Black Mountain / sntsk‘il’ntən
Regional Park Management Plan

WESTBANK FIRST NATION

RDCO REGIONAL DISTRICT of CENTRAL OKANAGAN

URBAN systems

Prepared for:

The Regional District of Central Okanagan
1450 KLO Road
Kelowna, B.C., V1W 3Z4

Prepared by:

Urban Systems Ltd.
Contact: Catherine Berris, RPP, RLA, FCSLA
cberris@urbansystems.ca
T: 604 235 1701
F: 604 235 1709
urbansystems.ca

File: 1179.0087.01

October 2016

Acknowledgements

West Bank First Nation
Stephanie Paul
Raf DeGuevara

Regional District of Central Okanagan
Murray Kopp
Wayne Darlington
Brad Ackerman
Sandra Mah

Friends of Black Mountain
Ian Pooley
Robert Hobson
Lou Wierenga
Doreen Wierenga

City of Kelowna
Barb Davidson

Kelowna ogopogo radio club
Todd Davis
Rick Dawdy

Central Okanagan Heritage Society/Friends of Black Mountain
Carol Millar

Central Okanagan Land Trust
Wayne Wilson

Central Okanagan Science Opportunities for Kids
Jennifer French

CRC Developments Ltd.
Jason Wexler

Friends of Mission Creek
Ian Walker

Model Aeronautics Assoc. of Canada
Steve Hughes

Ministry of FLNRO
Josie Symonds

RCMP

Colin Thompson

Doug Marshall

Contents

Appendices

Figures

Executive Summary

Black Mountain / sntsk‘il’ntən Regional Park is located in the Okanagan region of British Columbia within traditional Syilx territory. The park has regionally and nationally significant ecological values. The land feature known as Black Knight Mountain forms the signature landform on Kelowna’s eastern horizon.

This is the largest park in the Central Okanagan’s regional park system. Because of the rare grassland ecosystems, nearly 130 hectares were gifted to the Regional District of Central Okanagan through Environment Canada’s Ecological Gifts Program. Another 121 hectares are held under a 30-year license of occupation from the Crown, and the remaining 259 hectares were acquired through a fee simple purchase.

The Regional District of Central Okanagan, in partnership with the Westbank First Nation (WFN), initiated the preparation of a Park Management Plan for the Black Mountain / sntsk’il’ntən Regional Park in 2015. The purpose of the Park Management Plan is to provide guidance towards the future development, operation and stewardship of the Black Mountain / sntsk’il’ntən Regional Park. The Park Management Plan includes the following:

- Park management objectives, priorities and actions
- A conceptual park development plan
- A 20-year phased implementation plan

Community engagement for the Park Management Plan began in June of 2015 and included a stakeholder workshop at the beginning of the process, and presentation of plan options, along with a hard copy and online comment form, at an open house in September 2015. Consultation with WFN and stakeholders took place throughout the process

Vision

Black Mountain / sntsk'il'ntən Regional Park is a regionally significant park where the protection of ecosystems and biodiversity is balanced with respectful recreation, allowing people to experience the beauty and tranquility of nature and the spectacular views of the Okanagan. The park is a sanctuary for wildlife near the city, and a living classroom that teaches appreciation of our natural and cultural heritage.

Goals

Conservation and Environment

Protect and enhance ecosystems to support a diverse community of native species.

Recreation and Outdoor Experiences

Provide opportunities for various forms of recreation that are in balance with conservation objectives.

Interpretation and Awareness

Raise awareness and provide learning opportunities in relation to the park's ecosystem and heritage values.

Stewardship and Partnerships

Establish models of park management that are unique to the co-management approach and the unique features of this park.

Operations Safety and Security

Anticipate and mitigate risks to park visitors, resources and stakeholder assets.

Five management zones are proposed for the park, ranging from Special Preservation to Parks Services. The following principles guided the preparation of the overall preferred plan:

- Incorporate existing trails into the park network where appropriate to reduce capital costs and impacts to sensitive ecosystems and cultural resources
- Anticipate desire lines and provide trails to points of interest to reduce additional user-created trails
- Identify opportunities to implement ecological restoration of trails that have limited recreation value to the overall network
- Link key park access points and provide loops where possible and appropriate
- Create alternative routes to the summit of Black Mountain to allow for different experiences and skill levels
- Protect sensitive ecosystems from grazing impacts with fencing

1 Introduction

Concept plans options and preferred plans are provided for the overall park, Black Mountain Summit, and the Swainson Road entry. Priorities and actions to address park management challenges are identified. The implementation plan lists the budgets required for capital works and staff resource allocations over the next 20 years.

1.1 Background

Black Mountain / sntsk'il'ntən Regional Park is located in the Okanagan region of British Columbia within traditional Syilx territory. The park has regionally and nationally significant ecological values, containing 25 distinct ecosystem communities, of which 17 are rare and or endangered. There are also important archaeological and cultural resources within the park. The land feature known as Black Knight Mountain forms the signature landform on Kelowna's eastern horizon. With a current area of 525 hectares, this is the largest park in the Central Okanagan's regional park system.

Of the ecosystems found in the park, the most notable and unique are the grasslands. The western portion of North America was dominated by grasslands prior to the arrival of European settlers. For over a century, this signature ecosystem of the west was underappreciated and transformed on a grand scale through grazing and development until it became rare and many of its key species endangered. Only more recently, grasslands have become recognized for their ecological significance and rugged beauty, and efforts have emerged to restore and protect these landscapes. The grasslands of Black Mountain/ sntsk'il'ntən are a living legacy of the Okanagan's cultural and ecological heritage and will help build awareness and appreciation in the region about the significance of grassland ecosystems as a whole.

