities. Foothills rough fescue communities are important to overall species diversity and provide essential winter grazing for wildlife. These grasslands are important in maintaining the local plant biodiversity (Willoughby, 2001). Fescue communities are known to occur in the area primarily on open east, south and west slopes.

There are several sections within the North Central RMU that have a protective notation for foothills rough fescue (PNT 090086) and noted in Figure 9. The PNT is administered by Environment and Parks, Rangeland Management, and indicates the proposed trail system may fall within an area of foothills fescue grassland which is limited in remaining area, sensitive to development and difficult to reclaim. Prior to construction of any trail within the trail network area,

a vegetation survey will be conducted and the proposed area assessed for native grassland communities to ensure impacts are managed within the trail system (Government of Alberta, 2010) (Government of Alberta, 2010).

Figure 11 Vegetation Types



Terrestrial Resources

The area and associated trail network area is utilized by several species of large and small mammals (See Figure 10 and Table 5) and many species of birds.

Table 5 Common Wildlife Species in the Area

Common Name	Scientific Name	Status (AB General Status 2015)
Moose	<i>Alces alces</i>	Secure
White-tailed Deer	<i>Odocoileus virginianus</i>	Secure
Mule Deer	<i>Odocoileus hemionus</i>	Secure
Grizzly Bear	<i>Ursus arctos</i>	At Risk
Black Bear	<i>Ursus americanus</i>	Secure
Grey Wolf	<i>Canis lupus</i>	Secure
Cougar	<i>Puma concolor</i>	Secure
Coyote	<i>Canis latrans</i>	Secure
Big Horn Sheep	<i>Ovis canadensis</i>	Secure
Mountain Goat	<i>Oreamnos americanus</i>	Secure

An AEP Fish and Wildlife Management Information System (FWMIS) search conducted for the trail network area revealed the potential presence of the following and their associated status as per the Alberta Government Wild Species General Status Listing 2015 (updated March 1, 2017).

Table 6 Fish and Wildlife Management Information System (FWMIS) Search – Mammals

Common Name	Scientific Name	Status (AB General Status 2015)
American badger	Taxidea taxus	Sensitive
Bobcat	Lynx rufus	Sensitive
Canada Lynx	Lynx canadensis	Sensitive
Cougar	Puma concolor	Secure
Fisher	Martes pennanti	Sensitive
Great Gray Owl	Strix nebulosa	Sensitive
Grizzly Bear	Ursus arctos	At Risk
Harlequin Duck	Histrionicus histrionicus	Sensitive
Northern Pygmy Owl	Glaucidium gnoma	Sensitive
Wolverine	Gulo gulo	May be at Risk

The classification of the species is as follows:

- “Secure” - a species that is not At Risk, May be at Risk or Sensitive.
- “At Risk” - a species known to be at risk after formal detailed status assessment and legal designation as *Endangered* or *Threatened*.
- “May be at Risk” - a species that may be at risk of extinction or extirpation, and is therefore a candidate for detailed risk assessment.
- “Sensitive” - any species that is not at risk of extinction or extirpation but may require special attention or protection to prevent it from becoming at risk
- “Exotic/Alien” - a species that has been introduced as a result of human activities.

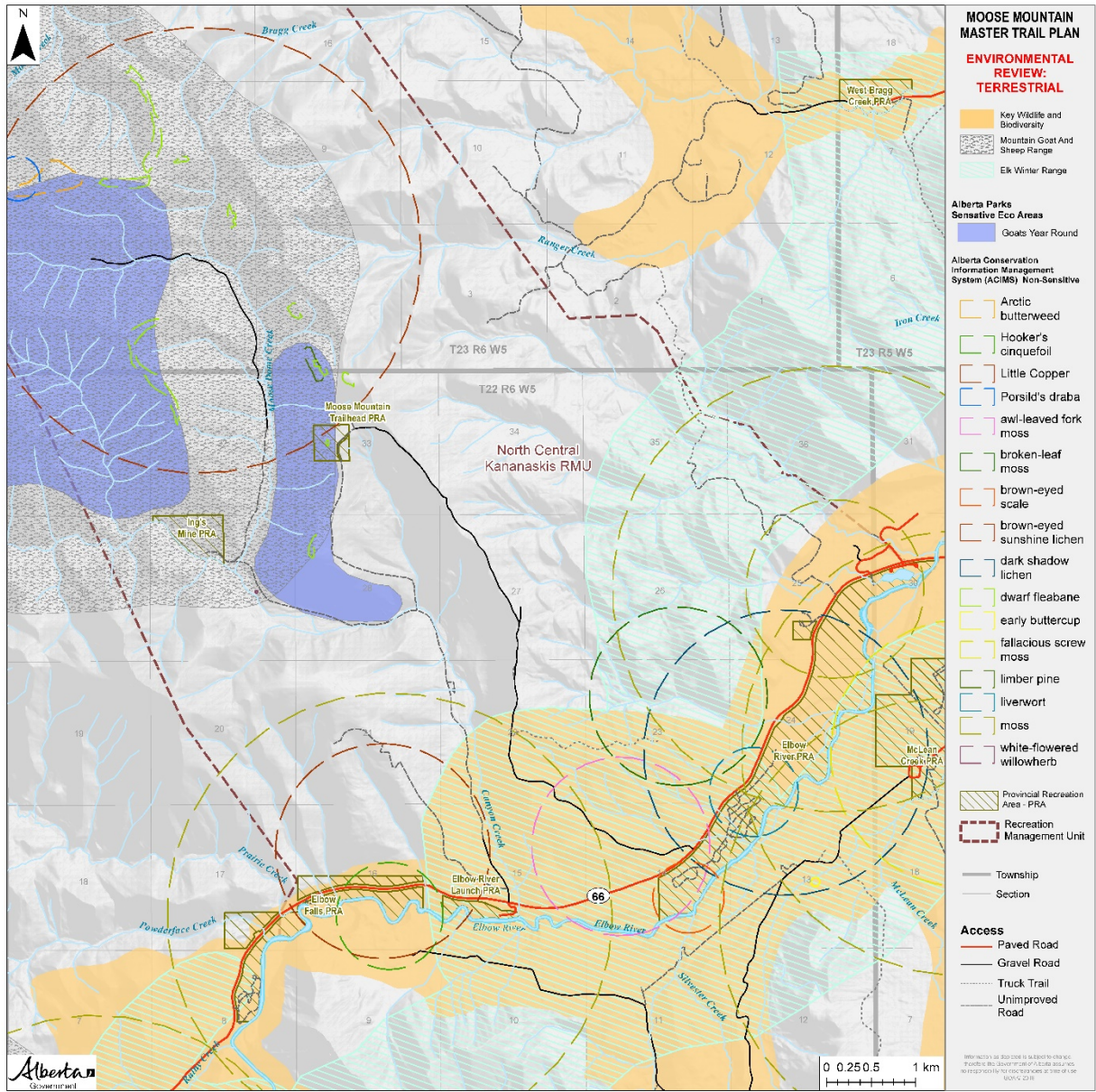
Grizzly Bear

The trails are located in the Core Grizzly Bear Management Area 05 region. The predominant cause of grizzly bear mortality in this region is vehicle collisions. The 2008 Grizzly Bear Recovery Plan recommends a maximum open route density of 0.6 km/km² (Alberta Sustainable Resource Development, 2008). The open route density for this area has not been exceeded.

Mountain Goat and Sheep Range

The northern part of the proposed trail network is within the Southern Rockies Mountain Goat and Sheep Range. If future development were to occur in this area, additional review and planning would be required to mitigate and avoid potential environmental impacts. Future trails will meet current environmental guidelines and avoid or mitigate impacts to sensitive areas.

Figure 12 Terrestrial Resources



Water and Aquatic Resources

The proposed trail system is located within the South Saskatchewan watershed, within the upper reaches of the Elbow River Basin, and within the Powderface/Prairie Sub-basin. The Elbow River drains into the Bow River and eventually into the South Saskatchewan River.

The existing and proposed trails are not anticipated to interfere with existing water courses, surface water or groundwater users.

Surface Water

A desktop review of a hydrographic GIS layer⁶ reveal some segments of existing MMBTS trails within 30m of mapped watercourses.⁷ However, indefinite watercourses (drainage pathways) identified in the GIS layer are unlikely to have been field verified. MMBTS trails with segments within 30m of a reoccurring watercourse are Pnuma, Race of Spades, Special K. MMBTS trails with segments that traverse within 30m of Canyon Creek are Billy Dog, Jean Guy, Rampage, Toothless and Trom.

Despite Canyon Creek being regionally mapped as a permanent stream, this watercourse is generally dry, aside from spring and during major precipitation events. There is no Environment and Climate Change Canada water gauging station located on Canyon Creek; however, station 05BJ004 located on the Elbow River, with which Canyon Creek is confluent, and station 05BH013 on Jumpingpound Creek near Cox Hill in the trail network area corroborate that peak flows occur between mid-May and late June, with Jumpingpound Creek demonstrating no flow prior to mid-April, and minimal to no flow between August and April.

During spring snow melt or significant precipitation events, some drainage pathways may temporarily contain standing water, as snow pack runoff drains into these topographically low areas. MMBTS has not observed regular standing water in these low areas during the mountain bike season (May-October) and due to the seasonal nature of these drainages. In addition, with the exception of the drainage pathway adjacent to the Loamzilla and Pistolero trail terminus within the east shoulder of Prairie Mountain, all other drainage pathways do not have direct connectivity to a classified watercourse. Loamzilla and Pistolero run adjacent to a drainage pathway that may have seasonal connectivity to the Elbow River via culvert structures beneath Provincial Highway 66 during snow melt or significant precipitation events.

Trails that terminate on the east and north sides of the east shoulder of Prairie Mountain and the west and south sides of Moose Mountain are adjacent to drainage pathways that connect to Canyon Creek. The drainages into and that of Canyon Creek lack of connectivity with the permanent classified watercourses and the relatively steep gradient of the drainage pathways present a barrier to fish passage, and therefore, aquatic species are unlikely to be present in

⁶ AEP's Base Hydrography Single Line Hydrography Network (SLNET), which contains all captured single line representations of hydrographic features.

⁷ The review was conducted for 30m from watercourses aligns with the critical habitat definition within the *Species at Risk Act*.

these features. Dry conditions in Canyon Creek are consistent with upslope drainage pathways remaining dry during the majority of the year.

Some segments of future proposed trails are identified, through the desktop review, as being within 30m of a watercourse. Additional field verification will be conducted as these trails move to detailed trail design and rerouting, mitigation and appropriate federal and provincial authorizations will be sought, as needed.

