

**ALL SEASON TRAIL PLAN FOR WEST BRAGG CREEK,
KANANASKIS COUNTRY**

September 12, 2010



**Government
of Alberta** ■

PLAN APPROVAL

The undersigned hereby approve the "All Season Trail Plan for West Bragg Creek, Kananaskis Country" dated September 12, 2010. It is recognized that this approval only relates to the broad scale information provided on both upgrading of some existing trails as well as the development of a number of proposed new trails and should not be construed as formal approval for construction. Prior to the Implementation of the individual components of this plan, formal approvals will be required from Alberta Sustainable Resource Development.

Rick Blackwood,
Area Manager,
Southern Rockies
Alberta Sustainable Resource Development



Date Sept 14/2010

Steve Donelon,
Regional Director
Kananaskis Country
Alberta Tourism Parks and Recreation



Date Sept 14/2010

EXECUTIVE SUMMARY

ALL SEASON TRAIL PLAN FOR WEST BRAGG CREEK, KANANASKIS COUNTRY

West Bragg Creek is a popular Kananaskis Country trailhead close to Calgary. There are 43 km of existing loop trails for ~~backcountry~~ cross country skiing in this foothills setting but there are growing numbers of skate skiers, snowshoers as well as winter hikers, dog walkers and equestrians. Many of these ski trails use old logging or seismic trails in sheltered areas selected for better snow retention in this area of lower snowfall and strong Chinook winds. The ski trails are located on lands managed by Alberta Sustainable Resource Development (SRD) and are developed and maintained through a partnership between Alberta Tourism Parks and Recreation (TPR) and the Greater Bragg Creek Trails Association (GBCTA). Existing and proposed trails are located on lands managed by Alberta Sustainable Resource Development (SRD) for recreation, watershed protection, summer grazing, timber harvesting and petroleum activities. These multiple land uses require an integrated approach where changes in any activity are reviewed by other stakeholders to minimize negative impacts and conflicts. Approvals for all these land use activities rest with SRD.

In summer, there are growing numbers of hikers, mountain bikers and equestrians but few sustainable summer trails. Summer users often find the ski trails to be muddy, occasionally hazardous and lacking in good views. Concerns about the impact of summer trail use on wetlands and streams are increasing in this part of the Elbow River watershed. The GBCTA and the Alberta Government support efforts to maintain or enhance water quality in the Elbow, which provides about half of Calgary's drinking water.

This trails plan for West Bragg Creek is sponsored jointly by the GBCTA and TPR through their partnership agreement. Planning funds included a grant to GBCTA from the Shell/Husky Moose Mountain Environmental Enhancement Fund as well as matching funds and contributions in-kind from TPR, Kananaskis Country. This plan to upgrade and enhance trail opportunities in West Bragg Creek is intended to improve existing recreation while reducing impacts on the Elbow River watershed and area wildlife, as well as conflicts with other land uses. A series of objectives and principles guided plan preparation by a Plan Advisory Committee consisting of trail users, land managers, conservation groups, key stakeholders and a planning consultant. They gathered background information, determined user needs, assessed potential trail opportunities and constraints, and have made a series of recommendations. The plan was revised following review and comment by stakeholders and the public between November 2009 and May 2010. Approval for recommendations will come from Alberta Sustainable Resource Development (SRD), TPR and the GBCTA.

The key recommendations for winter trails include:

- upgrading existing ski trails to meet Kananaskis Country standards, widths and grades and to better meet current user needs;
- ensuring that several km of ~~easy~~ loop ski trails are available close to the parking lot;
- adding new ~~moderate~~ trails to the south and west of the Sundog Loop where snow retention and views are good;
- designating all of Crystalline Trail and Sundog Loop for skate and double track set skiing;
- maintaining the Telephone Loop as a ~~backcountry~~ ski trail but removing some existing hazards;
- establishing one additional backcountry loop south and west of the Moose Loop;

- maintaining the Mountain Road as the main winter pedestrian, dog walking and equestrian route when not required for industrial access;
- marking two recommended snowshoe loops; and
- working with SRD biologists to assess impacts/concerns on existing or proposed new trails.

The key recommendations for summer trails include:

- upgrading the existing designated summer trails as required (Fullerton Loop, Tom Snow, Diamond T, Moose Packers, Mountain Road);
- upgrading those portions of the existing ski trails approved as summer trails;
- developing several connector trails from West Bragg to the Tom Snow Trail and Allen Bill Pond; and
- developing several loops from 3 to 25 km in length on Telephone+, Mooseview+, Boundary+ and Ranger+ ridges (unofficial names on plan map 4) where drainage and views are good and potential impacts and user conflicts are minimal.

In addition, several recommendations for improved user information and education, as well as plan implementation and operations, were presented.

SRD and TPR will review and provide approval of this plan in a timely manner, which will provide the basis for the issuance of trail development and construction permits. TPR, the GBCTA, CMBA and other trail interest groups will work together and in collaboration with SRD to implement plan priorities in a phased manner as resources permit. Prior to construction, SRD and TPR will also review and provide approval of trail construction details for specific recommendations in this plan, in a timely manner.

Finally, within Kananaskis Country, Alberta Transportation is responsible for planning, development and maintenance of all public road rights of way including access to West Bragg trailhead and others. Changes to parking lots or access roads are subject to their review and approval.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1.0 INTRODUCTION.....	1
2.0 PLAN AREA.....	2
3.0 PURPOSE AND OBJECTIVES.....	4
4.0 GUIDING PRINCIPLES.....	4
5.0 DESCRIPTION	
5.1 Biophysical.....	5
5.2 Other Land Uses.....	9
5.3 Existing Trail	10
5.4 Trail Condition Summary.....	12
6.0 ASSESSMENT OF TRAIL PLANNING ISSUES AND CONCERNS	
6.1 Trail User Issues and Concerns	14
6.2 Existing and Potential Impacts	15
6.3 Existing and Potential Conflicts	16
7.0 RECOMMENDATIONS	
7.1 Winter Trails.....	18
7.2 Summer Trails.....	22
7.3 User Information and Education.....	23
7.4 Implementation and Operations.....	23
List of References.....	26
Appendices.....	27
Map 1: Plan Area.....	3
Map 2: Environmental Constraints.....	8
Map 3: Winter Trail Recommendations.....	20
Map 3a: Winter Trail Recommendations (Core Area).....	21
Map 4: Summer Trail Recommendations.....	25

ALL SEASON TRAILS PLAN FOR WEST BRAGG CREEK, KANANASKIS COUNTRY

1.0 INTRODUCTION

The West Bragg Creek area of Kananaskis Country is located within the Elbow River watershed approximately 9km west of the Hamlet of Bragg Creek. This area is approximately a 30 minute drive from Calgary and is popular for day use trail recreation both winter and summer. However, existing loop trails and trailhead facilities were developed for winter cross country skiing only. This was done in the early 1980s by the Alberta Government as part of the Kananaskis Country capital construction program. Parks staff, along with volunteers and donors have maintained these trails for winter use since that time. The West Bragg Creek area currently has one parking lot for approximately 90 vehicles and 43 km of designated (official, signed and maintained) cross country ski trails. The ski trails as well as an existing summer hiking trail (Fullerton Loop Trail) are also accessible from the parking lot at Allen Bill Pond in the nearby Elbow Valley. Tom Snow trail is the only officially designated all-season trail in the plan area.

West Bragg is one of the most accessible Kananaskis Country trailheads and accommodates a wide variety of users in all seasons. The level of trail use in the West Bragg area has grown significantly over the years and the diversity of uses has also expanded to include snowshoeing, mountain biking, hiking, and equestrian use. As a result of the significant summer use in wet or sensitive areas, the local watershed and environment are experiencing negative impacts. Since the current West Bragg trail system was originally designed for classic cross-country skiing only, it doesn't meet the needs of summer users as well as it could nor for a wider spectrum of skiers or the growing numbers of snowshoers. Experiences have shown conclusively that a well planned and designed system for all types and levels of approved uses provides greater user satisfaction as well as lessened environmental impacts and conflicts with other land uses.

The plan area is located in the north eastern portion of Kananaskis Country (see ~~Map 1~~, Map 1). It has previously been identified by Alberta Tourism Parks and Recreation (ref: Spray Lakes Sawmills, Detailed Forest Management Plan, 2008) as having good potential for expanded summer trails opportunities. This was based on its easy accessibility, existing trails infrastructure, favorable topography and scenic qualities along with favorable opportunities to minimize both impacts and conflicts. This area is all provincial crown land and most of this portion of Kananaskis Country is managed by SRD as a Forest Land Use Zone under the Forests Act, the *Public Lands Act* and the *Forest Reserves Act* along with related regulations and policies. All land management decisions here are the responsibility of the Minister of SRD consistent with this legislation and policy. SRD uses the *Kananaskis Country Sub-regional Integrated Resource Plan* and other related plans and guidelines to guide management here. This approach gives high priority to maintaining or enhancing watershed, fisheries and wildlife values while permitting a variety of land uses including outdoor recreation, summer cattle grazing, timber harvesting and petroleum exploration and development. Conflicts between the different land uses are minimized through collaborative planning and good ongoing communications between TPR, SRD and stakeholders. As well, when applications for land use activities are received, they are reviewed by stakeholders with a view to minimizing negative impacts and, where possible, maximizing benefits to other land uses.