Prior to becoming a regional park, the Black Mountain area was rangeland for grazing cattle, and it was used informally by local naturalists and outdoor recreation enthusiasts for hiking, horseback riding, and motor-biking. In 2007, the Regional District of Central Okanagan (RDCO) identified the area as a priority for parkland acquisition, and a year later engaged the Westbank First Nation (WFN) to work cooperatively with the RDCO on securing the land. The two jurisdictions intend to co-manage the park.

Because of the rare grassland ecosystems, nearly 130 hectares were gifted to the Regional District of Central Okanagan through Environment Canada's Ecological Gifts Program. Another 121 hectares are held under a 30-year license of occupation from the Crown, and the remaining 259 hectares were acquired through a fee simple purchase.

The purpose of the RDCO's regional park system is to establish and conserve areas that represent the complete range of regionally significant natural environments and establish regional parks that protect natural environments that are underrepresented. Black Mountain / sntsk'il'ntən Regional Park contains ecosystems that are not yet represented in the regional park system.

The Regional District of Central Okanagan, in partnership with the Westbank First Nation, initiated the preparation of a Park Management Plan for the Black Mountain / sntsk'il'ntən Regional Park in 2015. The purpose of the Park Management Plan is to provide guidance towards the future development, operation and stewardship of the Black Mountain / sntsk'il'ntən Regional Park. The Park Management Plan includes the following:

- Park management objectives, priorities and actions
- A conceptual park development plan
- A 20-year phased implementation plan

1.2 Regional Context

Black Mountain/ sntsk'il'ntən Regional Park is located east of Kelowna and north of Highway 33 (**Figure 1: Context Map**).The park encompasses the summit of Black Mountain, which reaches an elevation of 1284 metres, forming the most prominent landmark on Kelowna's eastern horizon.

The 525-hectare park is largely undeveloped and is home to rare grasslands, birds, and wildlife. The park is located within the Interior Douglas-fir (IDF) biogeoclimatic zone, and contains two variants: Okanagan Very Dry Hot (IDFxh1) and the Shuswap Moist Dry Warm (IDFmw1). The steep escarpment of the Black Knight summit and the rolling western slopes are underlain by dacite bedrock formed during volcanic activity tens of millions of years ago.

To the west are new and rapidly growing suburban neighbourhoods, private golf courses, and the Gopher Creek flats where the Black Mountain Irrigation District (BMID) plans to construct a reservoir in the future. Much of the eastern park border interfaces a private cattle ranch where animals graze and move without restriction in and out of the park. The south summit of Black Mountain rises near the southern park border, surrounded by privately-owned grasslands that slope gently toward Highway 33. Between the southern park boundary and highway are two gravel pits and associated access roads.

Although the park is not officially open, nearby residents have visited and recreated on and around Black Mountain informally for many years. The easiest route to the summit is via the Forest Service gravel road that can be accessed from Pyman Road. This route has enabled recreation access by hikers and off-road vehicle users likely since its construction in the early 1950s. The summit affords breathtaking views of the Okanagan Valley and prominent landmarks including Layer Cake Mountain, Big White, and Little White peaks.