Aquatic Species

Both Canyon Creek, which is regionally mapped as a permanent stream (AltaLIS Ltd, 2015), and the Elbow River, which is regionally mapped as a permanent river (AltaLIS Ltd, 2015) to the south of the trail network, are considered Class C watercourses with a Restricted Activity Period (RAP) of September 1 to August 15 of each year (Government of Alberta, 2012). No fish surveys were conducted as part of this assessment; however, fish species presence is documented for Canyon Creek and the Elbow River in the trail network area. An AEP FWMIS search conducted in the trail network area revealed the historical presence of species.

Table 7 Fish and Wildlife Management Information System (FWMIS) Search – Fish

Common Name	Scientific Name	Status (AB General Status 2015)	Location
Brook Trout	<i>Salvelinus fontinalis</i>	Exotic/Alien	Elbow River & Canyon Creek
Bull Trout	<i>Salvelinus confluentus</i>	At Risk	Elbow River & Canyon Creek
Cutthroat Trout Rainbow Trout Hybrid	<i>Oncorhynchus</i> spp.	Secure	Elbow River & Canyon Creek
Cutthroat Trout	<i>Oncorhynchus clarkii</i>	At Risk	Elbow River & Canyon Creek

Rainbow Trout	<i>Oncorhynchus mykiss</i>	Secure	Elbow River & Canyon Creek
Brook Trout Hybrid	<i>Salvelinus</i> spp.	Secure	Elbow River
Brook Stickleback	<i>Culaea inconstans</i>	Secure	Elbow River
Burbot	<i>Lota lota</i>	Secure	Elbow River
Fathead Minnow	<i>Pimephales promelas</i>	Secure	Elbow River
Lake Chub	<i>Couesius plumbeus</i>	Secure	Elbow River
Longnose Dace	<i>Rhinichthys cataractae</i>	Secure	Elbow River
Longnose Sucker	<i>Catostomus catostomus</i>	Secure	Elbow River
Mountain Whitefish	<i>Prosopium williamsoni</i>	Secure	Elbow River
Northern Pike	<i>Esox lucius</i>	Secure	Elbow River
Pearl Dace	<i>Margariscus margarita</i>	Secure	Elbow River
Trout-perch	<i>Percopsis omiscomaycus</i>	Secure	Elbow River

White Sucker	Catostomus commersonii	Secure	Elbow River
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The Elbow River contains historical records of all the above species; only certain species have the potential to be found in Canyon Creek (as noted above).

Trout

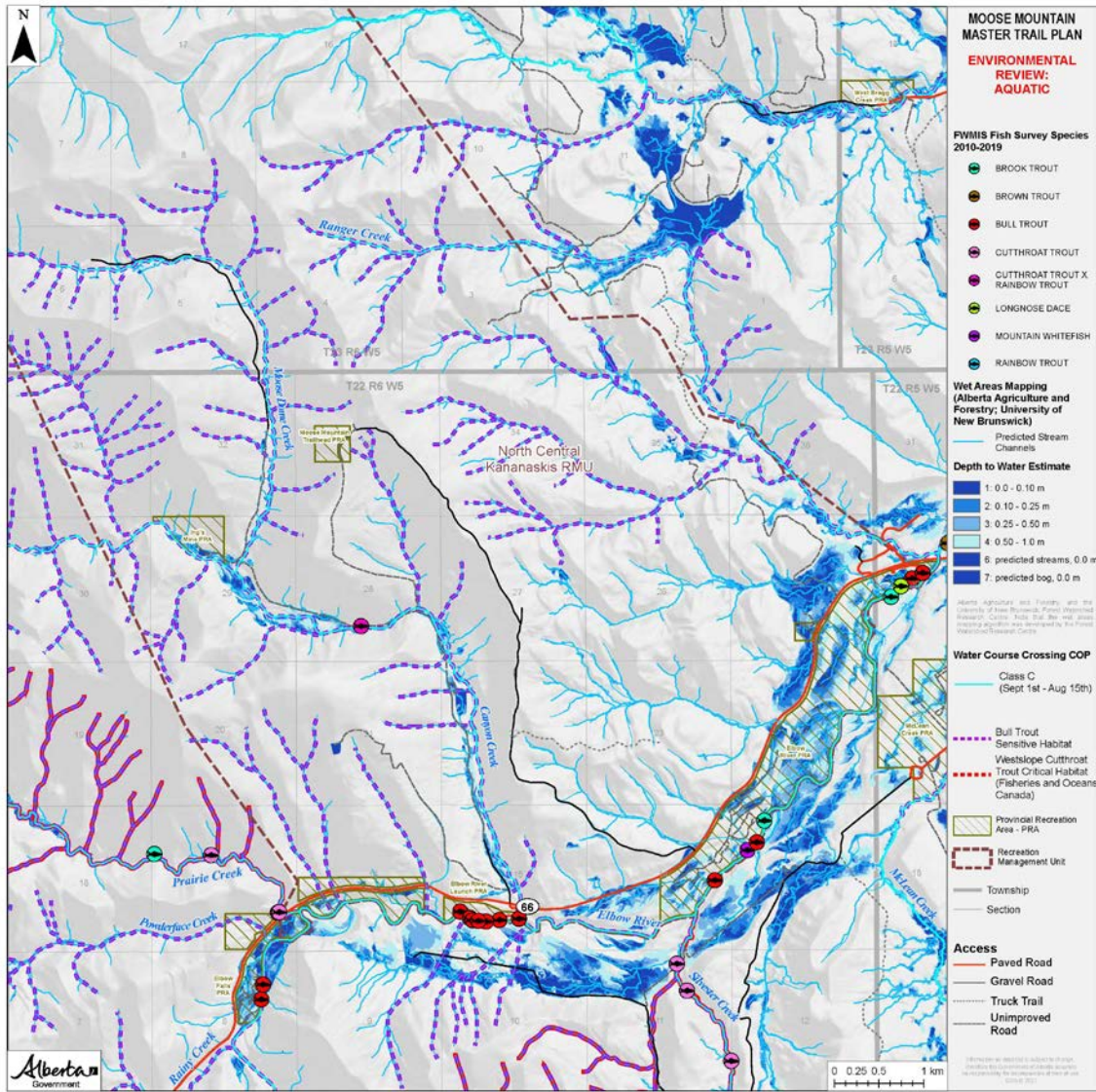
In Canyon Creek, records of Cutthroat Trout were limited to the mid to low reaches of the watercourse, Brook Trout were limited to the lower reaches, and Bull Trout were limited to the upper reaches of the watercourse (Fitzsimmons, 2008).

Bull Trout and Cutthroat Trout are threatened under Alberta’s *Wildlife Act* and the Federal *Species At Risk Act* (Government of Alberta, 2021) (Government of Alberta, 2021). Critical habitat orders have been given for both species according to subsection 58(1) of the *Species at Risk Act*, which prohibits the destruction of any part of the critical habitat identified in the recovery strategy for the species (Fisheries and Oceans Canada, 2020) (Fisheries and Oceans Canada, 2019). The critical habitat is meant to be protected to provide the “functions and features necessary to support the species’ life-cycle processes, and to achieve the species’ population and distribution objectives” (Fisheries and Oceans Canada, 2020). The critical habitat includes the riparian area width which extends from the high water mark to a width of 30 metres on both banks of the waterbody (Fisheries and Oceans Canada, 2020) (see Figure 13 Aquatic Resources). While some existing structures are exempt, any work or activity that results in permanent alteration or destruction of critical habitat must reviewed by Fisheries and Oceans Canada to determine if additional authorizations are required.

Water Use

There are no surface water diversion authorizations for the drainage pathways or groundwater authorizations within proximity of the proposed trails (Government of Alberta, 2020). The closest active surface water authorizations are held by Public Land Management and include authorizations at Canyon Creek, Prairie Creek, and the Elbow River. No groundwater authorizations are present within the immediate vicinity of the proposed trails. The closest groundwater authorization is located approximately 500 m south of the Elbow River and is associated with a Cenovus multi-well group battery (Facility F26696).

Figure 13 Aquatic Resources



Water Wells

No water well records are present within the immediate vicinity of the trails. The closest water well records are associated with Elbow Falls, the Elbow River Boat Launch, the Cenovus multi-well group battery to the south of the Elbow River, and the Pieridae Compressor station to the east (Facility F3257).

Fire Potential

Wildfire poses a threat to human safety and infrastructure and may impact access to the area for recreation. The Calgary Wildfire Risk Management Plan (Forsite Consultants Ltd., 2016) identifies the risk of wildfire in the area, understood as the probability of a wildfire event combined with the consequence (impact) on values of importance. The trail system area is within the East Kananaskis subarea of the Wildfire Risk Plan and has a moderate-high burn probability. The cumulative risk condition was considered higher due to the concentrations of human development and presence. Wildfire awareness will be considered as part of the trail signage and education program.

Historic Resources

Known historic resources in the area include paleontological remains of ancient plants and animals, archaeological sites representing precontact Indigenous and historic settlement occupation of the land, and Indigenous traditional land use sites. Collectively, historic resources are protected under the *Historical Resources Act* and are regulated by Alberta Culture, Multiculturalism and Status of Women. A number of historic resources are recorded in the area, all of which are ranked via a Historic Resources Value (HRV) rating system which includes values such as “HRV 4” (sites requiring further investigation before *Historical Resources Act* approval is granted) and “HRV 0” (sites with limited interpretive potential that require no further investigation). There are several recorded HRV 4 palaeontological sites in the area of Canyon Creek and Moose Mountain, as well as areas adjacent to the confluence of Ford Creek and the Elbow River (See Figure 4). In these areas, exposed rocks have been identified representing the Mississippian, Jurassic and Cretaceous periods, ranging from approximately 250 million to approximately 66 million years ago. Fossils preserved at these sites provide evidence of marine, freshwater and terrestrial conditions in the distant past, and record a wide diversity of organisms including coral, fish, ammonites and ichthyosaurs (a type of marine reptile). One of the most significant fossil sites in this area is the Ice Age cave deposits in the Moose Mountain Ice Cave, which is currently being studied by researchers at the Royal Alberta Museum. Two proposed trails, Flow Trail Phase 3 and the West Side Uptrack intersect HRV 4 palaeontological sites. Archaeological sites of HRV 4 include: (1) precontact and historic rock cairns at the summit of Moose Mountain, adjacent to the Moose Mountain Summit hiking trail; (2) two precontact period campsites north of Highway 66, just east of Canyon Creek Road; (3) one precontact campsite at the south end of Station Flats.

Given the palaeontological, archaeological and Indigenous traditional land use site presence in the area, *Historical Resources Act* approval will be obtained for these trails prior to development.