Alberta Tourism Parks and Recreation (TPR) is responsible for official or ~~designated~~ outdoor recreation facilities and activities in this portion of Kananaskis Country including campgrounds, trailheads, picnic sites and trails. The existing trailhead parking areas at West Bragg and Allen Bill Pond, for example, are contained within Provincial Recreation Areas (PRAs) managed and maintained by Parks staff under the authority of the *Provincial Parks Act*. These and other PRAs in Kananaskis Country were established by the provincial government around formal, developed day use or camping sites as a way to manage more intensive recreation use compared to the dispersed, less intense uses on forest reserve lands. In the plan area, SRD and TPR along with stakeholders will work closely and collaboratively towards the goal of protecting watershed and

other environmental values while considering potential changes to the existing trail system. Plans for the management of all existing recreation activities as well as proposed new facilities or activities must minimize negative impacts on other land uses as well as impacts on the environment.

SRD and TPR will review and provide approval of this plan in a timely manner, which will provide the basis for the issuance of trail development and construction permits. TPR, the GBCTA, CMBA and other trail interest groups will work together and in collaboration with SRD to implement plan priorities in a phased manner as resources permit. Prior to construction, SRD and TPR will also review and provide approval of trail construction details for specific recommendations in this plan, in a timely manner. In this plan process, once a proposed ~~non~~official trail has been approved by SRD on their lands, then by agreement, TPR (and their partners) will take on responsibilities for detailed planning, development, operation and maintenance including such things as bridges, culverts and signage. Finally, within Kananaskis Country, Alberta Transportation is responsible for planning, development and maintenance of all public road rights of way including access to West Bragg trailhead and others. Changes to parking lots or access roads are subject to their review and approval.

The Greater Bragg Creek Trails Association is a non-profit organization registered under the Alberta Societies Act and also a Canadian federally registered charity. It has a formal, 10 year partnership agreement with Alberta Tourism, Parks and Recreation, Kananaskis Country for the purposes of aiding in the planning and maintaining of winter and summer use non-motorized trails in the vicinity of the West Bragg Creek (WBC) Provincial Recreation Area. As part of this agreement the partners have identified a need to develop an all season, shared-use, long-term trail plan for the area. To this end, the Association has recently received a grant from the Moose Mountain Environmental Enhancement Fund which is jointly sponsored by Shell Resources and Husky Energy who operate facilities in the vicinity. Tourism Parks and Recreation has agreed to also provide some funding as well as contributions in kind (e.g. mapping services) to support this trails plan. The maintenance of all approved trails which are developed through the implementation of this plan will become the responsibility of Alberta Tourism Parks and Recreation with assistance from the Greater Bragg Creek Trails Association, The Calgary Mountain Bike Alliance, the Friends of Kananaskis Country including their volunteers and supporters and other trail user groups.

2.0 PLAN AREA

The plan area is shown on Map 1 and consists of the existing ski trails and surrounding lands. It includes a large portion of the Bragg Creek drainage as well as a portion of the Ranger Creek and Iron Creek drainages, all tributaries of the Elbow River. The north, west and south boundaries were selected to include existing ski trails and some of the surrounding lands which may have potential for summer trails. The eastern boundary is the Kananaskis Country boundary. Any proposed changes within the study area will be considered in light of their impacts on surrounding lands.

The Moose Mountain slopes to the west of the plan area includes Station Flats and Moose Mountain Ridge Trailheads which provide access to approximately 28 km of non-motorized summer use (bike, hike, horse) trails. These trails include Diamond T, Sulphur Springs, Elbow Valley, Tom Snow, and Moose Mountain (ridge) Trail. In addition to these ~~non~~designated trailheads and trails, there are numerous unofficial trails and parking areas which have long existed or been established more recently. Alberta Sustainable Resource Development and Tourism Parks and Recreation work with organized user groups to monitor these trails and staging areas and take action if necessary. While this West Bragg Creek Trails Plan area does not directly include the slopes of Moose Mountain, it will consider the activities occurring there and recommendations will be made in light of the existing or potential future trail use there. Opportunities for new or upgraded trail linkages between this and other surrounding lands will be explored in the plan.

3.0 PURPOSE AND OBJECTIVES

The **purpose** of the West Bragg Creek All Season Trails Plan is:

To develop a good quality, all season, sustainable (non-motorized) trail system in the West Bragg Creek area of Kananaskis Country while maintaining or enhancing watershed integrity.

The **objectives** for this trail plan are:

1. To identify and assess negative impacts of existing trails on the environment as well as conflicts with other land uses (e.g. grazing, timber harvest, and petroleum) and to recommend solutions or measures to mitigate these impacts or conflicts. These could include, but are not limited to, bridges, boardwalks, trail rerouting, re-vegetation and erosion control measures.
2. To determine existing and anticipated future trail user needs and preferences for this part of Kananaskis Country. This will consider the unique opportunities and character of this area as well as the many other trail opportunities available in other parts of Kananaskis Country or the larger region.
3. To recommend changes to the existing system to fulfill both summer and winter trail use functions and better meet the needs of users, while eliminating or mitigating negative environmental impacts and conflicts between recreationists and with other land uses in the area (e.g. Timber harvesting, cattle grazing, petroleum activities).
4. Recommend additions to the system to provide appropriate staging areas and good quality, sustainable trails that meet a variety of needs for hikers, mountain bikers, equestrian users, cross-country (%~~classic~~+and %~~skate~~+) skiers and snowshoers. All trails, signs and associated infrastructure (e.g. bridges) will be built to approved Kananaskis Country and/or provincial standards.
5. Recommend, where required, connector trails to link the West Bragg Creek trail system with trails in the Elbow Valley, Moose Mountain and the Sibbald areas of Kananaskis Country as well as the community of Bragg Creek.
6. Recommend measures to upgrade, expand and improve existing trail user information and education.

4.0 GUIDING PRINCIPLES

The following principles will guide this plan process:

1. Ecological and Land Use Integrity

All proposed facilities and activities will minimize negative impacts on the environment and other land uses through a collaborative, multi stakeholder plan process.

2. Compliance with current plans, policies and guidelines

All proposals will be consistent with the following:

- Kananaskis Country Recreation Policy (1999)
- Existing land use plans including the Kananaskis Country Subregional Integrated Resource Plan, area grazing management plans, Detailed Forest Management Plan (Spray Lakes Sawmills).
- Management plan for Bragg Creek Provincial Park and KC Provincial Recreation Areas (PRAs) including West Bragg Creek and Allen Bill Pond.

- Rocky View County Greater Bragg Creek Area Structure Plan Bylaw.
- Existing plans, policies, standards and guidelines for protection of water and watershed (e.g. *Elbow River Basin Management Plan*), vegetation, fish and wildlife.

3. Safe, Sustainable and Enjoyable Trails

- All trails recommended will ensure that public safety, sustainability and visitor enjoyment will be maintained at a high level.

4. Trail Management

- A range of appropriate trail opportunities will be considered based on identified needs and preferences.
- Approved trails will remain on the landscape although some changes or alterations may occur over time in response to changing needs, new environmental knowledge or other land use activities.
- Best practices in trail planning, design, construction and maintenance will be employed. Trail planning should adapt the %Stacked Loop+concept (see Appendix %B+) to the local situation for both winter and summer trails.
- Most summer trails will be shared use (hike, horse and bike) while separate winter trails will be for cross country skiing or snowshoeing. Opportunities for winter walking, dog walking and horse use will be provided.
- Good maps, trail signs, visitor information and educational messages will be given priority.

5. Partnership

- Planning, development and maintenance of these trails will continue to be done through a collaborative, partnership approach between Alberta Parks, Kananaskis Country, Alberta Sustainable Resource Development, the Greater Bragg Creek Trails Association, the Calgary Mountain Bike Alliance, the Friends of Kananaskis Country, volunteers, stakeholders and supporters such as Shell and Husky. This partnership approach will ensure that land managers have a good understanding of the needs of the various users and the community as a whole. As well, a variety of non-governmental resources (e.g. volunteers, donations, contributions in kind) will be brought to the development and operation of these trails. This also helps stakeholders, trail users and citizens understand and support the measures implemented to protect the environment or reduce conflict with other recreationists and land uses.
- The Greater Bragg Creek Trails Association will undertake activities in the plan area in compliance with the March 16th, 2009 agreement between the Minister of Tourism Parks and Recreation and the Greater Bragg Creek Trails Association.
- Any improvements constructed or installed on crown lands, subject to this plan, by the Greater Bragg Creek Trails Association will become the property of Alberta Tourism, Parks and Recreation.

5.0 DESCRIPTION

The following section provides a brief description of the biophysical factors, other land uses and various trail activities in the plan area.

5.1 Biophysical

5.1.1 Geology/Geomorphology

The plan area is located in the Montane Natural Region of Alberta and consists of forested ridges and valleys with elevations from 1400m in the valley bottom (near the parking lot) to 1700 m at

the highest ridge top (Ranger Ridge). Foothill ridges consist mainly of sandstones and shale bedrock with a few small outcrops near ridge summits. Most of the plan area consists of ridge slopes which are composed of eroded sandstone material which tends to be well drained. Lower slopes may see local sandy materials mixed with glacial debris in the form of terraces etc. which tend to be mostly well drained but can be more mixed. Slope aspect or exposure to prevailing winds and sun results in markedly different drainage conditions. South and west facing slopes or ridge tops are generally much drier than north and east facing slopes. As a result, they often have more open forest canopies which provide more views of the surrounding landscape, another important characteristic of good quality summer trails. For winter ski and snowshoe trails in the foothills, more sheltered north and east aspects generally have better snow retention. In valley bottoms, a wide range of alluvial (water borne) deposits are found including gravels, sands, silts and clay. Alluvial deposits often define riparian zones along creeks or wetlands and are associated with more diverse, shrubby vegetation and thus are often significant from a watershed, fish and wildlife protection perspective. Therefore, they should be avoided or minimized as trail locations although by their diversity, and presence of surface water, they are often appealing to trail users.