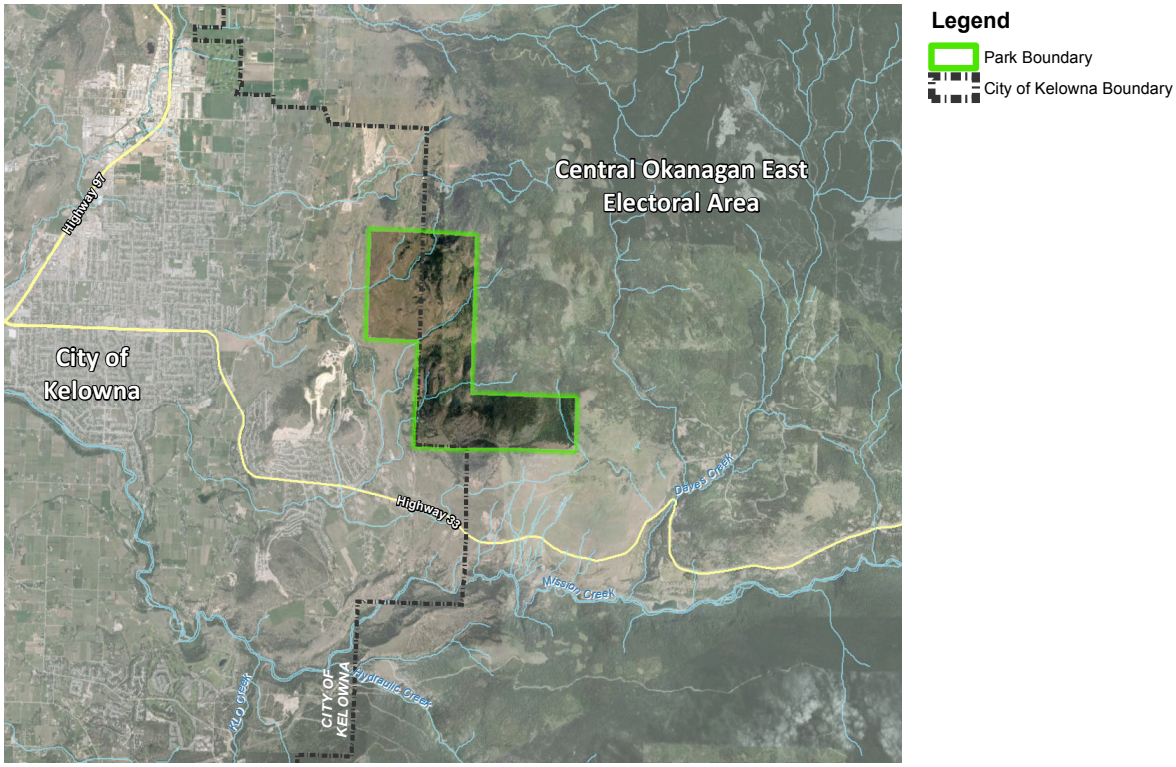


Figure 1: Context Map

An undeveloped City of Kelowna neighbourhood park named Tower Ranch Hillside Park is located along the northern border and will offer opportunities for shared access and management, staging, and trail connectivity in the future. In the southwestern corner of the regional park, a rough road provides a convenient access route into the heart of the park as well as possibilities for future connectivity with the Gopher Creek Linear Park and public trails proposed as part of the BMID reservoir project. The proposed western entry from Swainson Road will be accessible to visitors via a winding road through large private acreages with orchards and hobby farms.

1.3 Research and Policy Context

A number of background studies and reports provide information on the environmental conditions and development opportunities in and around the regional park. The most relevant documents to the Park Management Plan are presented in chronological order as follows (**Appendix A** contains a full list of resources):

Official Regional Park Plan (Bylaw #884), 2000 – Adopted by the Regional Board in 2000, Bylaw #884 identifies the Regional District's purpose "to establish and conserve a network of regional parks and trails which represent the complete range of regionally significant

natural environments that are within the Okanagan Valley", "provide opportunities for outdoor experiences and activities that encourage public understanding, appreciation and enjoyment of the region's natural and cultural landscapes while ensuring long term ecological and commemorative integrity of each park or trail." Bylaw #884 lists detailed policies proposed to achieve the Regional District's parks and trails vision for 2020, and outlines the regional parks and trails classification system, stewardship policies to guide regional park establishment, and ongoing management.

The role of the regional park system is to complement and support the municipal and provincial park systems by establishing regional parks that protect natural environments that are underrepresented, as in the case of Black Mountain/ sntsk'il'ntən. Black Mountain/ sntsk'il'ntən has been identified as a Regional Park, which according to Bylaw #884 contain regionally significant features of geology, physiography, vegetation communities, or wildlife habitat, and are larger than 40 hectares. The corresponding development parameters for a Regional Park include passive recreation trails, general open space, unique interpretive facilities, and nature study areas.

A Central Okanagan Regional Parks Legacy Program, 2007 – This document is a ten-year land acquisition strategy that identifies the context and need for increasing preserved greenspace in the Okanagan Valley, including mechanisms and criteria for acquiring regional parkland. The document identifies and maps specific biogeoclimatic zones (ecosystems) that are underrepresented in the regional park system. The "zone gaps" identify four ecosystems including broadleaf woodlands, grasslands, riparian areas and wetlands. Black Mountain/ sntsk'il'ntən is comprised largely of grasslands, making this a high value addition to the regional park system.

Regional Parks and Greenways Plan for the Central Okanagan, 2008 – This plan, produced in 2008, proposes guiding principles for implementation of the regional parks and greenways, defines regional parks and greenways within the context of other park space, and outlines the following characteristics for regional parks and greenways: "Central Okanagan Regionally Significant Areas are geographic areas that exemplify natural and/or cultural attributes from the region, which are considered important to all the residents of the region. These areas must provide opportunities for appropriate outdoor activities that will attract people from throughout the Central Okanagan". According to the Regional Parks and Greenways Plan,

regional parks should collectively represent a complete range of the area's ecosystems. This plan also identifies financial tools for park management and acquisition as well as municipal partners for natural area management and maps of the adjacent municipal park systems.

RDCO Parks Operational Wildfire Protection Plan, 2010 – [B.A. Blackwell and Associates Ltd.] This document maps and prioritizes fuel hazards in the regional park system. Recommendations for fuel hazard reduction treatments are identified along with areas for ongoing monitoring. Photographs of each described fuel type are provided for reference. Estimated treatment costs per hectare are provided for budgeting purposes. The report describes the target stand conditions that are desired based on site ecology.

Proposed Black Knight Mountain Regional Park Acquisition Plan, 2010 – [Integrated Pro Action Group] The park acquisition plan presents a rationale for acquiring two parcels of land in the Black Mountain area, and identifies management principles, goals and actions for the new park. The plan outlines steps for implementation, monitoring and evaluation. A cost estimate, stakeholder input, and site maps are included in the appendices. (The two parcels in this plan are different from the ultimate park boundary.)

RDCO Fuel Management Prescription Black Mountain Crown Lands, 2013 – [Cabin Forestry] This is a fuel management prescription for a 129-hectare area including the summit of Black Knight Mountain. The study found the treatment units contain hazardous fuels in the aerial, ladder and surface fuel beds and that the risk of ignition is high. The treatments identified in this prescription are intended to reduce fire behaviour and the risk of crown fire initiation in the immediate vicinity of the interface, thus aiding in protecting the surrounding communities of Joe Rich and Black Mountain. The document contains treatment specifications, as well as operational specifications related to access, site rehabilitation, safety, wildlife tree protection, long-term monitoring, fire prevention, and invasive plant mitigation.

Biophysical Inventory for Black Mountain/ sntsk'il'ntən Regional Park (Biophysical Inventory), 2015 – [Ecoscape Environmental Consultants Ltd.]