Summary of Environmental Issues

A summary of the potential environmental issues associated with recreational trails and use is included below. Management actions to mitigate these issues are included in the Operations and Management section below “Addressing Management Issues.”

Soil Erosion: Concentrated traffic from recreationists and poor trail design can lead to increased water runoff and soil erosion. The eroded soil can enter waterways, causing impact to aquatic environments.

Soil Compaction and Water Infiltration: Compaction of leaf litter and soil can increase light intensities and temperatures on and below the soil, which can lower productivity and lower water infiltration rates. Soil compaction causes less seeds to germinate, weakens plant vigor and root penetration. The most significant damage to vegetation has been shown to occur during the first stages of trail development and be similar in impact regardless of the type of recreational activity.

Water Courses / Drainage: Trail development in the vicinity of the drainage pathways is generally not anticipated to represent a significant risk to aquatic life or represent significant erosion issues based on available background information. Background information and previous field observations indicate that some trails have a greater potential for erosion issues (such as the 4th Horseman, Faith Healer and Loamzilla) and need regular inspection especially for the segments occurring within 30m of a drainage pathway. The trail network is not anticipated to result in erosion and sediment impacts to the named watercourses of Canyon Creek and the Elbow River, as these drainage pathways will remain largely undisturbed.

Introduction and spread of non-native and invasive species: Trail corridors can serve as conduits for movement of non-native plant species carried by recreationists and in horse and cattle manure. Some of the species have the potential to outcompete the native species and invade the area.

Changes to wildlife behaviour from disturbance: Noise and motion of recreationists can affect the behaviour and movement of birds and other wildlife. Encounters between recreationists and wildlife can cause wildlife stress, increase the metabolism of animals, causing them to burn more calories and expend more energy. The disturbance effect has been shown to be greater off-trail, where human use is less predictable to wildlife. The stress response to humans is particularly concerning during the winter when animals are weaker and more stressed. Bears have altered behaviours in recreation use areas seeking out food from improperly store food caches. As a result, nuisance bears may have to be killed or relocated from their territories. Bears can also become ill from human disease or exposure to trash and food left by humans.

Edge effects: Forest trails that open the canopy could cause microclimatic changes (increased sunlight, increased rainfall due to reduce canopy interception, increased wind, decreased humidity, altered temperature regime, etc.) within the edges adjacent to clearings. The microclimatic alternatives could result in plant species changes and wildlife, like decreasing nesting near trails, altered bird species composition near trails and increased predation as predators used the clearings as corridors. Trails can also impede the movement and dispersal of animals that are reluctant to cross openings.

Habitat loss and fragmentation: Recreational facilities and trails can reduce and fragment habitat for wildlife species. Research has shown that the survival of large mammals such as grizzly bears are dependent on the availability of large unfragmented core areas. Core areas are measured in the amount of secure habitat (amount of native habitat patch beyond a specified buffer from human footprint).

Hunting/fishing access and human-wildlife conflict: Roads and trails can facilitate human access into wildlife habitat leading to human-wildlife conflicts and increased hunting/fishing access.

Operations and Management

MMBTS is identified as lead operator of most trails in the area as part of the AEP Volunteer Partnership Program. This program supports the implementation of the South Saskatchewan Regional Plan's outcome of shared stewardship through enabling partnerships (Government of Alberta, 2017, p. 66). The partnership program is coordinated through Lands Delivery & Coordination-South, Recreation, Land & Ecosystem Management Branch.

This section of the plan describes the Moose Mountain Bike Trail Society, the management system and expectations, mitigations for environmental issues identified in earlier sections of the plan, and the trail system maintenance and inspections processes.

About Moose Mountain Bike Trail Society

MMBTS is a not-for-profit group with a mission to advocate for, develop and maintain mountain bike trails and to promote active, fun, environmentally responsible community involvement. MMBTS endeavors to create sustainable recreational opportunities with minimal environmental impact.

MMBTS was founded in 2009, and in 2019 had more than 700 members. MMBTS reaches over 2000 additional riders via social media platforms. MMBTS organizes trail building days, trail rides, races and fund-raising events to build, maintain and improve the trails in the area.

MMBTS Insurance

MMBTS is insured by Oasis Outdoor Adventure & Sport Solutions Inc. with a general aggregate limit of \$10,000,000 Can. This insurance is for general liability and covers the executive of Moose Mountain Bike Trail Society and events held on the network of trails. Additional kilometres of trail will increase the cost of this insurance, however it is well within MMBTS's financial capacity to accommodate this increase.

Resources & Funding

MMBTS provides funding, human resources and assets to sustain the trails within their stewardship responsibility.

The primary sources of annual funding/revenue for MMBTS are memberships, donations and sponsorship, representing approximately 90% of total annual income. The remaining 10% of funding is received through merchandise sales. Additional funds from grants have been received for specific projects. The organization has been very successful in attracting new members and

corporate sponsors, both through engagement in the trail building and biking community, as well as holding events throughout the season. These efforts have yielded an impressive year over year growth of annual funds inflow. Below is a table illustrating the growth trend.

Table 8: MMBTS funding

Year	<2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Members		150	340	360	493	632	714
Income Memberships/ Donations		\$7,964	\$18,717	\$18,780	\$33,567	\$46,800	Not Yet Available
Grants	\$95,000		\$105,000		\$33,000		

****Grants in 2014-2016 were mainly in response to the 2013 floods which damaged many trails***

With regards to new trail development, as well as existing trail maintenance, MMBTS expects to have sufficient financial resources to cover both up-front and ongoing costs associated with signage, mapping and insurance.

MMBTS also has access to a large membership base for human resources to perform trail work and executive functions within the society. Membership is increasing rapidly due to the popularity of mountain biking and the increasing availability of world class trails in the Moose Mountain area. The society is expecting to see this growth trend continue, especially with the incorporation of the trails on the east shoulder of Prairie Mountain which are already enjoyed by many users.

MMBTS has a dedicated Society Executive and a sustainable succession plan in order to ensure there are no gaps in the governance of MMBTS. The president and vice president are required to stay on for terms of at least two years and all members of the executive are voted in at the Annual General Meeting. Should MMBTS not remain a society in good standing, AEP maintains the right to dissolve the partnership agreement and take over management of the trail network.

MMBTS has implemented a standardized data governance protocol using a common drive for all society documents and an online service for membership sign up and renewal.

Finally, in terms of assets, MMBTS has invested in high quality trail maintenance equipment such as rakes, shovels, picks, buckets, flagging, brush cutters, a trailer and a sea can to hold this equipment. As well MMBTS maintains a barbeque and event gear such as tables, chairs and banners.

Events on the Trail Network

In order to attract members, trail builders and public involvement in the trail network, MMBTS hosts a range of events each year from an Annual General Meeting (AGM), to casual group rides, to full enduro races. For insurance purposes, participants must be MMBTS members, or must sign a waiver. Special events will not be covered by the Volunteer Partnership and will require a Temporary Field Authorization from the Lands Approvals team.

Annual events hosted by MMBTS include:

- Annual General Meeting (AGM),
- Downhill races,
- Trail maintenance days,
- Ladies' enduro rides,
- Movie showings,
- Silent Auctions,
- Enduro race,
- Poker Ride,
- Other miscellaneous events.

Management

To facilitate and communicate activities and trail updates, a Trail Management Objective (TMO) tracking form has been developed by AEP and MMBTS. The purpose of the TMO is to track and provide details regarding trail description and features, user objectives, trail conditions, maintenance issues, and mitigation. The TMO is updated annually or as requested to facilitate

communication between the parties. A summary of the TMO is provided in Appendix E: Trail Descriptions, Objectives and Operators.

MMBTS will monitor, actively discourage and inform AEP of any unauthorized trail construction in the Moose Mountain area, and ensure new trails follow the proper channels for approval and construction. MMBTS also serves as a point of contact with the various oil and gas industry stakeholders that operate in the area (e.g. Cenovus and Pieridae Energy) and will communicate to its members when there may be increased levels or change of industrial activity in the area.

Organized MMBTS events will primarily include trail maintenance/construction days, group rides, and races. All events encourage inclusion of riders/builders of all skill levels to participate, in an effort to continually maintain and improve the trail network and build community involvement.

Paramount to successful operation and management of the network is employing safe work practices for all events. MMBTS has created a comprehensive Occupational Health and Safety (OH&S) plan, and appointed a Safety Director. The Safety Director's role is to help coordinate safe maintenance and building activities, including training of safe work practices and hazard identification, and to review the OH&S program annually and make recommendations to the MMBTS board. Part of the OH&S program includes safe job procedures for races and events and trail maintenance activities (large and small). The OH&S program is available as a standalone document, and a copy of the Safe Job Procedure is included in Appendix C : Safe Job Procedure.

Addressing Management Issues

Below are a number of management issues identified in the environmental review and proactive measures to address them.

Safety

In 2020, there were 46 bike accidents in the Kananaskis region: 14 on the Moose Mountain network, 6 in the West Bragg Creek network, 11 at the Canmore Nordic Centre, and the remaining 15 calls were throughout the region.

On Moose Mountain, the majority of the accidents were on 7-27, and T-Dub, with others on Shhhht! and Special K. There were also two accidents on the newly constructed Flight 66.

With the exponential growth of users on Moose Mountain, AEP and MMBTS recognize the importance of maintaining a safe experience for the users, and the need to manage the risk and liability for both organizations.

AEP and MMBTS will continue to update and improve trail signage, specifically Technical Trail Feature (TTF) warnings and route selection (i.e., Pro line vs. Blue line), and will collaborate with

Kananaskis Country Emergency Services on ways to improve response time and improve the efficiency of patient extractions.

An overall emergency response plan is not within the scope of the Trails Plan; however, AEP will continually evaluate the need for a local emergency response plan, and if initiated, develop this with input from local trail stewards.

Soil Erosion

The erosion potential of surface and subsoils is a concern on steep terrain with shallow sensitive topsoils and/or areas void of vegetation. Erosion control measures and appropriate trail design are crucial to minimize erosion and sustain the trail system. Increased trail usage combined with decreased vegetation and annual precipitation have the ability to erode the trails. Ongoing trail maintenance, specifically on steeper terrain, is required to ensure potential erosion is monitored and minimized.

Heavy precipitation and flooding associated with the 2013 flood event in the region caused erosion on some steep trails in the area. These trails have been re-routed and re-designed to sustain bike traffic and high precipitation events. Existing trails have been designed and constructed following Squamish Trail Standards to minimize erosion and ensure long term trail sustainability. Future trails included in the Trails Plan will be designed and constructed to this same standard.