5.1.2 Climate

Available temperature and precipitation data for the West Bragg Creek area are based on approximately forty years of records from the nearby Elbow Ranger Station. Summer temperatures average between +11C and +12C, and the winter average is -12C to -14C. July is the hottest month of the year while January is the coldest. Extreme temperatures of -44C have been recorded in both December and January with extreme maximum temperatures of +31C and +32 C in July and August. The total annual precipitation of the area averages 600mm, with over 60% in the form of rain. The amount of rain varies from traces in February to over 100mm in June. Over one quarter of the annual precipitation often occurs in the form of snow in the month of April. Snowfall has been recorded in every month but July and August. It often snows in West Bragg Creek as a result of upslope+weather systems which can happen especially in November and well before much accumulation in the mountains. West Bragg Creek can thus sometimes see an early start to the ski season compared to Peter Lougheed Park although total winter snow accumulation is much less and more strongly affected by Chinook conditions.

5.1.3 Watershed and Fish

The plan area contains a large portion of the Bragg Creek drainage as well as portions of both Ranger Creek and Iron Creek drainages. While not large streams, all three are tributaries of the Elbow River which supplies about half of the drinking water for the City of Calgary. Concerns over deterioration in several water quality measures in the Elbow River recently led to the establishment of the Elbow River Watershed Partnership and the development of the *Elbow River Basin Watershed Management Plan*. Through the collaborative implementation of this plan, it is hoped that water quality throughout the Elbow watershed can be maintained or improved. One important principle of the Elbow River plan is to protect source areas such as West Bragg from deterioration due to human activities. In the trail plan area, the two most susceptible areas to impacts include stream crossings and wetlands. Trail use can remove protective vegetation and increase siltation into streams. This is a greater concern if the ford has silty approaches (rather than rocky ones) and if fish spawning occurs downstream from the ford. Silt can accumulate over spawning gravels and reduce or eliminate their use by fish. Existing impacts from winter trail use in West Bragg are believed to be slight due to low flows, frozen ground, ice covered streams and minimal ground/vegetation disturbance. In summer however, trail use impacts have been observed in a few wetlands which ski trails traverse as well as a few stream crossings (fords). The existing ski trail network has long had 5 bridges in place in order to reduce siltation and make trail grooming more feasible. Two new bridges were recently installed on summer trails nearby (Tom Snow Trail over Ranger Creek and Tom Snow over Bragg Creek at the north end of Moose Loop). However, there are two remaining tributaries to Bragg Creek just south of Moose Loop which the Tom Snow Trail currently fords. As well, one of the ski trail bridges over Bragg Creek

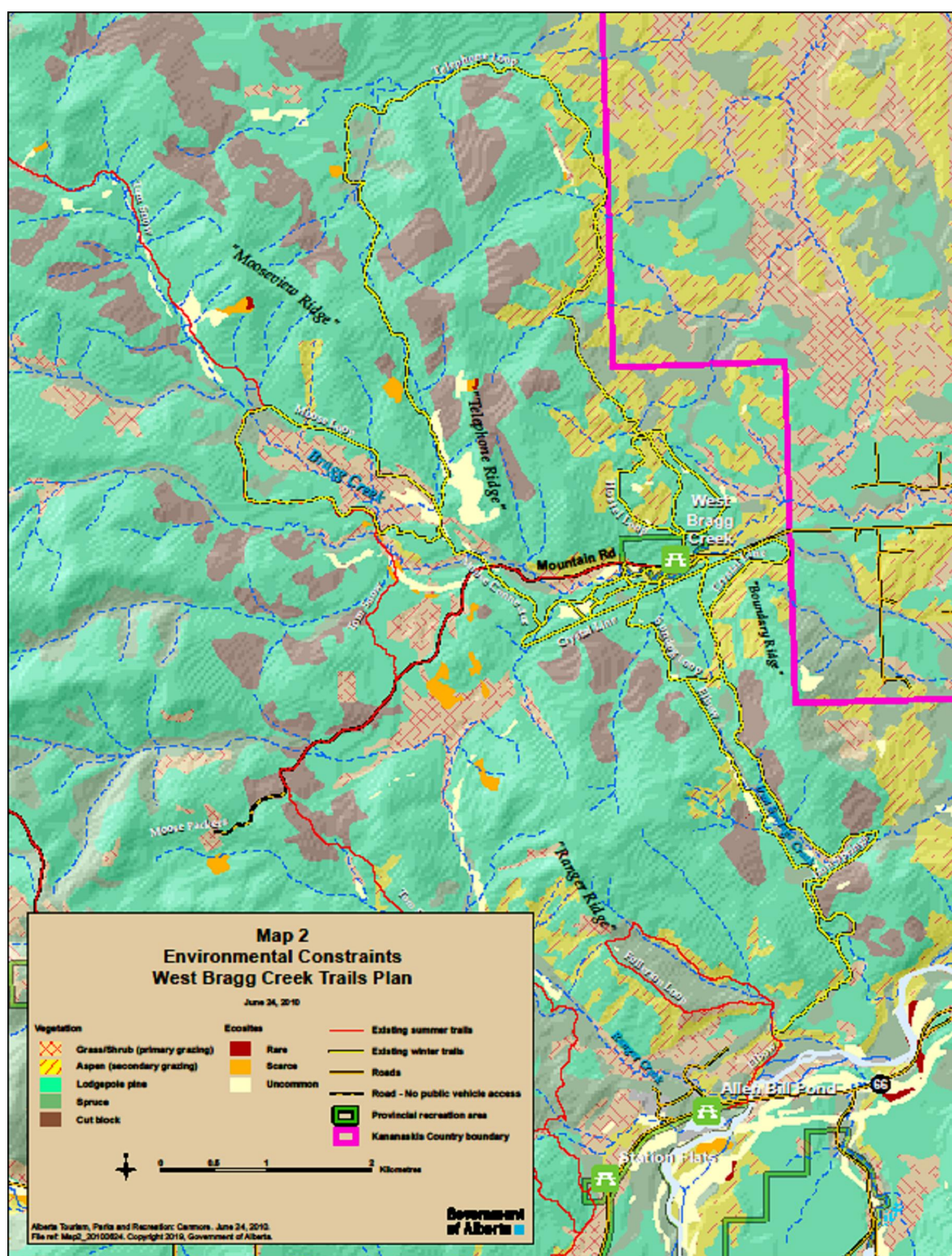
at the south end of Moose Loop tends to entice summer trail users on Tom Snow to cross over onto an adjacent wetland and this should be addressed. This and any other issues or concerns with existing or proposed new trails should be identified in this plan, and, where appropriate, mitigative measures taken. The intent is that this plan will support and be consistent with the intent and provisions of the *Elbow River Basin Watershed Management Plan*. The literature indicates the presence of Bull Trout (classed as a Sensitive species in Alberta) or Brook Trout in Bragg Creek and one tributary as well as Ranger Creek. Any trail related work in or near fish bearing streams will be done in accordance with current best practices and existing fisheries windows as prescribed by federal and provincial authorities.

5.1.4 Vegetation

While the plan area contains a variety of vegetation communities, by far the largest area is covered by lodgepole pine and spruce forests with some aspen poplar stands mixed in. Valley bottoms have more diverse vegetation including several areas with grassy or shrubby meadows or wetland vegetation (see Map 2). The latter along with riparian zone vegetation along Bragg Creek and its tributaries especially provides some of the most significant biodiversity and most important wildlife habitat in the plan area. Past timber harvesting and replanting of trees has resulted in additional early successional plant communities which adds to the overall plant diversity and landscape variety. The Alberta Vegetation Inventory (AVI) (Government of Alberta, 1996) data was used to map these broad plant types (see Map 2) and indicate those areas of concern (e.g. high wildlife values) related to existing or proposed future trails. The AVI information is not mapped at a scale to provide a complete and accurate representation but does indicate many of the larger wetlands as grass and shrub cover. Riparian areas along creeks are important from a wildlife perspective but are only partially mapped at this point. The ANHIC (Alberta Natural Heritage Information Center) data base was also consulted to determine any known sensitive, rare or endangered plant species in the plan area but none were found on the record. One notable fact is that black spruce normally found north of the Red Deer River in Alberta is found in several small patches in wetlands near the Bragg Creek area. Available information on rarity of ecosites was reviewed (Spray Lakes Sawmills 2007, DFMP). Several rare, scarce or uncommon sites are located in the plan area (see Map 2) associated with riparian areas or ridgetops. As indicated previously, slopes with a south or westerly aspect tend to be drier due to more wind and sun exposure and have a more open forest. These slopes as well as ridge tops tend to offer the best potential for summer trails because of their good drainage and more open views. North and east facing slopes tend to be more moist (more drainage issues), have more old growth and lush forest cover. While they may offer important vegetative diversity and scenic variety to trail users, they often require additional drainage measures.

5.1.5 Wildlife

Mammals include a broad spectrum of foothills species including black and grizzly bear, cougar, bobcat, lynx, wolf and coyote as well as deer, elk and moose and many species of smaller mammals. These include at least 4 members of the weasel family, red squirrels, rodents, mice and voles. Available bird data indicates at least 111 species occur in the plan area. Limited surveys of amphibians and reptiles indicated the presence of boreal toads, wood frogs and chorus frogs which are all regarded as ecological generalists that are widely distributed but potentially vulnerable given world wide decline in amphibians. As previously indicated, the most important habitat areas are often associated with wetlands and riparian zones due to their vegetative and biological richness. Impacts of trail development should be avoided or minimized here. As well, aspen poplar communities tend to be richer in species as are some cutblocks that develop shrub communities. These are identified on Map 2 and new trail development will avoid them wherever possible. Any areas of specific concern to the local SRD Wildlife Biologist will be identified and appropriate measures taken. When more site specific surveys for new trail locations are done, seeps and lick sites will be noted and avoided.