The document identifies the following:

- 25 distinct ecosystem communities in the park
- 17 potentially occurring rare vascular plants in the grassland, shrub steppe, open woodland, and wetland communities

- 42 potentially occurring species at risk - Lewis Woodpecker and Great Basin Pocket Mouse observed
- 11 red and 6 blue-listed ecosystems

Plants common to the arid upland park include Douglas-fir, ponderosa pine, trembling aspen, red-osier dogwood, snowberry, Saskatoon, and bluebunch wheatgrass.

The Environmental Assessment and Biophysical Inventory proposes three management zones based on the Official Regional Parks Plan:

- **Ecosystem** - highly sensitive habitats and red-listed communities, regionally significant, require conservation efforts but may support low impact activities like wildlife viewing
- **Natural Environment** - high ecological value, but may be considered for hiking on existing trails, invasive species controlled
- **Outdoor Recreation** - only assigned to the summit, suitable for visitor facilities and restoration

Upcoming Policies

The WFN and the RDCO are currently engaged in the preparation of the Joint Westbank First Nation (WFN) - Regional District of Central Okanagan (RDCO) Sylix Cultural Site Protection Plan. This plan is intended to support an improved understanding between the WFN Chief and Council and the RDCO Board in relation to options leading to a joint management strategy to protect Sylix and Okanagan cultural feature sites located within RDCO Regional Parks. Once this document has been completed, it will provide further guidance to this management plan specifically regarding cultural resources identified in the park .

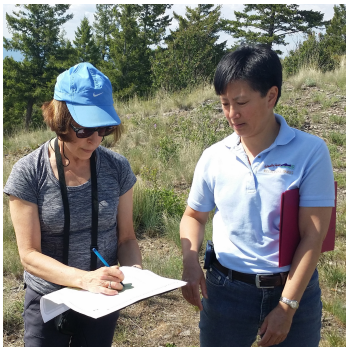
Description of RDCO Park Classification

Black Mountain / sntsk‘il’ntən Regional Park is designated as a Regional Natural Area Park. The Official Regional Parks Plan for the Central Okanagan (Bylaw 884) provides the following description and criteria for this type of park:

General Description

Regional Natural Area Parks provide opportunities for raising awareness and knowledge of the natural environment of the Okanagan Valley. These areas must be regionally significant features of geology, physiography, vegetation communities, or wildlife habitat.

Size Criteria



Feature availability and community interest are the primary determinants of a Regional Natural Area Park. Although an optimal size for a Regional Park is greater than 40 hectares, its actual size should be based on the land area needed to conserve and protect the regionally significant feature affording opportunities for public access and education.

Development Parameters

Regional Natural Area development will be limited to a menu of passive recreation facilities including internal trails, general open space, unique landscape feature interpretive facilities, and nature study areas. User facilities must adhere to sound environmentally appropriate design. Parking lots should be provided as necessary to accommodate user access. Park lighting should be used only for security, safety and lighting facilities with minimal environmental impact.

1.4 Park History

The story of Black Mountain could be said to have begun some 20 to 50 million years ago when volcanic activity in the region formed the brittle dark-coloured dacite bedrock that underlies the park. This period of volcanism, which also shaped nearby Layer Cake Mountain, was followed by significant erosion of the bedrock by an ancient river system. Regional faulting and bedrock-folding events preceded the six glaciation events that have occurred during the past 6 million years. These glaciation events further eroded the dacite bedrock and deposited glacier erratics and floating material from distant locations throughout the landscape.

Named “sntsk‘il’ntən” by First Nations inhabitants, meaning “place where flint is found,” the original people of the Okanagan gathered material for and fashioned stone tools here for many thousands of years before European contact. Although unconfirmed, it is speculated that an isolated outcrop of rhyolite is the likely source of these tools as the dominant dacite is unsuitable for flaking and shaping of tools. It remains possible that the parent rock for this material is very far away, and the tool source could have been transported to the site by glaciers.


Photo Credit: Doreen Wierenga


OKANAGAN HISTORY

Early days of skiing

By ALICE (DE PFYFFER NEAVE) LUNDY
Special to The Daily Courier

In 1946, at the age of 12, I started to ski. To reach the hill, you would drive through Rutland and up McKenzie Road, onto Swainson Road and then up past the two cattle guards to the Wallace Homestead deserted log cabins.

From this parking lot, you hiked up one mile on the switchback logging road to reach the ski hill and, in the late afternoon, you had to come down this same trail to come home.

My skiing debut came when my brother, Charles, took me skiing. I had received my ski equipment for Christmas. This was very special for me as I was going to spend the day with my big brother. When we reached the parking lot at the Wallace cabins, Charles said we would put our skis on there and walk/hike up to the hill. I had never had skis on, let alone hiked anywhere with them. He showed me how to glide and push with the help of the poles along the snow.

"Just like walking. Slide your right ski forward with your left pole planted and pushing and do the same with your left foot."

Easier said than done when you are having a hard time even standing on the planks. It was OK on the flat, but all too quickly we started up the hilly logging road. I either had to learn to do the herringbone step or side step up the hill. I was taking two steps forward and one back. I ended up taking my skis off and trying to carry them and

Contributed
Breakfast on Black Mountain. Deserted log cabins on the old Wallace Homestead became an impromptu ski lodge.

Contributed
Russ Cross and Doug Sutherland
photo from 1942.

when lunchtime came around. In 1948, a beautiful, rectangular ski chalet building with large windows facing the two hills was built. This was a much-needed building for the ever-increasing popularity of skiing in the valley.