Erosion related issues are identified through the TMO process and mitigated or eliminated via scheduled trail maintenance.

Watercourses / Drainages

MMBTS will field verify trails identified to be within 30m of drainage pathways for evidence of prior flood damage, channelization, exposed channel substrate (e.g., cobbles, clay, etc.), in late spring or early summer (mid-May to late June) to coincide with average high flow conditions of watercourses in the area. Areas where potential erosion or drainage issues are observed will be documented in the TMO, findings and proposed mitigation strategies will be discussed with AEP and implemented where required.

In 2021, AEP will engage a qualified aquatic environmental specialist (QAES) to conduct an aquatic field assessment of the trail network to verify the desktop review and determine if any other drainages are present. If impacts are anticipated or observed following a QAES assessment, mitigations will be recommended and appropriate federal and provincial approvals (such as the *Water Act* and the *Fisheries Act*) will be sought.

If natural springs, or watercourses with permanent or seasonal wetted-width are encountered on an existing, or proposed trail, the trail will be evaluated for re-alignment, or infrastructure needs (i.e. bridge, culvert).

A particular focus will be placed on developing potential erosion mitigation strategies at the lower portions of the 4th Horseman and Faith Healer, which are located within 30 m of an unnamed drainage pathway, as these trails parallel the drainage pathway in relatively close proximity to Canyon Creek. Mitigation strategies may include segments of trail re-routing, implementation of erosion and sediment control measures or other mitigations as determined through consultation with AEP, and outlined in the annual work plans approved by the Department.

Soil Compaction

Soil compaction on the trail occurs over time with use of the trail. Existing and new trails have and will be constructed to minimize soil compaction of the edges of the trail and associated workspaces, reducing the overall trail footprint. Available leaf litter and topsoil from the trail will be replaced on the edges to conform to existing topography and support the regrowth of vegetation.

Non-native Species

During trail maintenance and new construction all equipment used will be cleaned prior to reduce potential non-native species introduction. If invasive species included in the *Weed Control Act* and Regulation are identified in the trail network, management strategies will be explored with AEP.

Human/Wildlife Conflict

Animal remains and garbage are potential bear attractants. Garbage removal is encouraged by users and if animal remains or sightings are observed users are encouraged to inform AEP, who can then implement trail closures as needed to protect users and wildlife. Bear Smart facilities are maintained at the parking areas.

Trails will be maintained to allow for adequate sight lines and reduce vegetation attractants like buffalo berry to reduce the likelihood of unexpected human-wildlife encounters.

In areas of high quality grizzly bear habitat, or areas where repeated negative interactions occur, AEP and MMBTS may implement seasonal and/or short-term trail closures.

Avoiding sensitive species

Prior to the development of a new trail, an environmental review will be completed to verify sensitive species that may be along the trail route. This data will be field verified with a route

assessment to ensure the trail is avoiding sensitive species and minimize environmental impacts to wildlife, plants, plant communities (i.e., fescue grasslands) and watercourses.

During detailed trail design, if avoidance of native grassland is not possible, an agrologist will be engaged to identify and suggest mitigation to reduce the impact on these plant communities.

Education and Signage

The area is popular with several user groups; signage is essential to assist all users and reduce user conflict, and to ensure user safety. With the increased usage of websites and apps to learn, locate and navigate trails, it is less necessary to provide navigable maps at all trail heads and intersections. Instead, markers that clearly state the name of the location (trailhead, intersection etc.) and provide key information such as the type of trail and distance to the next intersection are shown to be useful. A few large format signs with trail system mapping at key entry points to the trail system are also needed.

Detailed sign plans will be developed collaboratively with AEP, such as finalizing map locations and ensuring the proposed signage aligns with standards established in the Alberta Public Lands Sign Manual, 2020. See Appendix A: Signs, for more details. NOTE: Appendix A is a working document and will be updated as needed.

MMBTS also uses tools such as email, the social media platforms Facebook and Instagram and a website mmbts.com to communicate with users of the Moose Mountain trail network in order to educate users on trail conditions, wildlife closures, wildfire hazards and events.

Managing Potential Conflicts amongst Users

Trails in the area are used by a variety of recreational users: mountain bikers, hikers, trail runners and equestrian users. The various user groups move at different speeds along the trail system. Mountain bikers are generally moving faster when travelling downhill than hikers or trail runners. In the spirit of the shared-use nature of the trails, mountain bikers need to be aware of their surroundings and yield the right of way to other user groups. Signs and notices can inform users of the different types of users and potential. Signs and notices can also be used to indicate directionality and preferred activity types. They can also announce their approach with verbal communication and sounds, especially at intersections.

Many of the bike specific trails are narrow, steep and downhill focused - they are not designed or appealing for other users. It can be challenging for other users who want to use these trails and encounter bikers; requiring communication as both users attempt to pass each other. Signage and trail descriptions assist in minimizing user conflict.

Hunters are active in the Moose Mountain trail system during the fall; they may utilize the trails and come in contact with other trail users. All trail users must be vigilant in looking out for each other during this time.

The Kananaskis Trails Advisory Group (KTAG), formed in 2003, is a forum for non-motorized user groups to discuss trail management and potential conflicts with other stakeholders and user groups. KTAG consists of stakeholder group representatives who provide direction and feedback to the Government of Alberta. At these meetings hikers, mountain bikers, equestrian users and others are present and can discuss issues as they arise.

MMBTS sends representatives to Spray Lake Sawmills (SLS) public engagement sessions to ensure awareness of timber harvesting activities and to provide input on activities that affect the trails. MMBTS will inform and discuss with SLS its activities and issues of relevant mutual interest such as new trails, major realignments and special events.

Oil and gas facilities exist in the area and companies are responsible for alerting user groups in the region if it is decided to add further facilities. MMBTS has established relationships with representatives at the oil and gas companies in order to remain aware of ongoing plans in the region.

Livestock grazing is permitted in the area from approximately June to October. Concerns have been raised by recreationists when cattle presence has caused damage to trails, especially during wet conditions. Conversely, grazing allotment holders are also concerned about the erosion caused by mountain biking and other recreation activities on the trails. To ensure the sustainability of trails, trails may be rerouted or improved to prevent damage where possible. Range allotment preference quota holders have also raised concern about high speed nature of use on some of the trails and the potential conflict and safety issues between cattle and trail users. Ensuring adequate sight lines through trail maintenance and creating awareness through additional signage on the trails are proactive measures that will be undertaken. All users should be alert for the possibility of cattle on the trails.

Inspections and Maintenance

The long-term maintenance objectives for the maintenance program are:

- Provide exceptional trail experiences,
- Ensure continued resource protection (social and environmental), and
- Protect trail user safety and manage risk and liability (Government of Alberta, 2019).

MMBTS trail maintenance and inspection priorities will be outlined in an annual work plan, and reviewed and approved by AEP each year. The development of the annual work plan is a collaborative approach to ensure common management and user objectives are met, and to also coordinate and maximize resources when possible. To manage liability for both MMBTS and AEP, all Moose Mountain trails will be inspected semi-annually at a minimum.

Inspection and maintenance of the trail network will be carried out on organized trail maintenance days, and other days as needed by experienced MMBTS executives and volunteers. Forty to sixty MMBTS volunteers regularly arrive on trail maintenance days and more are expected in the future with the growing membership base and increase in trails available in the area. On trail maintenance days, crews will be split amongst crew leaders with some carrying out inspection activities and others maintenance activities. Inspection information and trail issue mitigation is captured in the TMO annual reporting. MMBTS is the authorized Trail Operator for the network and will carry out inspections; AEP staff and the necessary subject matter experts will be consulted where the need arises.

With increased membership and fundraising capabilities, MMBTS has been able to hire a full-time, three-person trail crew for at least three months (May through July) of the 2021 season. The trail crew is primarily focused on maintenance and repairs of existing trails, and executing on the work plan. MMBTS intends to have a paid trail crew every year going forward.

Established TTFs are to be inspected/revisited semi-annually at minimum to ensure the constructed features are safe for riders. The inspections and completion of TMOs will address the following questions:

- Are the key design parameters still reflected in the trail (grades, tread width, clearing corridor width, etc.)?
- Is the trail fulfilling its intended function?
- Is user experience negatively impacted by the condition of any part of the trail?
- Are the TTFs in a condition consistent with original design?
- Is the appropriate signage in place?
- Is there any obvious, or unforeseen risk to user safety?
- Are the environmental or social values of the trail degraded or at risk of degradation?

The inspections will provide priorities for annual maintenance plans. Annual maintenance activities include: vegetation management for line of sight and to reduce human/wildlife conflict

(i.e. removal of wildlife attractants), raking debris, rebuilding corners and/or features, as well as addressing any critical maintenance issues like drainage or TTFs that need replacing.

MMBTS and AEP OH&S roles and responsibilities with respect to volunteer safety are defined by the Alberta Environment and Parks Occupational Health & Safety Management Directive for Voluntary Sector Workers.

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Appendix A: Signs

All signage will align with the Government of Alberta's Alberta Public Lands Sign Manual.

Large signs (approx. 36" x 24"): made of metal with a high contrast, high durability printing. These will be located at area entry points and points of concentrated user traffic.

Including:

- Station Flats parking area
- Ing's Mine parking area
- Moose Road Base parking area
- Base of climb road for trail on the east shoulder of Prairie Mountain
- Parking area at the top of the Moose Mountain Road
- High point of the Prairie Mountain Trails climb road, at the start of The Road To Gondor Trail
- Options to place large format signs on Elbow Valley Trail near the east shoulder of Prairie Mountain climbing trail, and at the 2km pull out along the Moose Mountain Road.

Large signs are to be mounted at head height on robust wooden or metal posts. The estimated number of large signs required is 6-8. Information to be included on large format signs:

- Trail system map with trail names, lengths and color-coded difficulty ratings
- YOU ARE HERE location point
- Legend with descriptions of ratings
- Behavior suggestions regarding other trail and road users (i.e. bikers yield to hikers, hikers & bikers yield to equestrian users)
- Links to resources with trail maps & resources (i.e. Trailforks, MMBTS)
- Trail Steward logo and information
- Call to action, join trail society, participate in trail maintenance, donate
- Trail difficulty disclaimer

The area depicted on each map can differ based on location of that sign, or they can all show the entire trail system. It may be necessary to have some sample maps printed on paper in the 36"x24" size to determine what is preferred for each location.

"Standard" trail signage: These are signs for all Trailheads, intersections, end of downhill trail warnings, technical trail features, natural obstacles that are inconsistent with the balance of the trail. These signs would consist of two sided composite posts that have durable high visibility decals adhered to them. One or both sides as appropriate. These signs would be durable, so as

not to break under snow load or animal contact, and less likely to be targeted for vandalism or theft.