5.2 Other Land Uses

5.2.1 Summer Cattle Grazing

Summer cattle grazing has occurred in the forested Eastern Slopes of Alberta since the late 1800s. Summer grazing is expected to continue along the eastern slopes including the West Bragg plan area. The plan area contains one allotment and portions of two others within it. Each allotment is subject to a grazing management plan designed to optimize utilization of available range while ensuring adequate forage is left for wildlife, water quality is protected and conflicts with other land uses are minimized. Most grazing occurs in the grassland areas which are usually associated with valley bottoms. Secondary range includes those aspen poplar communities with some grass cover. These primary and secondary ranges are mapped on Map 2 and will be either avoided or minimally used for trails in order to minimize any impacts on grass and conflicts with cattle. Increasing or unmanaged recreational use may result in unwanted cattle movements or impacts on the available grasses. There is a concern about the existing parking lot being in a key portion of the Bragg Creek allotment with conflict potential later in the summer when cows are in this area. Other concerns and potential conflicts are listed in section 6.4 along with potential mitigation measures. While these conflicts have tended to be minor in the past, if designated summer trails are approved in the area, these conflicts may increase if not addressed proactively by the permittees, SRD and trail partners. On the other hand, if formal trail planning is not moved forward, increasing conflict is expected as more users continue to use the existing and informal trails. Input into this draft plan was provided both by the SRD Range Agrologist and the Bragg Creek allotment permittee. Any changes to the trail system that may affect grazing will be reviewed by SRD and the affected permittees. Likewise, any proposed changes to the grazing management plan or annual practices, will be referred to TPR staff and the members of the GBCTA.

5.2.2 Timber Harvesting

Many of the existing ski trails (e.g. Sundog Loop, Iron Springs, Hostel Loop) make use of old logging trails or roads and some upgrades or expansion occurred as a result of the most recent logging between 1986 and 1992. Several forestry interpretive signs were installed on Sundog and East Crystalline following the most recent logging. While some are still in place and readable, most need removal, replacement or updating. The West Bragg plan area is part of the Forest Management Agreement (FMA) Area held by Spray Lake Sawmills based in Cochrane. This agreement between the company and the province provides the company with a sustained timber supply over a long period of time and over a large (2200 sq. km) forested area. They also have access to timber on several quota lands within the Forest Reserve. Harvesting is subject to many provincial regulations, policies, guidelines and ground rules designed to protect the watershed and the environment, minimize conflicts with other land uses and ensure prompt and effective reforestation. Spray Lake Sawmills long term management approach is contained in a Detailed Forest Management Plan (DFMP) which sets out the company's strategy over a 20 year horizon. More detailed Annual Operating Plans (AOP) are available for review and comment by any interested stakeholders and are subject to approval by SRD. During this trail plan process, the company and SRD indicated the likelihood of some additional harvesting over the next few years. For the most part, this would be a part of a community based Fire Smart initiative and involve the creation of two concentric firebreaks within a 10 km radius of the hamlet of Bragg Creek. Both of these breaks or containment lines would be within the West Bragg trail plan area and be focused on west facing slopes and tie into existing natural wetlands or older cutblocks. While it is recognized that timber harvesting can have a major impact on trails and trail recreation, it was felt by the members of the Plan Advisory Committee that with careful coordination and

collaboration, the negative impacts can be minimized and some potentially significant benefits (such as more open views) realized. Members of the Greater Bragg Creek Trails Association and other interested groups will review the FireSmart Plan which is in preparation with a view to minimizing the impact on trails and trail user experience. TPR staff will also participate in this referral. Further related issues and concerns along with potential mitigation measures are addressed in section 6.4.

5.2.3 Petroleum Activities

Several wells have been drilled in the plan area although none are producing. Shell Canada and Husky Energy operate several sour gas wells to the west of the plan area and recently installed the Interconnect+pipeline that runs along the west edge of the plan area (west of Tom Snow Trail and Moose Loop) to carry gas to the Jumpingpound Gas Plant. While no future drilling plans exist at present within the plan area, this may change over time and as operating companies change. For the present however, Shell only requires pipeline maintenance access (held under a License of Occupation or LOC) that uses the Mountain Road or, for emergency access to a shut in well, a reclaimed road on the north side of Moose Loop. The Mountain Road is gated at the West Bragg parking lot to prohibit public vehicle access. Shell requires regular pipeline facility inspection access using conventional vehicles in summer but off road vehicles in the winter so snow plowing is not normally required. In the event of an emergency in winter, snow plowing of Mountain Road would likely be necessary. The Mountain Road is an important but informal trail in winter used by pedestrians and equestrians as well as some skiers. It is not maintained as a formal ski trail but is occasionally trackset to provide an easy beginner trail. In summer, it is designated as a trail linking West Bragg parking lot with Tom Snow Trail. The joint use of Mountain Road by Shell and public recreationists does present some potential safety or conflict concerns but, to date, no accidents or incidents have occurred.

5.2.4 Trapping

An existing Registered Fur Management Area (RFMA) overlaps most of the trail plan area. While trapping season corresponds to part of the cross country ski season, little or no conflict has been reported. The registered trapper will be contacted and invited to review and comment on this draft plan to ensure conflicts continue to be avoided or minimized.

5.2.5 Hunting

Regulated hunting of ungulates and other species occurs in the West Bragg Creek area from mid September until the end of November. No commercial hunting operations are currently known to occur here. In 2009, a change in regulations permitted Sunday hunting during November. Some non-hunting trail users have public safety concerns about the use of firearms along trails and also the leaving of animal remains in the field to become attractants for bears or other scavengers. In the past, cautionary trailhead signage has been used in Kananaskis Country to inform non hunters when hunting season is open.

5.3 Existing Trails

5.3.1 Trail System History

The existing ski trails and trailhead parking lot were developed in the early 1980s as part of the Kananaskis Country capital construction phase which was funded by the Alberta Heritage Trust Fund. Planning and development was done by staff of the Alberta Forest Service (now SRD) and a trails consultant. While many of the trails made use of old seismic, logging or ranger patrol trails, some reroutes or upgrades were done and much of Hostel and Telephone Trails were newly located and constructed. In the later 1970s, a small Youth Hostel was located on the SE corner of Hostel Loop but unfortunately burned down soon after the ski trails were established.

Subsequent timber harvesting led to several reroutes for better snow retention and the addition of Iron Springs Trail. Other additions were considered (e.g. Loggers Loop) but rejected by SRD at the time because it was not part of a larger trail plan. Upgrading of many of the ski trails also occurred as a result of a generous individual donation from a local resident. This upgrading consisted mainly of removal of large overhanging trees, brush removal and drainage improvements. Occasional trail upgrades or new bridges have also occurred through donations by Shell when equipment has been active in the plan area or through their Moose Mountain Environmental Enhancement Fund. Bridges damaged through past flooding have been replaced by Alberta Parks using Disaster Assistance funding. Routine trail maintenance activities by parks staff (e.g. tree removal, brush clearing, bridge repairs), have been assisted by many volunteers organized through the Friends of Kananaskis Country Trail Care Group and, more recently, by the partnership agreement between TPR and the Greater Bragg Creek Trails Association.

5.3.2 Trails Description

Existing ski trails consist of a series of loops that together have a combined length of 43.3 km (see Map 1). While some of the trails close to the parking lot on the south side are classed as %easy+, all of these presently have one or more short steeper grades that raise the difficulty rating for that trail to %moderate+. Most of the existing trails are rated as %moderate+ difficulty with Telephone Loop the only one rated %difficult+. This reflects its length, narrowness, remoteness, steeper grades and lack of regular packing. All of the rest of the existing ski trails are maintained for track skiing with packing and tracksetting done by both TPR staff based at the Elbow Field Office and volunteers with the GBCTA. While some annual maintenance is done, it has often been minimal and sporadic. On several occasions, clearing of encroaching brush or removal of overhanging trees has been done when some additional resources have been found (e.g. donation of money or equipment time or as flood damage repairs to bridges and culverts).

A wide range of trail users come to West Bragg Creek in winter due to its accessibility and trails as well as opportunities for dog walking. While the ski conditions are less consistent here compared to the deeper snow areas of Kananaskis Country, it does offer track skiing opportunities in a pleasant foothills setting. Some winters see good skiing conditions for several months while in other winters, conditions are more sporadic. Local residents and others make good use of the trails for skiing and snowshoeing, while dog walking, hiking and equestrian use also occurs. It is a relatively short drive from Calgary so when conditions are good, the parking lot is often overflowing (100 vehicles +) on weekend days. Weekday use is much lower. Many visitors value the convenience of coming for a one to three hour outing instead of a full day trip. Many families with young children make use of this area. Some winter picnicking and sledding also take place here. The recent increase in popularity of snowshoeing has seen many visitors coming out to the West Bragg area with some using tracked ski trails. To date there have not been any marked snowshoe trails to encourage use away from ski trails and in enjoyable terrain with views and minimal impacts.

In summer and fall, hikers, cyclists and equestrians all use the West Bragg area trails despite the fact that they were laid out and are maintained for skiing. The exception is the Mountain Road west from the parking lot to Tom Snow Trail which is maintained by Shell Resources as an access route to its nearby Interconnect Pipeline. While vehicle and visitor numbers have only recently begun to be recorded at West Bragg, local observers report that summer use levels are similar to winter although not with such high weekend peaks. Generally, hiking and equestrian use occurs throughout the plan area but is influenced by factors including wetness. Most ski trails however, are enclosed by forest and thus don't have many views as well as having wet and muddy sections. Bikers use the Mountain Road to Tom Snow Trail and Moose Mountain, use Telephone Loop and also try making a loop from West Bragg to Allen Bill Pond, then to Station Flats on Highway 66 and return on Tom Snow Trail north to Mountain Road.