The first skiers to reach the hill early in the morning were asked to help "pack" the hill at least once. This meant side stepping on your skis up the hill to the top — no motorized packers in those days.

I eventually graduated from the bunny hill to the big hill with the help of Uncle Max. He decided one day that I was to go over there and he showed me how to get down the hill easily. No sweat, Ha Ha!! Since I was one of a few of the girls who skied on the big hill, my cousin Ralph and Bill Gaddes decided to have some fun one day and make me go to the top. (I was going only to the first stop).

Photo Credit: Doreen Wierenga


Photo Credit: Don Marshall

1893

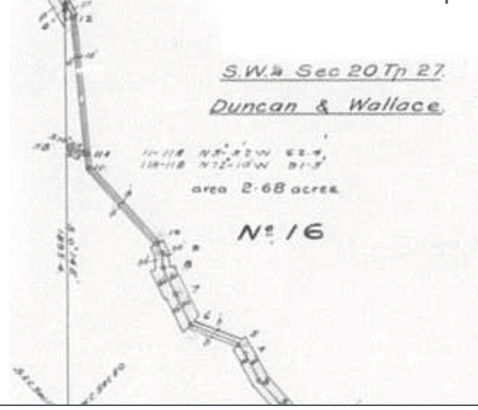
Settlement by Daniel Prather just adjacent to east park boundary. He is said to have chosen the area because the lower elevation land was already taken. He was first to use irrigation here. Ranching, logging, gold panning and hiding outlaws are all part of the park's history. The Pyman family also ranched here, and built a cabin on the west slope of the mountain.

1904

Development in Black Knight Mountain area spurred irrigation works.

1917

Irrigation ditch that crosses present-day park conceived by Belgo-Canadian Fruit Land Company.



1920

Black Mountain Irrigation District (BMID) incorporated under the "Water Act", amalgamating several other irrigation districts into one body. BMID was a subsidiary of the Belgo-Canadian Fruit Land Company. BMID has continued to develop water delivery systems in the area including the irrigation ditches that cross the southeastern portion of the park.

1920's

Preston ski hill near Joe Rich Creek relocated to the western bowl of Black Knight Mountain after World War I as a result of rationed gasoline making it difficult to continue the ski hill operation in Joe Rich. Although snow was sparse, it was used as a ski hill into the 1950s.

1953

All-weather jeep road is completed to the summit for a fire lookout for the British Columbia Forest Service (BCFS).

1954

BCFS tower is constructed. Since then more towers and antenna have followed; BC Telephone, Alpine Radio, Rogers, Telus, and the Ministry of Transportation. All that remains of the BCFS tower is the concrete foundations.

2008

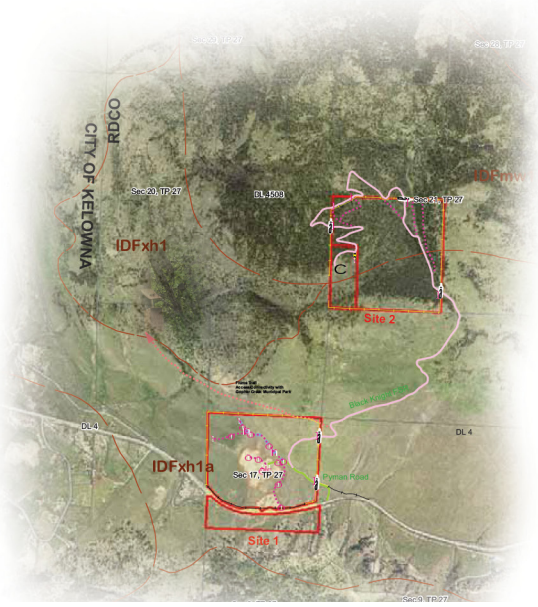
Westbank First Nation was engaged in discussions with the Regional District of Central Okanagan regarding securing Black Knight Mountain as a park. This was the beginning of a co-management model for integrating First Nation and regional district interests within park management.

2014

Current park land was established through a combination of fee simple acquisition, ecological gift, and a 30-year license of occupation on crown land. The 525 ha park was designated as a Regional Natural Area. A baseline biophysical inventory was completed in 2015, identifying the potential for threatened and endangered species to occur and identifies proposed Management Zones.

2007

Black Mountain was identified as a high priority acquisition in the Regional Park Acquisition Strategy.



2010

Proposed Black Knight Mountain Regional Park Acquisition Plan was developed and adopted. The proposed park was composed of two non-contiguous 32 ha parcels; one straddling Hwy 33 (later determined to be incompatible with park use), and the other encompassing much of the access road and Black Knight Mountain summit. The proposed crown land acquisition met the criteria set out in the Official Regional Park Plan (Bylaw #884) and the 2008 Regional Parks and Greenways Plan for the Central Okanagan.

2015

Work on the Black Mountain / sntsk'il'ntən Regional Park Management Plan began.

1.5 Physical Site Description

Black Mountain / sntsk'il'ntən Regional Park is characterized by moderate to steep slopes as well as steep, sculpted dacite outcrops and talus slopes. The summit and kettle-shaped buttes in the southern reaches of the park are vegetated by interspersed grasslands and coniferous forests dominated by Douglas-fir, ponderosa pine, and pinegrass. Large expanses of lichens spread over some rocky outcrops like carpets. In the valleys, the forest canopy is dominated by black cottonwood, water birch, and western redcedar (**Figure 2**).