Estimated total number of “standard” signposts required for all existing MMBTS trails:

- Trailheads – 36
- Trail Ends – 36
- Intersection – 55
- After intersection – 52
- Trail Feature/Alternate Line – 38
- Total - ~217

These numbers include estimates for trails that are under the oversight of the AEP, but that serve as critical connections to the Moose Mountain trail systems.

Format and content:

Trailheads

- Topper decal with trail system name, Trail Steward logo and Info
- Trail name
- Ends (name and distance)
- Difficulty rating symbol
- Leads to [name and distance] (if there are trails that start along this trail)

Trail ends

- Name of road or trail arrived at
- Name of parking area and distance
- Arrow indicating direction of travel

Rear of sign - message indicating that this is a trail designed and build for primarily downhill travel.

Trails cross/new trail branches – before intersection

- Name of trail being met
- Arrow indicating direction of travel
- Yield symbol or caution sign as appropriate.

After intersection

- Trail name
- Ends (name and distance)
- Leads to [name and distance] (if there are other trails that start along this trail)

Trail features

- Drop ahead, steep section (if inconsistent with the balance of the trail terrain)
- Ride around (arrow indicating direction)

Miscellaneous

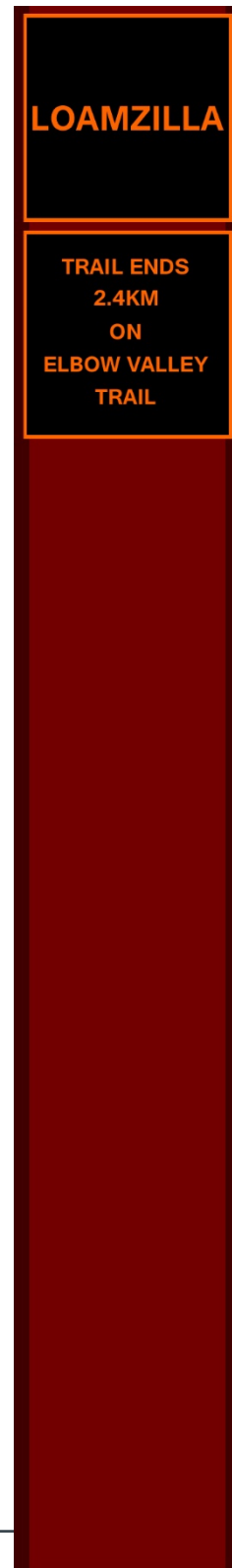
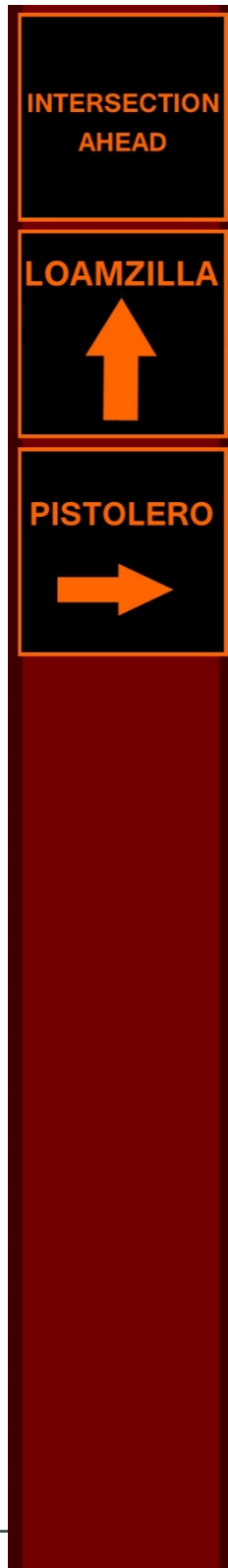
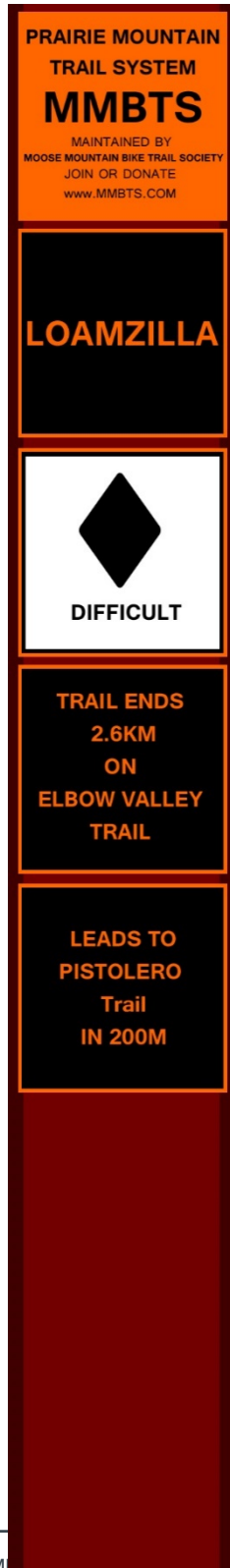
- Trail closed
- Re-route
- Caution Trail work in progress

Figure 14: Sample set of posts

Trailhead

Intersection

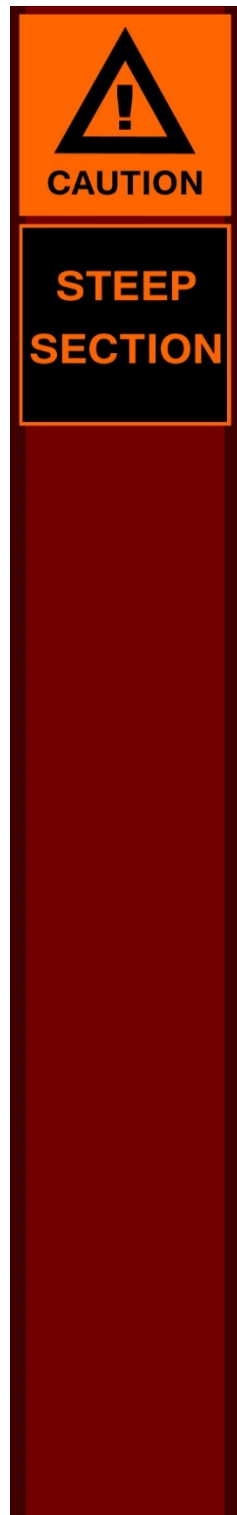
After Intersection



Trail Feature

End of Trail (front)

End of Trail (rear)



Appendix B: 2019 Trail Statistics

Table 9 Trail Statistics (2019) and Usage Information⁸

	Trail Name	Length of Trail (KM)	Average Grade (%)	Total Rides 2019	Total Individual Riders 2019	Total Rides 2018	Total Individual Riders 2018
East Prairie Mountain Shoulder							
	Road Climb	0.7	13.0	11091	1973	7276	1528
	Ushoulda	2.3	-12.0	1403	859	1066	564
	Loamzilla	2.3	-16.0	1414	757	1338	748
	4th Horseman Descent	1.6	-23.0	609	317	646	317
	SeeYa full trail	1.5	-20.0	567	360	471	326
	Faith Healer	1.4	-25.0	496	329	388	281
	Pistolero	2.2	-13.0	1321	689	771	490
	Brothers DH	0.9	-29.0	601	292	720	281
	Aunt Flow	1.8	-12.0	1630	660	0	272
	That	1.3	-25.0	499	320		
Moose Mountain							
	Pneuma Middle *	10.3	4.2	5096	2506	5085	2537
	727	2.4	-9.0	4957	2628	2602	2168
	Race Of Spades	4.0	-10.0	1919	1304	1811	1477
	Pneuma Start (Climb)	1.4	6.0	2168	1400	1604	1142
	Family Guy DH	4.9	-8.0	1973	1315	1431	1097
	SHAFT	3.2	-13.0	2316	1392	2038	1329
	Family Guy Climb	4.9	8.0	3625	1429	2129	992
	T-Dub	2.5	-18.0	995	598	1054	632
	Special K	4.8	-11.0	1071	808	1086	845
	Toothless	1.2	-23.0	1060	490	675	374
	Jean Guy	2.2	-17.0	1236	669	941	556
	Billy Dog	1.0	-21.0	811	456	391	261
	Brakeless	1.5	-11.0	488	351	394	289
West Bragg Creek Area							
	Braggin Rights base DH*	0.6	-6.0	16814	6766	16916	7015
	Merlin CCW DH	3.3	-5.0	16474	6366	16902	6831
	Ranger Summit Climb	4.2	6.8	11057	4955	13056	5383
	Boundary Ridge	5.0	-1.0	10989	4787	13798	5309
	Strange Brew	2.4	-8.4	8923	4340	10873	4957
	Long Distance Down	2.2	-7.0	6582	3209	6704	3685
	Ridgeback 3	4.1	2.2	3985	2316	5388	2973
	Sulphur Springs Climb	2.7	7.0	4229	2313	4736	2531
	Bobcat Climb	3.9	7.0	3849	2316	5238	2905
	Snakes and Ladders DH	4.6	-1.6	3628	2236	4776	2781
	Ridgeback 1	0.8	-1.0	2166	1426	2772	1797
	Ridgeback 2	2.3	-1.0	1905	1287	2404	1567
	Sugar Momma	2.3	-11.0	2336	1397	3325	1567
	Snagmore	4.8	1.7	1451	1012	1922	1378
	Bobcat DH	3.9	-7.0	1576	1043	1891	1295
	Ridgeback 4	1.6	-3.0	655	550	921	760
	Sugar Daddy Climb	3.4	6.0	2307	1278	2656	1519
	Sugar Daddy DH	3.4	-6.0	1344	867	1638	1190
	MoosePackers DH	2.3	-13.0	799	658	1046	842
	Disconnect UP	1.6	6.0	1400	683	1511	964
	Disconnect DH	1.6	-7.0	992	490	1295	697
	Snakes Climb	4.6	1.6	850	607	816	621

*Trails in **Bold Red** used to estimate total riders per area as these trails are requisite to climb to most of that specific
 ** Data from Strava corrected by a factor of 2.84 to account for poll data indicating 49% of riders use Strava (x2.04) and

⁸ This data is from strava.com and for mountain bike users only.

Appendix C: MMBTS Safe Job Procedure

Please refer to MMBTS Health and Safety Manual for details.

SAFE JOB PROCEDURE 1 –TRAIL MAINTENANCE AND CONSTRUCTION ACTIVITIES

Goals

- Provide for worker safety in front country and backcountry operations.
- Assist Crew Leaders and workers in organizing their work days while recognizing tasks or conditions that may be hazardous which may require pre-determined job procedures.
- Ensure that proper documentation is maintained with regards to safety records including reporting incidents and hazard identifications.
- Provide workers with the skills and guidance to travel safely to worksites.