Other uses include orienteering and geocaching. As well, the portion of the Mountain Road west of the parking lot, Moose Connector Trail north of Mountain Road and the north side of Moose

Loop plus Tom Snow north to the Jumping Pound have been marked as part of the Trans Canada Trail. Summer users find the trails and watercourses negatively impacted by cattle.

Tourism Parks and Recreation staff based at the Elbow Field Office are responsible for maintaining the designated (official) winter and summer trails throughout Kananaskis Country. They are assisted by the Greater Bragg Creek Trails Association in the plan area through their partnership agreement. Staff and volunteers maintain and groom the ski trails in winter. Any new trails approved would be built and maintained through this partnership agreement along with participation of other trail user groups and supporters. Parks staff are responsible for providing and maintaining all trail signage, a trails map, as well as maintaining the toilet, garbage and signs at the trailhead. Parks Conservation Officers work with Fish and Wildlife Officers to enforce the various regulations in place in this part of Kananaskis Country and respond to emergency calls for lost or injured persons. Parks staff participate actively in the referral process when any new activities are proposed in the plan area. They work with other government staff and stakeholders to minimize negative impacts on trails and trail users and, where feasible, obtain some benefits from the proposed activity (e.g. Timber harvesting). Parks staff also respond to applications from many groups or organizations to hold special events (eg. trail races, fund raisers) on area trails. They refer these applications to SRD or other staff and stakeholders to ensure that negative impacts are minimized or eliminated.

5.4 Trail Condition Summary

An inventory and assessment of existing ski trails was completed as part of this plan process. The table below summarizes the findings. All trails were judged to be in good condition as ski trails which meant that they had no significant drainage issues. Most of them require removal of brush and overhanging trees which should be part of regular maintenance program and there were a few hazards or safety concerns noted. However, those portions of ski trails that are recommended to be designated as part of the summer trail system will usually need some upgrading of drainage measures. These are noted in section 7, Recommendations.

SUMMARY OF EXISTING SKI TRAIL CONDITIONS							
Trail	Km	Use Level	Difficulty	Clearing Width(m)	Tread Width(m)	Condition.	Comments
Crystalline	2.9	H	E/M	4-7	3-4	G	-Brushing east of Sundog -Steep hill at east end is M; rest E -short steep hill east of bridge is M but could be reduced.
Sundog	2.7	H	M	5-9	3-5	G	- east side narrower with seeps
Iron Springs	4.6	M	M	5-9	3-5	G	- brushing/tree removal reqd in cutblocks; reroute % sunny corner+
Elbow	5.1	M	M	5-7	3-4	G	-brushing/tree removal reqd.
Moose Connector	3	M	E/M	5-8	3	G	-first 1 km is E . could be base of short easy loop. -km 1.2 to 1.4 could be rerouted to improve flow and connect with reroute of Crystalline nearby. -3 short sections north of bridge are sun affected . reroute if feasible
Telephone Loop	10.8	L	D	2-6	2-3	G	-brushing/tree and hazard removal required - N end seeps are % poor+year round .
Hostel Loop	3.8	M	M	4-10	3-5	G	-brushing and tree removal and short steep grade near north Telephone junction.
Unnamed links (S of P)	1.5	L	E*	4-7	3-4	G	-short steep grade + 80m wetland to be addressed if used.
Moose Loop	5	M	M	5-10	3	G	-brushing; culvert repairs; reroute near Telephone junction to reduce wildlife & sun impact

Use level: H = high; M = moderate; L = low

Difficulty: E = easy; M = moderate; D = difficult

Condition: G = good;

6.0 ASSESSMENT OF TRAIL PLANNING ISSUES AND CONCERNS

This section presents the known issues and factors that have influenced West Bragg Creek trail planning as well as a proposed response. Those issues and concerns in section 6.1 are associated with trail users and were gathered from knowledgeable individuals familiar with the plan area as well as from Plan Advisory Committee (PAC) members through brainstorming and discussion.

6.1 Trail User Issues and Concerns

6.1.1 Winter

- Winter ski conditions can be inconsistent and heavily influenced by Chinooks. A strong emphasis should continue to be placed on maximizing snow retention on winter trails especially during low snow periods.
- Existing ski trail system lacks consistent %easy+loops close to parking lot to serve novice skiers which are numerous here.
- Skate skiing has grown in popularity but most existing ski trails are not wide enough to accommodate both skate and track skiing.
- Telephone Loop is currently the only longer, more difficult trail offering a %backcountry+ski touring experience. There are also some areas along the lower slopes of Moose Mountain that offer a %backcountry+type of ski trip. These could be further assessed to determine feasibility and desirability.
- There are several safety issues to be addressed on the east side of Telephone Trail. The seeps and wetland on the north and northwest side of Telephone Loop are limiting factors for summer and in most winters due to ice flows.
- Winter equestrian and pedestrian use should probably continue to be mainly restricted to the Mountain Road or other areas in the Elbow Valley. If summer trails are approved and developed in West Bragg, some of these may serve winter hikers and riders.
- The wide range of recreationists can lead to some conflicts. Better communication to all trail users about opportunities and restrictions with explanations is important. This will include dog walking opportunities.
- Trail recreation in this multiple use forest setting will see changes in order to minimize negative impacts and conflicts as well as maximize any opportunities as a result of the other activities (eg. Timber harvesting).
- Inadequate annual trail maintenance leads to brush encroachment, overhanging trees intercepting snowfall and more serious drainage problems and conflicts.
- Snowshoeing has recently soared in popularity at West Bragg but there are currently no marked trails to provide good opportunities that minimize wildlife impacts and conflicts with other winter users.
- Few visitors appear to stop and read trailhead information currently. More effective %share the trail+messages are needed as well as clear direction in winter to equestrian, pedestrian and snowshoers.
- The lack of periodic %visitor satisfaction+surveys may be limiting management response.
- The existing parking lot is filled to capacity on several days a year and, in future, additional parking capacity may be required. This could be accomplished by minor widening of the parking lot access road in close proximity to the parking lot to provide additional parking on the road shoulder.
- The ski trails are impacted by occasional illegal off road vehicle use. Better signage, physical blockage, monitoring and enforcement are needed.

6.1.1 Summer

- West Bragg Creek is popular year round for diverse trail uses but currently lacks sustainable summer trails. This creates undesirable impacts on wetlands and riparian areas and results in lower enjoyment.
- Currently there is no designated, sustainable summer trail that links West Bragg to Allen Bill Pond. The existing connector (Mountain Road) to Tom Snow Trail to the west, is an industrial access. As well, there are currently no sustainable summer loop opportunities for mostly shared use (hiking, biking and equestrian). South and west facing ridge slopes and ridge tops appear to offer the best potential for routing of summer trails. Ridges near West Bragg with potential include Telephone, Moose View, Boundary and Ranger (see Map 4)
- existing ski bridge at south end of Moose Loop directs summer users into sensitive and hazardous wetland and needs to be addressed.
- during hunting season (mid September to end of November), non hunters feel some increased risk from firearm use. Also, animal remains have become bear attractants on occasion. Sunday hunting was allowed in this area in 2009 by a change in regulations.
- Wet sections of ski trails are impacted by cattle in the summer.

6.2 Existing and Potential Environmental Impacts

Those topics associated with environmental impacts were gathered from the available literature as well as input from knowledgeable people (e.g. SRD Wildlife Biologist, Parks trail maintenance staff). Topics include watershed, vegetation, wildlife and environmental impacts, in the plan area.

Environmental Component	Existing or Potential impact	Potential Mitigation
Water and Fish	Reduced water quality in water bodies wetlands, tributaries, streams, and creeks from: <ul style="list-style-type: none">• damage to riparian zone and wetlands;• stream crossings;• erosion and surface run-off from trails; and• erosion and surface run off during construction• disturbance during spawning or other sensitive periods. <ul style="list-style-type: none">• Existing seeps, wet areas or stream fords will be larger concern in summer.	-Erosion and sediment control measures (document in environmental protection plan) -Rerouting/structures to avoid damage/sedimentation of water courses and water bodies - Two tributaries of Bragg Creek on Tom Snow Trail should be assessed to see if bridges or other measures are required. -Avoid or minimize use of riparian areas -limit and/or concentrate crossings -observe fish windows+and other best practices/requirements. - those existing trails recommended for designation as summer trails will need drainage upgrades.
Plants and Plant Communities	loss or alteration of plant communities, rare communities (ANHIC*), rare plant species or ecosites or areas of high biodiversity (eg. Grasslands, shrubs, deciduous) from: <ul style="list-style-type: none">• trampling;• trail construction;• weed invasion or pollinator disruption.	-Identify and avoid plant communities considered sensitive or rare (ANHIC) and through ecosites mapping. - locate trails on drier sites. -Implement a Environmental Construction Operation (ECO) plan and Construction management plan (control weeds)