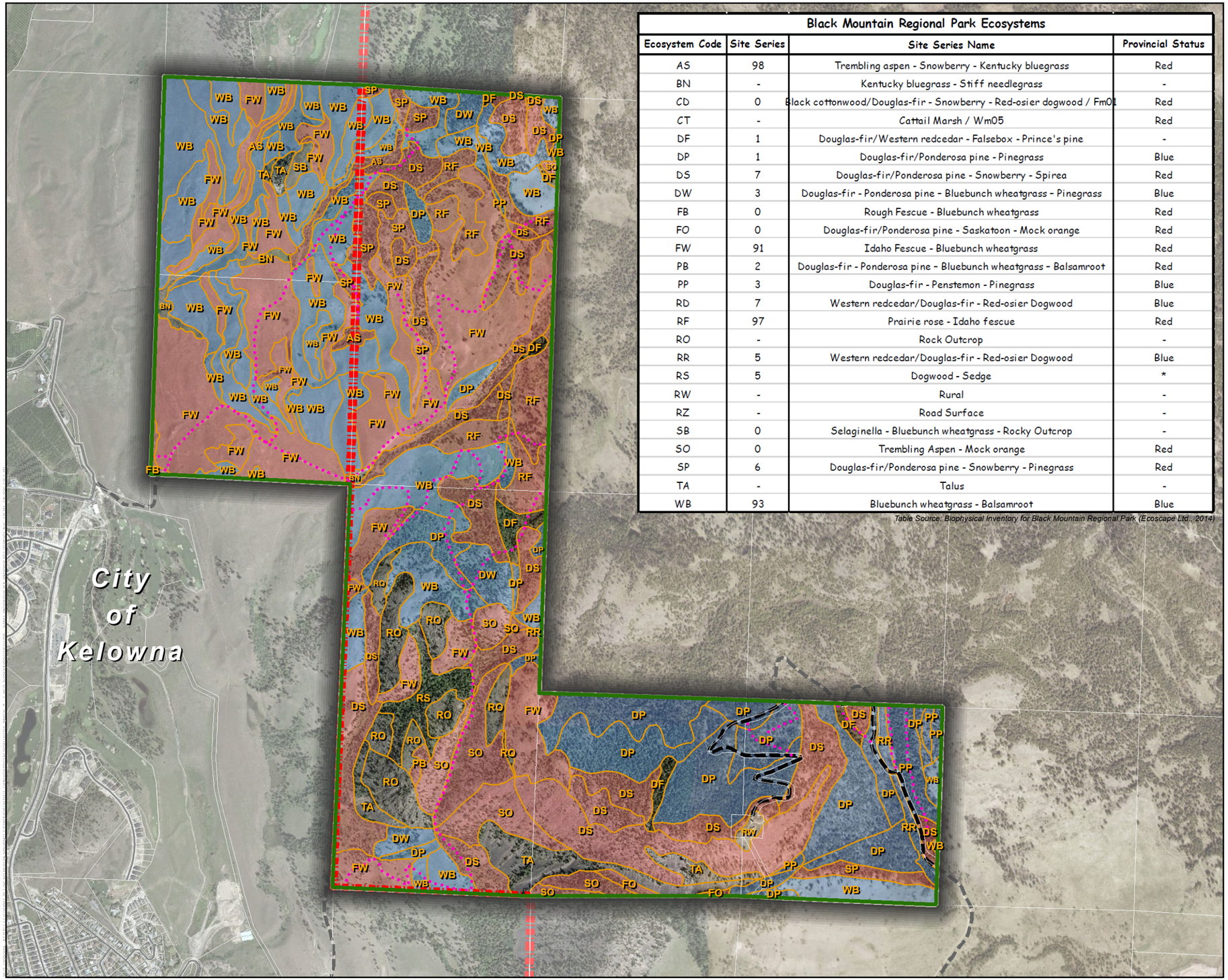
Gopher Creek divides the park with its deep ravine separating the undulating hills to the north from the steep outcrops to the south. Rolling hills of deposited glacial sediments to the north of the summits form a distinctly different landscape character dominated by grasslands. The park is home to numerous red and blue-listed communities including grassland and woodland types.

Sensitivity to disturbance is identified as moderate to very high for the entire park with the majority of the communities being high to very high sensitivity. The grasslands have been disturbed by grazing and agricultural practices, as well as informal recreation including motorbikes.

The park's unique plant communities support diverse wildlife and birds. Deer, black bear and coyote are common sights, and mountain lions are known to frequent the area. Passerine birds include California quail, American robin, pileated woodpeckers, northern flickers, and the ever-vocal Clark's nutcrackers. Raptors including the sharp-shinned hawk, American kestrel, Swainson's hawk, owls and prairie falcons hunt and nest in the park.

Riparian and wetland areas are habitats for amphibians such as frogs and salamanders, while fissures in the rocky outcrops are attractive homes for reptiles. Host plants for rare butterflies including the monarch and common sootywing occur in the park. Two red-listed species, Lewis' woodpecker and the Great Basin pocket mouse, have been observed, while many more have the potential to occur within the unique plant communities. In addition to the numerous charismatic species that can be found (and have the potential to occur), the Rocky Mountain wood tick and Douglas-fir tussock moth are likely residents that pose health and management concerns.