Objective

The overarching aim of this document is to create a safe working environment by properly training and equipping MMBTS personnel for trail operations. The goal is not to impose rules that hinder operations but rather to focus on job safety via smart choices and planning. This document establishes benchmarks for safety and training to better protect the employees/volunteers of MMBTS.

Situational Awareness

Situational Awareness is our ability to process what is going on around us. MMBTS is committed to providing the following measures of safety for all travel into worksites:

- Safe travel and work in the backcountry.
- Proper tools for the tasks at hand.
- Identification and mitigation of hazards encountered as part of our required work.
- Public education about how to safely travel on the trail system

Equipment/PPE Management

Ensuring tools, equipment and PPE are in working order upon sign out and monitoring their condition upon return are an essential part of managing risk. If any piece of equipment is in questionable condition it needs to be taken out of service until it is properly maintained or

discarded. Crew members will be asked to bring any concerns to the attention of the Crew Leader.

The tailgate meeting will include tips on how to properly use the tools and equipment so that they are used for tasks they have been designed for. This will hopefully lead to less damage to tools while mitigating injury from inappropriate use. Proper carrying techniques and tool storage at the worksite will be discussed as well.

Risk Management

Risk is inherent in any trail building or maintenance operation. Risk management is incorporated into daily tailgate meetings where the work and safety plans are relayed to all workers. These risks might revolve around traveling to distant worksites and using tools that have the potential to injure. Our goal is to manage the risks we encounter while working on trails in a manner that provides for as reasonably safe an experience for trail crews as possible. MMBTS workers need to possess the training and experience to identify and mitigate hazards. Working and traveling with others, while not always practical, is strongly advised. Every day that MMBTS workers travel to and establish their worksites, they need to be thinking about how to:

- Identify Hazards (e.g. weather, trail conditions, worksite conditions)
- Assess Hazards (e.g. Hazard trees, unstable slopes)
- Make appropriate decisions (e.g. Is the hazard significant enough to stop or redirect work?)
- Re-Evaluate Safety of Decision (e.g. Has the hazard been mitigated properly?)

While Crew Leaders may be well-trained and experienced in the activity or mode of travel at hand, they must always be cognizant not to lead the public into a situation that can quickly become hazardous for a lesser experienced individual. Proper control of public access to or through worksites will ensure reduced risk to both the public and our workers.

See Tailgate Checklist and Field Level Hazard Assessment Forms.

Accident and Injury Reporting

MMBTS Crew Leaders must immediately report all near misses, accidents, and work place injuries to the Safety Director (SD) upon return from the worksite following incident reporting protocol. The SD will provide an Event Recording Form to be filled out as soon as practicable and will lead an investigation and provide a report as to how to mitigate a similar occurrence.

Trip Planning

All work at sites must be pre-approved by the SD. The SD will establish communication protocols including any check-in/check-out procedure. When a check-in/check-out procedure has been

established, Crew Leaders must contact the number provided by the SD before leaving cell range, and immediately upon returning to cell range. MMBTS must Inform Elbow Ranger Station 48 hours before formal maintenance activities occur: 403 949 4941

A reliable form of communication (see 11.3 Emergency Response Plans) must be with any Crew Leader. While in cell range, a working cell phone is adequate. Outside of cell range, MMBTS SPOT device and or Radio (where applicable) will be carried, and the call-in/call-out procedure followed.

Approved Communication Methods

SPOT:

SPOT devices communicate with satellites and can relay SOS signals to Emergency response centers, GPS positions and preprogrammed messages to supervisors or loved ones.

Cell Phones:

Cell phone coverage is limited but available in certain areas of Kananaskis where MMBTS work. The SD will maintain an approximate map of this coverage, and every worksite will be identified as a cell accessible or non-accessible site.

Radios:

Radios are effective when the worksite is on the same side of the valley as the muster point. When applicable they will be employed; out-of-range sites will use Cell Phones, or the SPOT device if cell phone coverage is not available.

Failure to Check-In

If a Crew Leader fails to check-out by the specified time following a session requiring a call-in/call-out procedure, efforts will be made to immediately actively contact the Crew Leader or other volunteers. After these efforts are exhausted the designated contact will evaluate the circumstances to decide on the proper course of action.

If contact has not been made within 1 hour of the check-out time, Kananaskis Emergency Services will be notified and a search will commence as directed by them.

Solo Travel

It is recommended that workers travel in the backcountry in parties of two or more when working under the following circumstances:

- Manual labor with sharp power or hand tools

- Extended (more than one-hour walking distance) deviations into areas with no prior personal experience
- Changing weather conditions

Should a worker choose to leave a worksite early solo, they may do so but:

- They must follow the route used to access the site
- They may not carry tools
- They must have bear spray

Required Equipment

Too little equipment creates a hazard of being ill-prepared to face the tasks at hand. Too much equipment slows travelers down and exposes them to hazards for a longer period. It is the Crew Leaders responsibility to ensure the workers are well equipped to perform duties in the backcountry in a safe and responsible manner.

This is a list of the minimal equipment required to enter the backcountry as a MMBTS worker:

- Bear Spray
- SPOT and 1 extra battery, or cell phone
- Food and water
- Gloves and required PPE
- Appropriate foot wear, clothing, including rain and cold weather gear.
- First Aid Kit
- Nav Equipment (GPS, map, and compass)

Safety Dialogue

Evaluating options and measuring risk before starting a new project can greatly reduce safety incidents in the backcountry. Crew Leaders will conduct safety briefings prior to the start of new projects. Raising safety concerns prior to engaging in these activities will help protect all employees. Workers are encouraged to make the Crew Leader aware of any areas in which they lack training or skills. The Crew Leader is responsible for ensuring that the worker is properly trained and prepared before engaging in new or unfamiliar operations. Workers have the right to refuse work they feel is unsafe or they are unqualified to do. Workers who fail to adhere to the established policies may be considered working outside of the scope of duty.

Training

Crew Leaders:

- Annual 2-hour Safety Manual Orientation.
- Ability to provide safety orientations to volunteer trail workers
- Must have a minimum First Aid Certification – Standard First Aid – Level C CPR/AED
- Must provide proof of certifications/licencing for activities that are relevant to their jobs. (Driver's Licence, ATV/Snowmobile Course, First Aid, Radio Licence)
- Training for the above courses will be provided by MMBTS or AEP

The SD should always evaluate the scope of work, final objectives, and seasonal weather conditions when scheduling and preparing for work projects. Whatever the hazard or job environment, the SD will provide the necessary training to ensure the Crew Leader can safely perform the task at hand.

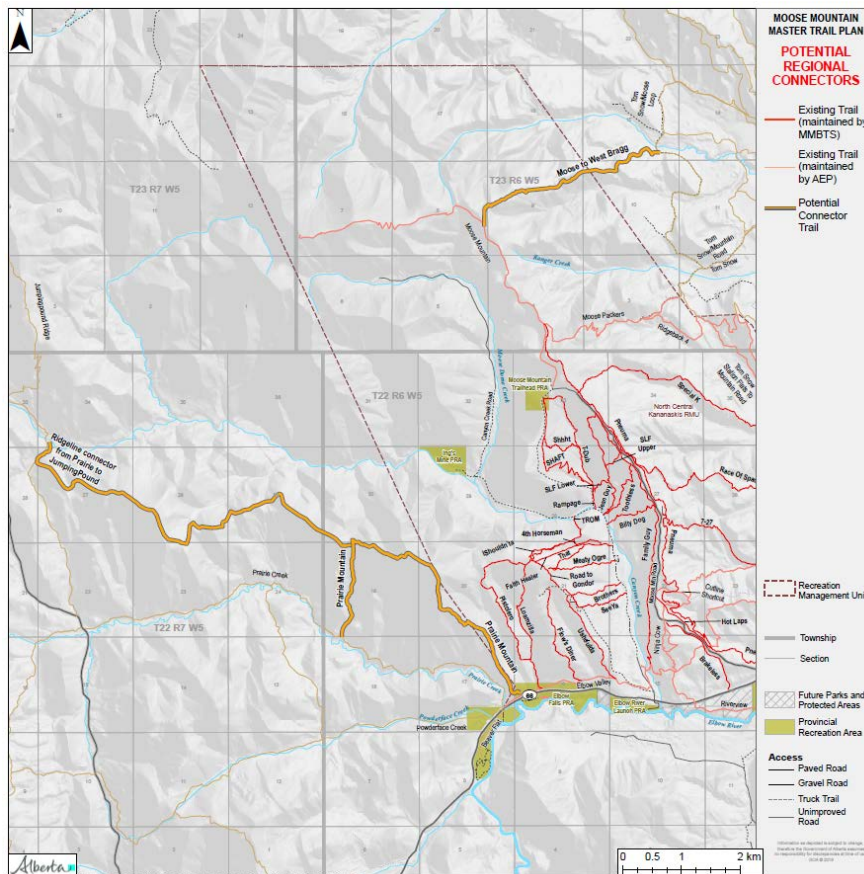
Workers:

At the tailgate meetings, volunteer trail workers will receive training and orientation on the safe use of tools. They will also be made aware of their responsibility to assess and monitor their own safety and report any unsafe work practices to the Volunteer Crew Leader.

Appendix D: Regional Trail Connections and Potential Future Connectors

Potential future connector trails that could connect the Moose Mountain trail network with other nearby areas have been identified. These trails are not part of the scope of the plan and will be considered as part of sub-regional recreation management planning.

Figure 15 Potential Regional Trail Connections



Moose to West Bragg Connector

MMBTS is proposing the construction of an intermediate downhill grade ridgeline trail starting off the approach trail to the Moose Mountain summit and ending in the West Bragg Creek Trail

network. The proposed trail would be 4.2km in length with 500m of elevation loss, follows an existing overgrown road for its duration and would be an easy appealing build on previously disturbed terrain. The purpose of the new trail would be:

- Enhance the connectivity between the Moose Mountain and West Bragg Creek trail networks,
- Provide an epic descent and views for intermediate riders,
- Provide a new downhill trail with an ease of build,
- Potentially be built as a two-way trail to have a more direct climb from West Bragg to the Moose Mountain network.

Epic Ridgeline Connector from Prairie Mountain to Jumping Pound Ridge

MMBTS is proposing the long term vision of an epic ridge line traverse trail from the Prairie Mountain West Ridge Descent to connect with the start of the Jumpingpound Ridge trail. A connector of this nature would provide epic single-track loop options, long distance point-to-point traverse scenarios and multi-day riding ability from several staging locations in the Bragg Creek - Elbow Valley area.