Wildlife and Wildlife Habitat	loss or alteration of wildlife habitat from: <ul style="list-style-type: none"> • vegetation trampling; • snow compaction • trail construction; and • weed invasion. 	Avoid areas identified as important habitat for wildlife <ul style="list-style-type: none"> • see previous HSI modeling for key species, • work with SRD biologist to address concerns re Moose Loop wetland or other sensitive areas (eg. movement corridors, winter or other key habitat).
	Sensory disturbance of wildlife and possible habitat avoidance from <ul style="list-style-type: none"> • increased users; • night use; • fragmentation from higher density of trails and fewer secure habitat patches • sandwiching+of good habitat by trails on both sides. 	Limit the total interspersation of trails in the landscape or concentrate along trails zones+ Avoid areas identified as important habitat patches for wildlife Consider temporal restrictions to reduce impacts during critical times.
	Increased wildlife-human encounters and conflict (bears, cougars, moose)	Ensure trail location and design minimizes surprise encounters Public education on wildlife awareness and avoidance of encounters <ul style="list-style-type: none"> • signage • web sites • temporary closures
	Wildlife Mortality from: <ul style="list-style-type: none"> • conflicts with humans 	Sensitive timing of construction to avoid critical time periods for fish and wildlife (e.g. breeding or calving season)
	Impacts to rare or endangered species, provincially identified under the Status of Alberta Wildlife, or under the Wildlife Act, or species listed under the Species at Risk Act or by COSEWIC	Collection information on the potential for species occurrence within West Bragg from: <ul style="list-style-type: none"> • distribution maps, field guides • FWIMS search • Local naturalists Identify areas of high habitat potential for the species

*Alberta Natural Heritage Information Centre

6.3 EXISTING AND POTENTIAL LAND USE CONFLICTS WITH TRAIL USE

Those other land use activities in the plan area that potentially can conflict with trail activities include cattle grazing, timber harvesting and petroleum activities. Existing or potential conflicts and possible mitigations were gathered from the local grazing permittees, Spray Lakes Sawmills, SRD Forest Protection Specialist (FireSmart program) and Shell as well as trail users.

Potential conflicts or concerns will be addressed at the detailed plan stage by the trails proponent. The proponent will work with other stakeholders to present the proposal for review and identification of issues and concerns. All stakeholders will be required to actively engage with the proponent in a timely and collaborative manner to try and identify and resolve all concerns. All concerned stakeholders must be actively engaged in the process to resolve issues. The

proponent will then provide written documentation to SRD with concerns that were identified by stakeholders and what mitigative measures were mutually agreed to by the stakeholders and trail proponent.

One example of a past mitigative measure is the installation of a gate or ~~walk~~ through where a trail crosses an existing cattle fence. A second example is the integration of a logging road or bridge into a trail system after logging is complete.

Mitigative measures typically would follow standard practices (e.g. those identified in the Kananaskis Country Trail Standards Manual) in this area.

Official trails that will be impacted by logging or petroleum development will either be rerouted or temporarily closed (if no other course is feasible) and subsequently put back in working condition by SLS or the petroleum company, once the logging or development is complete.

If any conflicts or concerns remain unresolved then the Area Manager, Southern Rockies of SRD will make the final decision in consultation with the Regional Manager of Alberta Tourism Parks and Recreation (Kananaskis Country).

The Greater Bragg Creek Trails Association will be included on the list of stakeholders by Spray Lakes Sawmills (SLS) to ensure that they can provide relevant comments on the SLS General Development Plan and Annual Operating Plan. A similar mechanism should be developed between the Greater Bragg Creek Trails Association and the grazing community as well as petroleum interests.

Type of Land Use	Existing or Potential Conflict	Potential Mitigations
Grazing	<ul style="list-style-type: none"> - existing WB parking lot in key part of grazing lands - increased recreation use in primary and secondary range tends to reduce grazing carrying capacity and increase unwanted cattle movements - damaged fences or gates left open also lead to unwanted cattle movement - lack of proper referral or consultation by other stakeholders can disrupt cattle access, movement or utilization. - Introduction of weeds can lead to deterioration of range. - cattle negatively impact trails and watercourses 	<ul style="list-style-type: none"> - work with permittee and SRD to mitigate - avoid or minimize trail presence in these areas - work with SRD and permittees to mitigate - work with permittees to develop effective gates or cattleguards, signage AND required maintenance - ensure timely, effective referrals and communications on special events or proposed changes to trail system and establish collaborative working relationship. - TPR to address this issue along with SRD and permittees where appropriate. - work with TPR and permittees to fix, reroute or close muddy sections of trail. Keep new trails on well drained ground.

Timber Harvesting	<ul style="list-style-type: none"> - existing or potential recreation trails can be physically impacted by timber harvesting. Timing of harvesting operations has major influence on conflict (e.g. avoid busy trail season; weekdays vs. weekends) - temporary road access into cutting areas can lead to increased recreation use including motorized. - SRD indicated that a Community FireSmart Plan is in preparation and this will have implications on existing and future trails at WB. 	<ul style="list-style-type: none"> - Close coordination is required to minimize negative impacts and maximize potential benefits. Trail closures can be minimized; existing poorly located trails may be rerouted to more sustainable locations following harvesting. Scenic quality may improve with more open views etc. - TPR and trail partners to review and comment on all timber harvest proposals. - KC Forest Land Use Zone regulations prohibit vehicle access in West Bragg Creek area. Temporary gates, other barriers, signage and enforcement are used to restrict unauthorized vehicles. - TPR staff, GBCTA and others will ensure that careful review of proposed harvesting plans with a view to minimize negative impacts on trails and maximize potential benefits.
Petroleum (Oil and gas activities)	<ul style="list-style-type: none"> - Exploration, drilling and development require roads/ vehicle access that may impact trail areas. - industrial activities (vehicles, equipment operation, visual, noise, hazardous materials) may lessen quality of recreation experience, create temporary access restrictions or hazards. 	<ul style="list-style-type: none"> - carefully planned road and facility development and use can minimize potential conflicts and, where feasible, provide some recreational benefits. Affected trails may be rerouted or redeveloped nearby. - screening, buffering, minimizing restrictive periods, using best practices to mitigate.

7.0 RECOMMENDATIONS

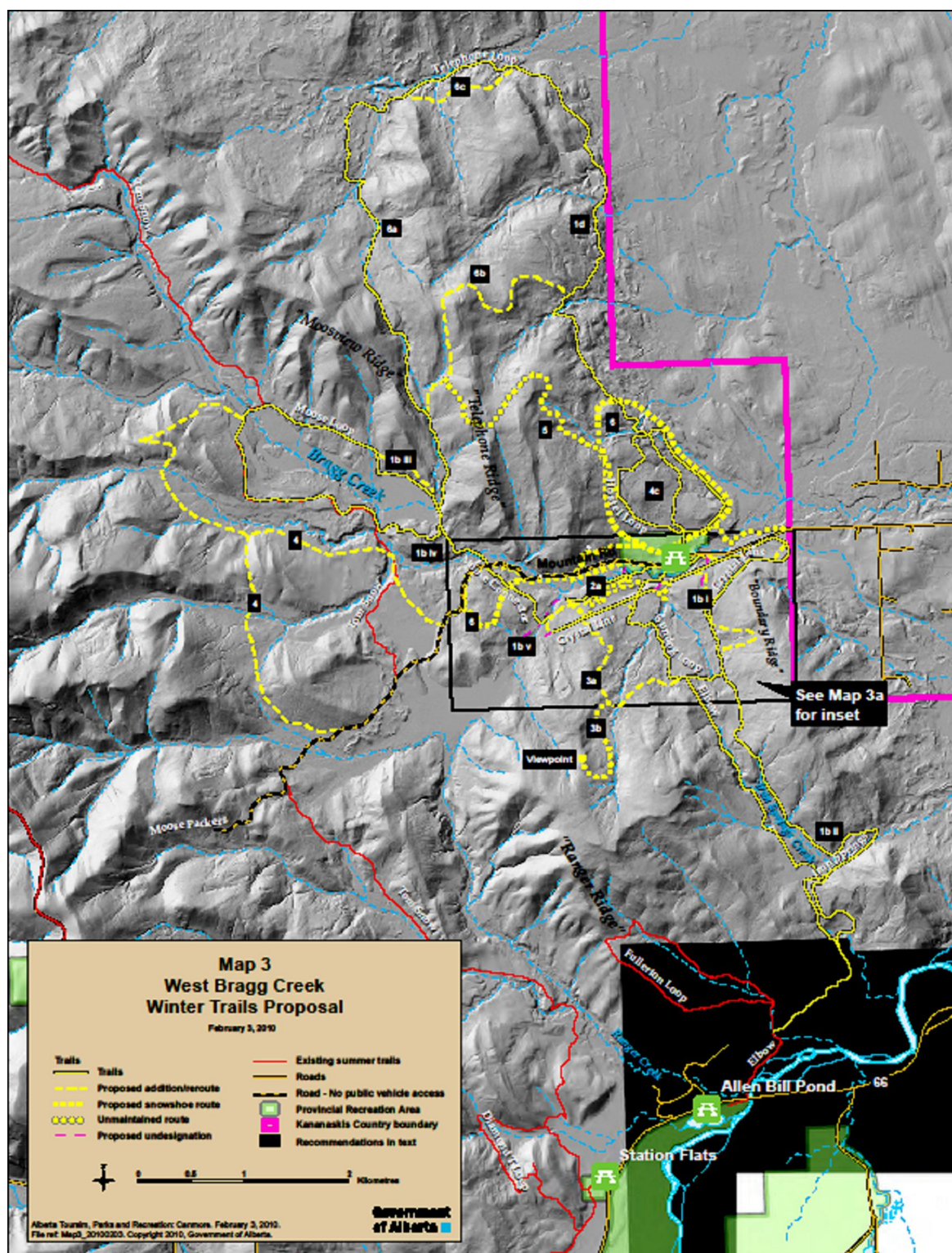
These recommendations were developed by the Planning Advisory Committee based on input from multiple trail users and stakeholders prior to and during the first round of consultation in November and December 2009. This included, for example, several recommendations withdrawn or altered based on wildlife impact concerns by the SRD biologist.