Figure 2: Ecosystem Map



Black Mountain Regional Park Ecosystems

Ecosystem Code	Site Series	Site Series Name	Provincial Status
AS	98	Trembling aspen - Snowberry - Kentucky bluegrass	Red
BN	-	Kentucky bluegrass - Stiff needlegrass	-
CD	0	Black cottonwood/Douglas-fir - Snowberry - Red-osier dogwood / Fm01	Red
CT	-	Cattail Marsh / Wm05	Red
DF	1	Douglas-fir/Western redcedar - Falsebox - Prince's pine	-
DP	1	Douglas-fir/Ponderosa pine - Pinegrass	Blue
DS	7	Douglas-fir/Ponderosa pine - Snowberry - Spirea	Red
DW	3	Douglas-fir - Ponderosa pine - Bluebunch wheatgrass - Pinegrass	Blue
FB	0	Rough Fescue - Bluebunch wheatgrass	Red
FO	0	Douglas-fir/Ponderosa pine - Saskatoon - Mock orange	Red
FW	91	Idaho Fescue - Bluebunch wheatgrass	Red
PB	2	Douglas-fir - Ponderosa pine - Bluebunch wheatgrass - Balsamroot	Red
PP	3	Douglas-fir - Penstemon - Pinegrass	Blue
RD	7	Western redcedar/Douglas-fir - Red-osier Dogwood	Blue
RF	97	Prairie rose - Idaho fescue	Red
RO	-	Rock Outcrop	-
RR	5	Western redcedar/Douglas-fir - Red-osier Dogwood	Blue
RS	5	Dogwood - Sedge	*
RW	-	Rural	-
RZ	-	Road Surface	-
SB	0	Selaginella - Bluebunch wheatgrass - Rocky Outcrop	-
SO	0	Trembling Aspen - Mock orange	Red
SP	6	Douglas-fir/Ponderosa pine - Snowberry - Pinegrass	Red
TA	-	Talus	-
WB	93	Bluebunch wheatgrass - Balsamroot	Blue

Table Source: Biophysical Inventory for Black Mountain Regional Park (Ecoscape Ltd., 2014)

RDCO REGIONAL DISTRICT of CENTRAL OKANAGAN

WESTBANK FIRST NATION

Black Mountain / sntsk'il'ntən
Regional Park Management Plan

Park Ecosystems

Legend

- Ecosystem Boundaries

Ecosystem Provincial Status

- Blue (Of Special Concern)
- Red (Endangered or Threatened)
- Existing Trails
- Park Access
- Park Boundary
- City of Kelowna Boundary

The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.

120 60 0 120 240
Metres

Coordinate System:
NAD 1983 UTM Zone 11N

Scale:
1:15,000

Data Sources:
RDCO
City of Kelowna
Digital Road Atlas
Environmental data provided by Ecoscape

Project #:	1179.0087.01
Author:	BP
Checked:	CB
Status:	FINAL
Revision:	A
Date:	2016 / 3 / 29