The connector trail would be 7km in length with 420m of elevation gain and 640m of loss, beginning at the Prairie Mountain West Ridge descent and terminating at Canyon Creek. The proposed trail follows the ridge line for its duration; with alignment in the open forest on the south aspect of the ridge providing ample views to the west and an opportunity for a rudimentary backcountry camping location at the highpoint at 2100m. The purpose of the new epic trail would be:

- Provide single track connectivity between the West Bragg, Moose Mountain and Jumpingpound / Cox Hill trail networks and disperse users in the network,
- Establish potential for a Trans-Bragg Creek race or event, similar to the Bow 80 event of the past,
- Establish the Elbow area as a bike packing destination (rapidly growing in popularity),
- A resource for the trail running and backpacking community,
- Create an Alberta Seven-Summits loop (West Bragg summit, Moose summit, Pistolero summit, Prairie Mountain summit, New Connector summit, Jumpingpound summit, and Cox Summit). Seven Summits is a world famous Mountain bike Trail in Rossland, BC, that has won many awards and is ranked as a “must do Epic” by the International Mountain Biking Association.

Appendix E: Trail Descriptions, User Objectives and Operators

Table 10 Existing Trail Descriptions, User Objectives and Operators

Existing Trail Name	Difficulty Rating	Total Length (Metres)	Trail Description	Trail User Objectives	Level of Development	Trail Operator
4th Horseman	Black	1814.82	This trail was built to challenge riders and push them to manage advanced terrain. Steep, natural and raw, with just the right amount of corners. Exits on Canyon Creek Road.	Challenge, Risk, Fun and Playfulness	Minimally Developed	MMBTS
7-27	Blue	2697.8	Machine built flow trail. Designed to appeal to a wide variety of users and skill levels. This is the most popular trail on Moose Mountain and is often used by families or friends biking together, hence one of its objectives is socializing.	Fun and playfulness, Variety, Socializing, Challenge	Moderately Developed	MMBTS
Billy Dog	Black	1369.44	This trail starts off of lower Family Guy and is a great early season trail. It is a steep rocky trail that provides a challenge for advanced riders. It has a number of wooden gap jumps and board walks to test your skills.	Challenge, Risk, Fun and Playfulness	Moderately Developed	MMBTS
Bobcat	Blue	21.37	Most of the trail is outside the RMA. Trail connects West Bragg Creek to Station Flats. Popular mountain bike climbing trail. View of West Bragg Creek and Elbow Valley from the top.	Connectivity, Nature, Challenge	Minimally Developed	Bragg Creek Trails Association

Brakeless	Blue	1761.22	Shorter blue trail, a stepping stone from green to blue trails. Also allows for shorter laps on lower Moose Mountain, creating options to connect trails and make different loops.	Variety, Connectivity	Minimally Developed	MMBTS
Brothers	Black	1007.32	This trail is the first trail that you can reach when climbing the road - it allows for a shorter loop in the area. Quick short and advanced grade blast gives a taste of what Prairie Mountain has to offer. Riders exit onto Canyon Creek road.	Efficiency, Fun and Playfulness	Moderately Developed	MMBTS
Cutoff	Green	611.63	This trail connects from Sulphur springs & Pneuma as a shortcut to the road above the 2km parking lot	Connectivity	Minimally Developed	AEP
Diamond T	Green	3696.83	Hiking and horse riding trail. Also used to connect from Ridgeline and Race of Spades back to Station Flats. Uphill through pine woods, with a short detour to a foothills lookout.	Nature, Connectivity	Moderately Developed	AEP
Elbow Falls	Green	291.03	Within the Elbow Falls This short, paved loop goes to the viewpoints over Elbow Falls. The upper (left hand) part of the loop is wheelchair accessible.	Nature, Socializing	Moderately Developed	AEP
Elbow Valley	Blue	10308.71	Runs east-west on the north side of Highway 66 through the PLUZ and Elbow Falls Provincial Recreation Area. It provides connectivity to a number of trails from Powderface Day Use on the west and Diamond T loop just west of Station Flats on the east end. It is a return route from many higher elevation trails.	Connectivity, Efficiency	Moderately Developed	AEP
Faith Healer	Black	1197.47	This trail has very neat natural rock formations and allows the rider to enjoy a view and natural features not found on Moose Mountain. Ends with riders on Canyon Creek road.	Nature, Fun and Playfulness, Risk, Challenge	Minimally Developed	MMBTS

Family Guy	Blue	4366.28	Connects and provides access to many other trails in the network. Designed as a blue downhill trail, it now sees traffic in both directions as it is one of the most efficient ways to ride up Moose Mountain without going on the road.	Variety, Socializing, Play, Exercise, Connectivity, Efficiency	Moderately Developed	MMBTS
Flo's Diner	Blue	2006.27	This trail is one of the most moderate grades on the mountain and allows riders to progress from Ushoulda to Loamzilla or Pistolero. Starts near the end of the gravel road near the plant and riders will exit onto Elbow Valley Trail.	Fun and Playfulness, Variety	Minimally Developed	MMBTS
Hot Laps	Green	1295.83	Short quick blue flow. A stepping zone from green to blue. Rolling dirt jumps and dirt berms. Shorter access and allows riders to create new loops on the lower mountain. Trail was reworked in 2020 to better suit beginners and families, providing quick loop options from the base of the road.	Connectivity, Fun & Playfulness, Socializing, Challenge	Minimally Developed	MMBTS
Jean Guy on the Rocks	Black	2346.37	Challenging technical trail with many TTFs for advanced riders. This trail is almost a sample pack of the different types of terrain and features that can be found on Moose Mountain. Ends on Canyon Creek Road.	Challenge, Risk, Fun and Playfulness	Moderately Developed	MMBTS
Loamzilla	Black	2580.39	This is a trail with 2 distinct sections, the first is an advanced descent to challenge riders and the second part follows the side of a dry drainage and meanders along to meet with Elbow Valley. Bottom is great to get off the brakes and let the bike dance around under you as you pop and play. Exits onto Elbow Valley trail.	Variety, Fun and Playfulness, Challenge	Minimally Developed	MMBTS
Meaty Ogre	Double Black	1231.85	This trail starts off of "That" by staying right at the junction. It carries its mellow deceiving grade for a while before	Risk, Challenge, Variety	Minimally Developed	MMBTS

			turning downhill with a very advanced and committing final section that will have you on Canyon Creek Road.			
Moose Mountain	Blue	7539.58	Popular hiking trail with access off the top of Moose Mountain Road; the trail leads to the Kananaskis Fire Lookout and is used to access the top of Moose Packers. The final kilometre to the lookout is a steep, singletrack trail on loose rock.	Nature; Challenge; Efficiency	Minimally Developed	AEP
Moose Packers	Blue	2793.02	Connector trail between West Bragg creek and Moose Mountain - allows for loops on the east side of Moose Mountain. Used for both climbing and descending.	Connectivity, Escape, Exercise, Solitude	Minimally Developed	AEP
Ninja Cow	Blue	500.86	Smooth grass single track bi-directional trail provided a short cut from Elbow Valley Trail to 2km staging area.	Connectivity, Exercise, Efficiency	Minimally Developed	MMBTS
Paddy's Flat	Green	3009.35	This trail runs from the Paddy's Flat campground through mixed woods down to the river and back up to the campground. Riverview Trail is accessed off the west end of the interpretive trail.	Nature, Socializing	Minimally Developed	AEP
Pistolero	Blue	3010.46	This trail brings the rider to a vista of Banded Peak mountain and is unique for its views and scenery before winding down a more moderate grade to connect with Elbow Valley. Longest trail on the east shoulder of Prairie Mountain.	Nature, Fun and Playfulness, Exercise	Minimally Developed	MMBTS
Pneuma	Black	10251.77	This is the climbing route to access the Moose Mountain trails without having to use the Moose Mountain Road. This trail has lots of technically challenging climbing with steep switchbacks, roots, and rocks to deal with. Starts at the base of the Moose Mountain road and takes you all	Connectivity, Exercise	Moderately Developed	MMBTS

			the way to the top. Trail ends a few metres before Moosepackers.			
Race of Spades	Blue	4405.92	Longer and less technical than many Moose trails this gives riders of all levels the chance to get off the brakes and enjoy things. The many man made wooden features gives riders a place to work on skills. Many of the features have size options giving riders an opportunity to progress at their own pace. This trail currently sends riders to the Station Flats staging area.	Challenge, Risk, Fun and Playfulness, Variety	Moderately Developed	MMBTS
Rampage	Black	228.63	Trail was built to get riders out of the valley and away from existing pipeline right of way to allow SHAFT and TDUB to be ridden when Pieridae is performing work on the pipeline. Also includes some fun optional rock drops at the end of the line.	Challenge, Connectivity	Minimally Developed	MMBTS
Ridgeback 1 and 2 and 3	Blue	7008.79	Ridgeback and Tom Snow come together at three points, dividing both trails into four main sections. Ridgeback offers an alternative to Tom Snow, which can be wet much of the summer. Access from Tom Snow near Station Flats. Ridgeback has a bit of everything - smooth dirt, roots, rocks, berms, boardwalks and views - providing a significant challenge for beginners and a fun rip for more advanced riders.	Efficiency; Fun and Playfulness;	Moderately Developed	AEP
Ridgeback 4	Blue	1667.45	Ridgeback and Tom Snow come together at three points, dividing both trails into four main sections. Ridgeback offers an alternative to Tom Snow, which can be wet much of the summer. Access from Tom Snow near Station Flats. Ridgeback has a bit of everything - smooth dirt, roots, rocks, berms, boardwalks and views - providing a significant challenge for beginners and a fun rip for more advanced riders.	Fun and Playfulness, Challenge	Moderately Developed	AEP