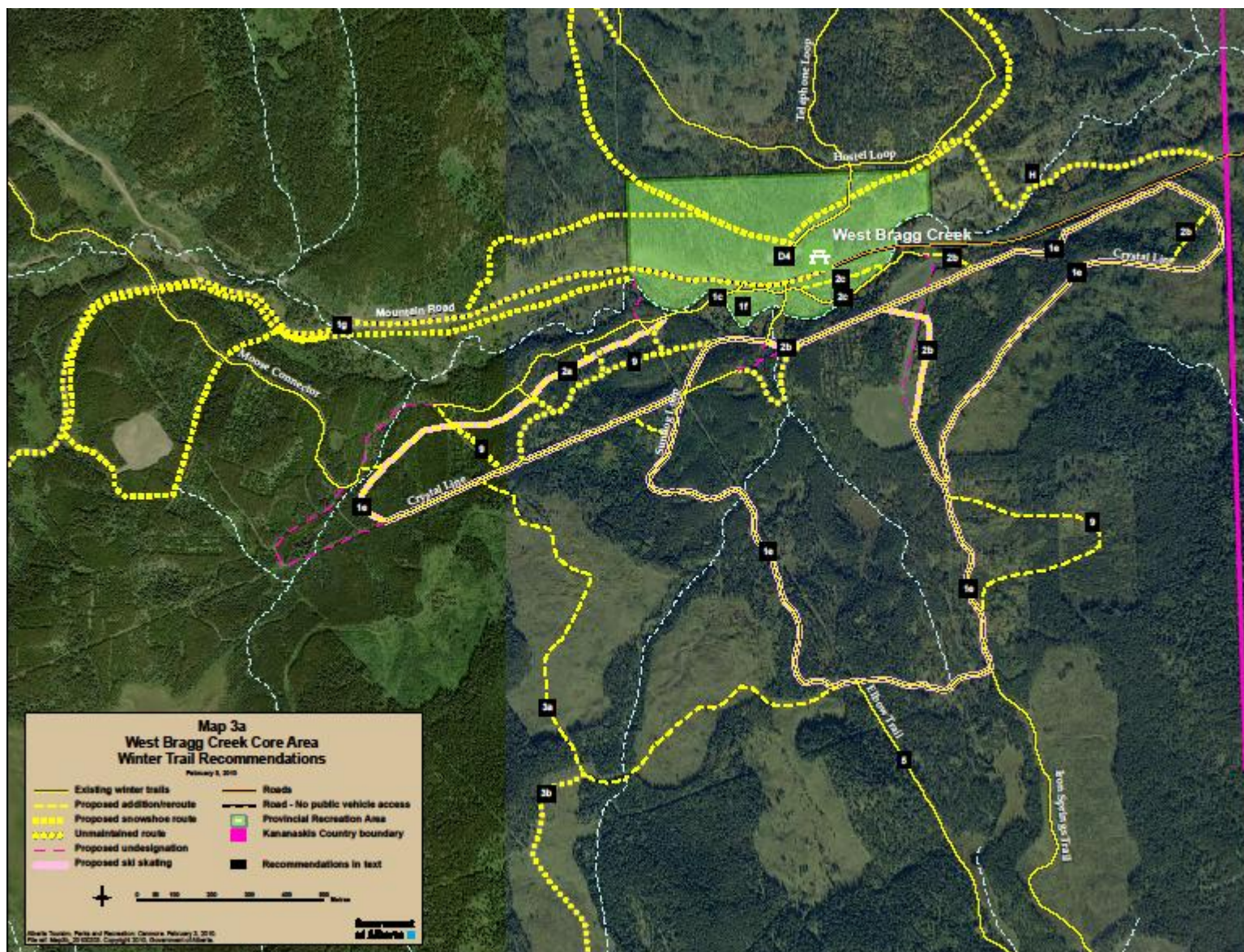
7.1 WINTER TRAILS

1. Upgrade existing ski trails:

- Remove brush and overhanging trees from all trails to provide appropriate width of tread and improved snowfall onto trails. Remove loose rocks, debris and smooth trail surfaces as required.
- Reroute or otherwise mitigate sections of existing trails where snow retention is poor, major drainage issues exist or to reduce wildlife impacts. These include (see Map 3 and 3a):

- i. Northeast section of Sundog Loop traversing the former well site (wind exposure)
 - ii. ~~Sunny corner~~ of Iron Springs Trail approx. 2.8 km south of Sundog junction.
 - iii East side of Moose Loop near Telephone Junction (wildlife and sun exposure).
 - iv South facing steeper grades at 1.3 and 1.5 km marks on Moose Connector
 - v Westernmost .5km of Crystalline which is on/near black spruce bog (poor drainage and wildlife impacts)
- c. Reduce steep grade on approaches and add railings and strip decking to bridge 200 m upstream of parking lot (see Map 3a).
- d. Maintain Telephone Loop as narrower, more difficult, less groomed, two way ~~backcountry~~ ski trail but remove hazards.
 - i. Ensure regular maintenance is carried out including brushing and removal of overhanging trees and deadfall plus repair/replacement of any structures and signs.
 - ii. Determine feasibility of ~~short cut~~ all season trail about half way up loop.
 - iii. Reroute above seeps (ice flows) at north end.
- e. Designate Crystalline and Sundog Loop for skate and double track skiing. Widen to minimum 6 m where necessary; groom and sign.
- f. Establish track set ski ~~learning grid~~ site 150 m southwest of parking lot (Map 3a).
- g. Maintain ~~Mountain Road~~ as main pedestrian, equestrian and dog walking winter route when not required for industrial use.





2. **Develop several “easy” ski trail loops near parking lot (Map 3a).**
 - a. Create easy ~~W~~est Loop+(2 km) using first km of Moose Connector and develop one km new return trail.
 - b. Create easy ~~E~~ast Loop+(2.5km) using east Crystalline plus portion of Sundog: by reducing short steep grades just east of bridge on Crystalline; at east end of Crystalline, and on NE portion of Sundog from old access road.
 - c. Create short loop (.5 km) downstream of bridge closest to parking lot
 - d. Consider additional ~~e~~asy+loop south of Hostel Loop (not mapped)
3. **Add new “moderate” difficulty ski loops where need, feasibility and desirability are established (Map 3 and 3a)**
 - a. Add ~~l~~oggers Loop+(SW of Sundog as it has good snow retention and scenic qualities.
 - b. Add ski tour trail to high viewpoint (may serve as summer trail).
4. **Establish longer “difficult” touring trail west and south of Moose Loop on lower slopes of Moose Mountain.**
5. **Ensure that several routes exist for informal (ie, non-groomed) winter ski, snowshoe or pedestrian use (Maps 3 and 3a).**
6. **Clear and mark several snowshoe loop routes from 2 to 8 km long (Map 3 and 3a).**
7. **Work with SRD biologist and others to identify and address any impacts or concerns caused by existing or proposed trails.**
8. **GBCTA and TPR to determine feasibility of solar powered lights for night skiing on some trails and implement if appropriate.**

7.2 SUMMER TRAILS

All summer trails are shared use and non-motorized unless otherwise noted.

1. **Upgrade existing designated summer trails (Tom Snow, Fullerton Loop, Mountain Road, Diamond T) as required. Designate Moose Packers as official summer trail.**
2. **Upgrade those portions of existing ski trails that are to be designated as summer trails: These include:**
 - i east side of Sundog Loop + Iron Springs + southerly 1.2km of Elbow Trail - to Allen Bill Pond
 - ii east side of Telephone Loop ski trail (5 km)
 - iii west side of Sundog Loop (1.2 km)
3. **Develop designated “Connector Trails” from West Bragg to Tom Snow Trail (north and south), Allen Bill Pond:**
 - i. Summer Moose Connector (above Mountain Road) (2 km) . to Moose Loop north side and Tom Snow north (to Jumpingpound).
 - ii. Mountain Road (2.5km) . to Tom Snow south
 - iii Ranger Ridge (4.5 km)
 - iv Fullerton Loop to Ranger Ridge connector (hiker only) . (.8 km)
 - v East Crystalline (1 km)

4. Develop several loops from 3 to 25 km lengths:

A. North of Parking Lot:

- i Telephone Ridge south (3 km)
- ii Telephone Ridge west (1 km)
- iii Telephone Ridge east (1.5 km)
- iv Telephone Ridge north (3 km)
- v Moose View Ridge (3 km)
- vi Moose Loop ski trail north side (1.8 km)

B. South of Parking Lot:

- i Boundary Ridge (3.2 km)
- ii Snagmore Hill Loops (2.5 km)
- iii proposed links (2) from Tom Snow Trail to Ranger Ridge
- iv Ranger Ridge link to Elbow Trail (2 km)

5. TPR to consider adding trailhead parking to provide access to Fullerton Loop and other approved summer trails. TPR will also work with CMBA to determine feasible connector trail between Elbow Trail and Station Flats or Tom Snow Trail.

7.3 USER INFORMATION AND EDUCATION

1. All signage to Alberta Parks standards.
2. Ensure clear, consistent and readable signage is in place at trailhead, junctions and markers where required. (Remove old signage from those trails not part of official, maintained system or where otherwise inappropriate)
3. Develop appropriate signage for the trail+signage for winter and summer and post at kiosks and trail junctions.
4. GBCTA to work with Kananaskis Country staff towards providing downloadable GPS tracks for official West Bragg Trails on KC website.
5. Determine who has responsibility for old forestry interpretive signs along Sundog and other trails and assess program needs, objectives and priorities. Determine whether there is interest by the Hostelling Association in placing an interpretive sign on Hostel Loop to commemorate former hostel.

7.4 IMPLEMENTATION AND OPERATIONS

1. SRD and TPR will review and provide approval of this plan in a timely manner, which will provide the basis for the issuance of trail development and construction permits. TPR, the GBCTA, CMBA and other trail interest groups will work together and in collaboration with SRD to implement plan priorities in a phased manner as resources permit. Prior to construction, SRD and TPR will also review and provide approval of trail construction details for specific recommendations in this plan, in a timely manner. While new trail construction will adhere to current KC trail standards, the desire by many trail users for a narrower, more natural trail will be respected.
2. TPR, SRD to work with GBCTA, CMBA and other trail interest groups to effectively manage trail infrastructure in West Bragg in relation to other land use activities. TPR and SRD will maintain up to date maps indicating all current official trails. These will be shared with all stakeholders to facilitate planning and so that impacts and conflicts of other land uses on trails can be minimized and, where feasible, some

benefits for trails will be realized. Unofficial trails or routes will not be given this same attention during referral processes.

3. Subject to current rules, a surveillance camera should be installed at the KC boundary cattleguard on the West Bragg Creek road to automatically photograph vehicles including license plate numbers, to assist prosecution of those committing violations and illegal acts.

4. That Kananaskis Country parks staff, aided by the GBCTA and other trail user groups, will provide appropriate annual trail maintenance at the West Bragg Creek Trail System.
5. GBCTA to work with TPR to address existing gaps in user information (eg. counts of vehicles, people etc.) and how best to obtain ~~±~~User Satisfaction and Preference+ information.
6. Work to establish and maintain better and more frequent communication between trail recreationists, government and stakeholders. In particular, the GBCTA, CMBA and TPR staff to review and comment on future proposed timber harvesting plans within or near trails plan area with a view to reducing negative impacts and maximizing benefits for trails.
7. TPR to refurbish West Bragg Trailhead facilities when budget permits. This should include an appropriate number of fixed picnic tables but no firepits. The need for expanded parking capacity to meet demands should be addressed as well as conflict with cattle in and around the parking lot. A new trailhead parking facility should be developed on the north side of Hwy 66 opposite Allen Bill Pond. This should accommodate existing overflow and future increases in summer trail use. The GBCTA should review and comment on proposed designs.
8. TPR and Alberta Transportation to improve maintenance and safety of access road between KC boundary and West Bragg parking lot (eg: dust abatement; posting speed limit).
9. TPR will work with the GBCTA to implement the standard practice weed control policy followed by others in this area for new trails.

List of References

1. Agreement between Minister of Tourism Parks and Recreation and Greater Bragg Creek Trails Association; 2009
2. Alberta Sustainable Resource Development; Kananaskis Country Sub-regional Integrated Resource Plan; 1986.
3. Alberta Tourism Parks and Recreation, Management Plan for Kananaskis Country Provincial Recreation Areas, December 2008 (in preparation).
4. Alberta Tourism Parks and Recreation; Kananaskis Country Trails Manual; 1986 (updated).
5. Elbow River Watershed Partnership, September 2008; Elbow River Basin Water Management Plan
6. Greater Bragg Creek Trails Association; Moose Mountain Environmental Enhancement Grant Application for West Bragg Creek Trails Plan; 2009.
7. International Mountain Bicycling Association, 2004. Trail Solutions . IMBA's Guide to Building Sweet Singlettrack
8. Spray Lakes Sawmills, 2007; Detailed Forest Management Plan

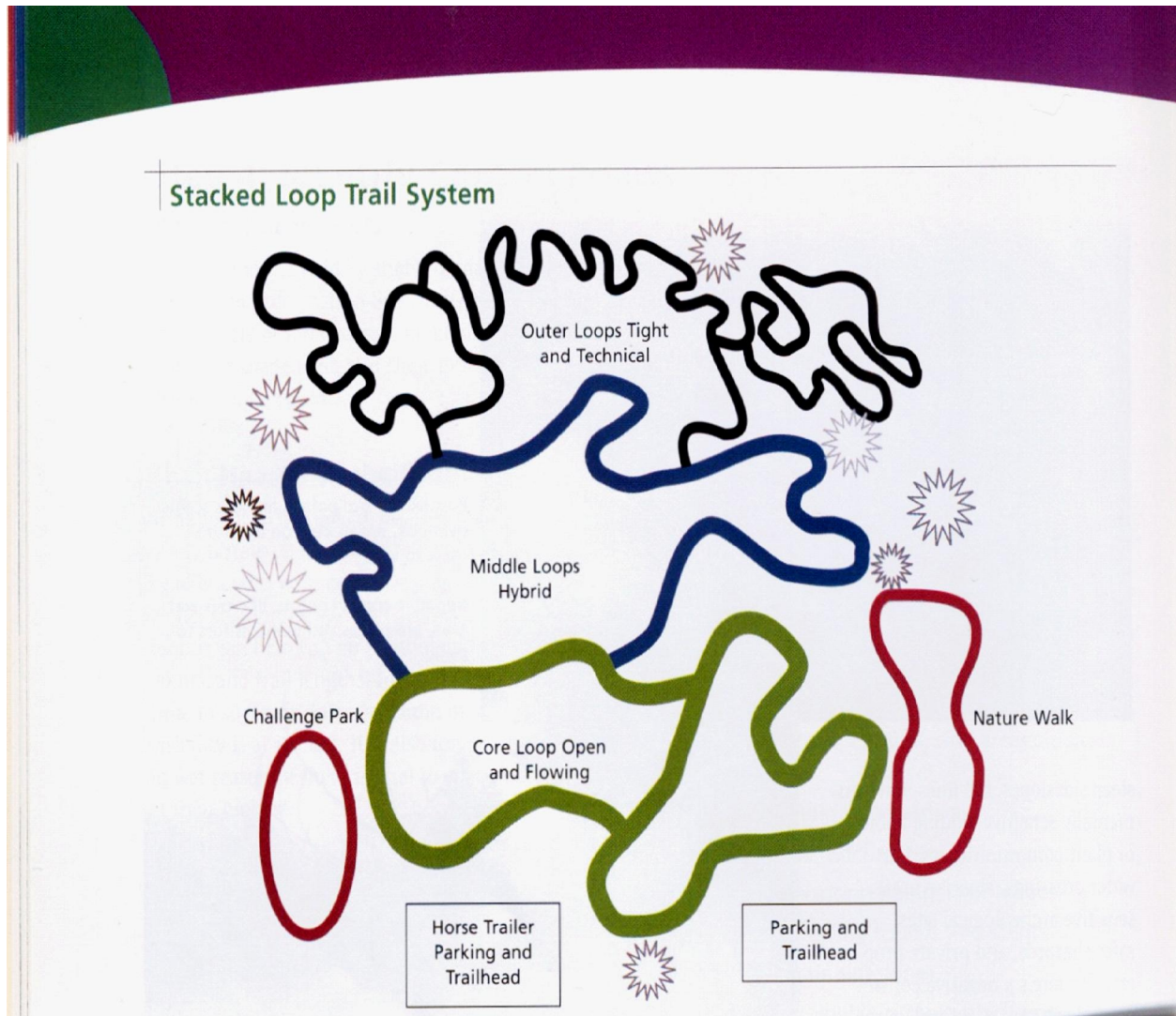
Appendix A - Kananaskis Country Trail Standards

SUMMARY OF TRAIL CLASSIFICATION AND DESIGN STANDARDS FOR: DAY-USE, BACKCOUNTRY HIKING, CROSS-COUNTRY SKI AND SNOWSHOE TRAILS

		CLEARING		WIDTH		GRADIENT		
TYPE AND			HEIGHT	WIDTH	SURFACE		MAX	
CLASSIFICATION	USE AREA	MIN - MAX	MAXIMUM (MIN.)	MIN - MAX	MATERIALS	DESIRABLE	SUST.	SHORT PITCHES
1. <u>Day Use Hiking Trails</u>								
Class I	High use interpretive trails and/ m or high density day-use areas	2.5 - 3.5 m	3.0 m	1.5 - 2.0 m	Introduced	0- 8%	12%	20% - 10
Class II m	Moderate use interpretive trails and majority of day-use areas	1.5 - 2.5 m	3.0 m	0.8 - 1.2 m	Local	0- 10%	25%	40% - 20
2. <u>Backcountry Hiking Trails</u>								
Class I	Access trail to backcountry and m low use trails in major valleys	1.5 - 2.0 m	3.0 m	0.8 - 1.0 in	Local	0- 10%	15%	25% - 15
Class II	Routes beyond main access trails m	1.2 - 1.5 m	3.0 m	0.5 - 0.8 m	Local	0- 10%	25%	50%- 30
Class III m	Wilderness trails with low use	0.8 - 1.2 m	3.0 m	0.3 - 0.5 m	Local	0- 15%	30%	50% - 50
3. <u>Cross-Country Ski Trails</u>								
Class I	Double track ski trails m	4.5 - 5.0 m	3.5 m	3.0 - 4.0 m	Cleared	0- 10%	15%	25% - 15
Class II	Single track ski trails m	3.5 - 4.5 m	3.5 m	2.0 - 3.0 m	cleared	0- 10%	15%	25% - 15
4. <u>Snowshoe Trails</u>								
Class I	Moderate to high use in core areas m	2.0 - 3.5 m	3.5 m	*N/A	Cleared	0- 10%	15%	25% - 15

* When identified for multi-use,
appropriate tread
standards would then be applied.

Appendix B - Stacked Loop Trail Layout Concept



Source: IMBA Trail Solutions Manual, 2004