Riverview	Green	2658.63	Trailhead in Paddy's Flat campground. Trail goes along the river west, crosses the highway and heads north to connect to Elbow Valley and Sulphur Springs. Has views of the Elbow River Canyon.	Exercise, Fun and Playfulness, Nature, Connectivity	Minimally Developed	AEP
Road to Gondor	Blue	742.84	This climb trail connects the gravel road with the top of Loamzilla, Pistolero, 4th horseman and other trails further up the shoulder of Prairie Mountain.	Connectivity, Exercise, Nature	Moderately Developed	MMBTS
SeeYa	Black	1466.66	This trail is a good introduction to the type of terrain to be found on the more challenging 4th horseman. A progression trail, also a quick loop so can be added to a ride. Exits onto Canyon Creek road.	Challenge, Fun and Playfulness, Efficiency	Minimally Developed	MMBTS
SHAFT	Blue	3318.96	Blue trail with lots of wide sweeping turns. Less technical than many Moose trails appeals to riders of all skill sets and levels. Starts at the very top of the Moose Mountain access road past the gate and brings riders all the way down to Canyon Creek road.	Challenge, Variety, Fun and Playfulness	Moderately Developed	MMBTS
Shhhht!	Double Black	961.77	Old school raw, natural, and technical with some man-made features. This trail starts off SHAFT and ends with riders on lower T-Dub.	Challenge, Risk, Fun and Playfulness	Minimally Developed	MMBTS
SLF	Double Black	759.12	Advanced grade and rocky with challenging man made features. Designed with very advanced riders in mind. Includes many TTFs and finishes with a rock roll.	Challenge, Risk, Fun and Playfulness	Moderately Developed	MMBTS
Snakes & Ladders	Blue	2.62	Most of this trail is outside of the RMA. Trailhead starts in West Bragg Creek connecting Ranger Summit to Ridgeback 3 near Station Flats.	Exercise, Connectivity	Minimally Developed	AEP

Special K	Black	4947.66	Challenging at the start and then flowing trail for the second half with a small climb. A great cross-country downhill. The end of this trail has a unique water crossing and natural beauty. Starts at the compressor shack east of the road and ends on Tom Snow Trail.	Challenge, Risk, Fun and Playfulness, Nature, Exercise	Moderately Developed	MMBTS
Sulphur Springs	Blue	5198.83	Popular trail. Runs from the Elbow Valley Trail west of Station Flats, climbs to cross Pneuma and the Moose Mountain Road and then descends to Elbow Valley Trail. Riders return along Elbow Valley Trail or go to Highway 66 and cross to Riverview Trail.	Exercise, Fun and Playfulness	Moderately Developed	AEP
T-Dub	Black	2251.19	Classic Moose Mountain trail that previously held Provincial DH races. Post flood rebuild includes man made features. Mixed terrain makes this trail unique. Starts off the Moose Mountain road at the top past the gate, and ends in the valley floor on Canyon Creek road.	Challenge, Risk, Fun and Playfulness	Moderately Developed	MMBTS
That	Double Black	876.5	This advanced grade trail is a challenging trail for advanced riders. Trail starts off at a mellow grade and turns through the trees, before the elevation begins to fade away. Has a rock drop to landing in the middle before the final descent to the Canyon Creek Road.	Risk, Challenge, Variety	Moderately Developed	MMBTS
Tom Snow/Mountain Road	Blue	4917.03	The main connector trail between the Elbow River Valley (Station Flats) and Sibbald Creek Valley (Dawson Trailhead), this trail winds through foothills to the east and north around Moose Mountain. Used mainly for mountain biking and equestrian.	Efficiency; Connectivity	Moderately Developed	AEP
Toothless	Black	1806	Advanced grade rocky trail that provides a challenge for technical riders. Mostly left natural and raw. Starts off of	Challenge, Risk, Fun and Playfulness	Moderately Developed	MMBTS

			Family Guy trail and sends riders down to Canyon Creek road.			
Flight 66	Double Black		Downhill-specific, advanced mountain bike flow. The trailhead located at the 2km parking lot and trail terminates at the base of Moose Mountain Road. The trail is constructed with numerous rollers, tabletops and other technical trail features (TTFs) of various sizes not found elsewhere on the mountain or in the region. This trail would be more advanced than 7-27 which is currently the most popular trail on Moose Mountain and allows riders to progress their skills.	Risk, Challenge, Fun and Playfulness	Moderately Developed	MMBTS
Trom	Double Black	404	This trail is a challenging trail for the most advanced riders and is likely the most advanced grade trail on the east shoulder of Prairie Mountain.	Risk, Challenge, Fun and Playfulness, Variety	Moderately Developed	MMBTS
Ushoulda	Blue	1796.55	Clear sightlines and a gentle grade make this trail fun for a broad range of abilities, the trail connects with Elbow Valley to return to Ing's Mine parking area. Starts just off the gravel climb road after the corners.	Fun and playfulness, Variety	Minimally Developed	MMBTS

Table 11 Proposed Trails Descriptions, User Objectives, Operators

Proposed Trail Name	Difficulty Rating	Total Length (Metres)	Trail Description	Trail User Objectives	Level of Development	Trail Operator
7-27 DH Connector	Blue	1240	To connect the 7-27 descent to the proposed uptrack at the end of ROS. Provide additional loop options for the East Side of Moose mountain. Rejuvenate activity and number of riders on the East side trails of Moose Mountain	Efficiency, Connectivity, Variety	Minimally Developed	MMBTS
DH Connector to Ings	Blue	3200	Provide more intermediate terrain on the east side of Prairie Mountain. Trail terminates near the Ing's mine parking area instead of on Canyon Creek road. Allows riders to ride down the connector and turn off on a variety of options. This would start at the top of the east shoulder of Prairie Mountain and link all the east side trails and connect them to Canyon Creek road and the parking lot.	Connectivity, variety	Minimally Developed	MMBTS
Elbow Valley Ridge Descent	Blue	1230	Provide additional loop options on the lower portions of Moose Mountain. Provide incentive to utilize the existing and rarely used Elbow Valley trail. Additional introductory downhill option to the Moose Mountain trail network appropriate for beginner riders or youth. Note that the trail terminates at the base of Moose Mountain Road but there should be no parking issues as this trail will likely be pedaled as part of a larger loop originating from Ing's Mine parking area or be shuttle accessed and vehicles will only need a short staging time.	Connectivity, efficiency, exercise, variety	Minimally Developed	MMBTS

Proposed Trail Name	Difficulty Rating	Total Length (Metres)	Trail Description	Trail User Objectives	Level of Development	Trail Operator
Flight 66 Phase 3	Black	1870	Start near the entrance to Billy Dog, terminate at the 2km parking lot. The purpose of this trail is to provide an advanced flow line for riders from the very top of the mountain. With it being close to the road it would be easier to maintain the features as needed to maintain rider safety. Family Guy is a very different rider experience as it is a blue level "natural" trail (not machine built), and though it is nearby the two trails would provide different rider experience without creating new impact to wildlife.	Fun and playfulness, challenge, risk	Moderately Developed	MMBTS
Flight 66 Phase 4	Black	1370	The trail would start near the entrance to SLF, on the west side of the road and terminate near the 7-27 turn off and connect into Phase 3.	Fun and playfulness, challenge, risk	Minimally Developed	MMBTS
Ishouldn'ta	Black	845	Provide an alternate exit to the very advanced trail of Trom, and a more direct entrance to the trail which utilizes rolling terrain on the NE aspect of the ridge. Adds variety and provides more trail to spread out traffic for intermediate-advanced riders.	Safety, variety, challenge	Minimally Developed	MMBTS
Pneuma to Elbow Valley Connector	Blue	670	This is an extension of the current cutline/cutoff trail. If/when completed would move the existing trail over to the tree line and reclaim current existing track. Provide connectivity between Pneuma, Sulphur Springs, Elbow Valley, Stones Throw to the Parking Lot and the new ridge descent to the base of Moose Mountain Road. The connector would enable additional loop options on the lower flanks of Moose Mountain. Create shorter loop	Connectivity, efficiency, variety	Minimally Developed	MMBTS

Proposed Trail Name	Difficulty Rating	Total Length (Metres)	Trail Description	Trail User Objectives	Level of Development	Trail Operator
			options for kids to progress on and for introduction of beginner riders on Moose Mountain.			
Prairie Shoulder Uptrack	Blue	2800	Eliminate any potential conflicts between traffic on the access road and the riding community. Open the network to a wider user group as the current access road climb is very steep. Increase the riding experience on trails within the network. This should also provide a safer option for the many hikers that are currently using the existing trail system on this side.	Connectivity, exercise, nature, variety	Minimally Developed	MMBTS
Puma Grande	Black	2050	A new advanced single track trail on Moose Mountain that starts at an epic viewpoint above the existing trail network. Trail starts off the end of the Moose Mountain gravel road and would have riders end at Canyon Creek and the Canyon Creek road.	Nature, Challenge, Variety	Minimally Developed	MMBTS
Race of Spades Uptrack	Blue	3000	Provide a more efficient return to the start of all the trails on the East side of Moose mountain. Provide a more efficient access to the Moose Mountain trails from Station Flats staging area. Create additional loop options for rider experience as well as cross country mountain bike races and events.	Efficiency, Connectivity, Exercise, Variety	Minimally Developed	MMBTS

Proposed Trail Name	Difficulty Rating	Total Length (Metres)	Trail Description	Trail User Objectives	Level of Development	Trail Operator
Special K Cutline Connector (extension of cutoff)	Green	1390	To better connect the trails on the east side of Moose Mountain and bring riders to the proposed uptrack at Race of Spades. The line is mostly rideable as-is and will just need some brush work and a bridge over a drainage. Also a more efficient exit option for Special K, the current exit includes a large climb and this would allow for a lower elevation exit.	Connectivity, Efficiency	Minimally Developed	MMBTS
Special Spades	Black	3500	Provide a new advanced trail on the east side of Moose Mountain. Add additional loop options for riders with connectivity to Station Flats. Facilitates enduro or cross country mountain bike races and events.	Variety, Fun and Playfulness, Challenge	Minimally Developed	MMBTS
Stone's Throw to the Lot	Blue	2630	This trail would create a loop for riders to return to Moose Mountain Road rather than parking on the highway to pick up riders. 7-27 is one of the most popular trails and this would extend the fun and provide a much safer pick up point. This is exhibited every weekend with large numbers of people picking up riders on the highway, creating potentially dangerous traffic conditions.	Connectivity, Safety, Socializing, Fun and Playfulness	Minimally Developed	MMBTS
West Side Utrack	Blue	4320	Provide efficient pedal access for all the West Side trails and reduce uphill bike traffic on Family Guy (which is used also as a descent). Remove cyclists from Moose Mountain road and Highway 66 by providing a climb trail with easier grades than Pneuma, and reduce risk to cyclists from road traffic. Create additional loop options and enhance the network towards the all mountain pedal access trends of Mountain biking (vs shuttling). Create trail infrastructure to	Connectivity, Safety, Exercise	Minimally Developed	MMBTS

Proposed Trail Name	Difficulty Rating	Total Length (Metres)	Trail Description	Trail User Objectives	Level of Development	Trail Operator
			allow for cross country or enduro style mountain bike events such as races on the west side trails. This would start off on Canyon Creek road and put riders at the top of Moose Mountain road.			