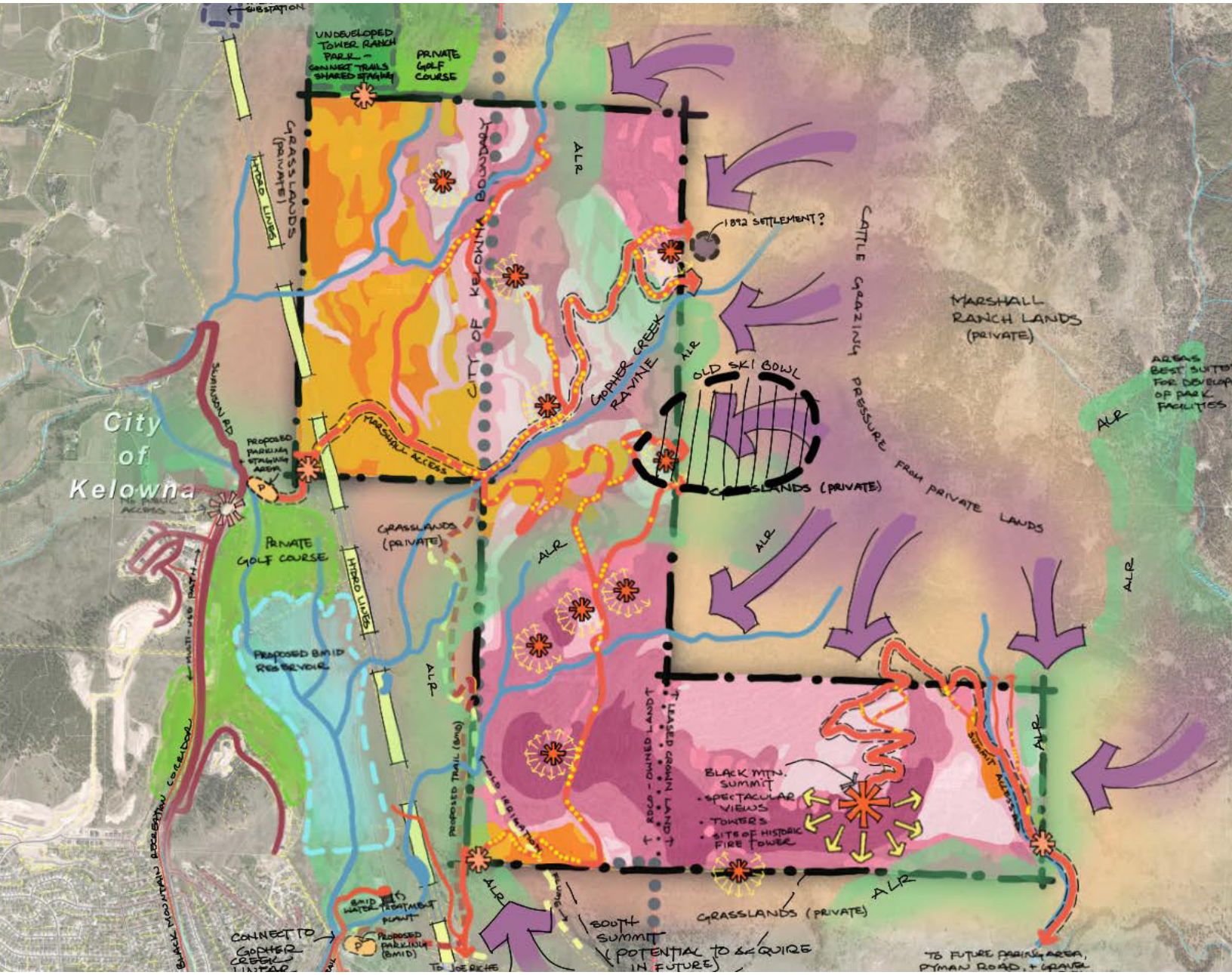
URBAN systems

FIGURE 2

1.6 Site Analysis

Site visits were completed to confirm the current site conditions. Based on this information, a site analysis map was prepared (**Figure 3**). The text below summarizes the key opportunities and constraints for distinct park areas and features. This analysis provides direction for the conceptual plans and management recommendations.

Figure 3: Site Analysis Map



East Access /Black Knight Forest Service Road

Opportunities	Constraints
Presents an existing and well-established route to summit	Road crosses private property outside the park boundary
Grades seldom exceed 18%	Determination of road status is currently on-going
Portions of road are gazetted by BC Forest Service-ensuring public access is permitted	User experience not ideal on a 4x4 road-likely to seek out other routes with better experience/views if not provided
Existing gate discourages unauthorized travel	Road used by tower operators and ranchers, presenting safety concerns
Opportunity for parking /staging area near southern extent of road in partnership with the Ministry of Transportation and Infrastructure (MoTI)	Gate may require replacement in near future
	Road crosses wetland - new crossing is needed
	Potential for cattle access to sensitive areas via this route

Black Mountain Summit

Opportunities	**Constraints**
Views of Okanagan valley are spectacular	Present-day towers dominate the summit area, restricting recreation users to the fringes of the summit
Site has grand southerly views and a protected forest backdrop to the north	Tower operators concerned about vandalism of infrastructure with increased access
Summit has historical and interpretive value as site of former BCFS fire tower	Microwaves from towers have been noted by some as potential safety concerns
Ecological interpretation/learning	Steep bluffs and cliffs present safety concerns to users
	Fire risk
	Road use at the summit by tower operators presents safety concerns

Black Mountain South Face

Opportunities	Constraints
Could provide access to southern summit in future	High environmental sensitivity

South /Joe Rich Road Access

Opportunities	Constraints
Presents an existing and well-established route into interior of park	Road has numerous steep sections (>18%) that are susceptible to erosion
Connects to historic flume route	Route is visibly frequented by cattle making area vulnerable to grazing impacts
Opportunity for a parking/staging area	
Potential to link to Gopher Creek linear park in future	

Old Ski Bowl Area

Opportunities	Constraints
Area is accessed by several existing trails	Existing trails lead onto private property
Area has historical and interpretive values	Most prominent historical feature (lodge foundation) lies just outside park boundary
	Motorized users frequent area – access point is unknown

Marshall Access Road

Opportunities	Constraints
Presents an existing and well-established route into interior of park	District inherited the responsibility of maintaining road and access with land acquisition
Leads to an area that was reported to have been settled in 1890s	Road has numerous steep sections (>18%) that are susceptible to erosion
	Potential for cattle access to sensitive areas via this route

Minor Summits

Opportunities	Constraints
Excellent views of valley to west and south, as well as of Black Mountain	Some existing trails become braided near summits and are misleading to users
Provide satisfying destinations as alternatives to the Black Mountain summit	Users are likely to create trails to minor summits if not provided as they are attractive destinations
Established ridgeline trails provide low-impact access	
Ecological interpretation/learning	

North /Tower Ranch Access

Opportunities	Constraints
Opportunity for a shared parking/ staging area with the City of Kelowna when park is developed	Terrain will limit available space for parking at Tower Ranch Hillside Park - users may be competing for spaces
Opportunity to connect trails to park	Potential for uncoordinated management practices could create impacts on sensitive ecosystems in Black Mountain / sntsk'il'ntən Park
Partnership and collaboration with City of Kelowna through operation maintenance agreement	

West /Swainson Road Access

Opportunities	Constraints
Segment of road right-of-way presents opportunity for parking/staging area	Width of right-of-way constrains development and limits parking capacity, especially for large vehicles and trailers
Existing access road connects into park	Swainson road is narrow, winding, and is reported to cross private land
Utilities for servicing the site are nearby	Residents' concerns about increased traffic on rural road include safety and disturbance
Site is already highly disturbed	Access road crosses private land on both ends of right of way, may require realignment
	Potential for cattle access to sensitive areas via this route

Historic Flume Alignment

Opportunities	Constraints
Established route in park	Actual route does not remain in park boundary, will require clear signage
Area has historical and interpretive values	Flume is not visible in many areas, could be a fall hazard
Alignment connects to other well-established trails to support an interconnected trail network	Potential for cattle access to sensitive areas via this route

North Grasslands

Opportunities	Constraints
Open rolling landscape with excellent views	Open vegetation may encourage trail cutting and braiding
Established trails throughout landscape	Vegetation vulnerable to disturbance and trampling
Prominent glacier erratic boulders throughout the landscape	Fire risk
Ecological interpretation/learning	

Northeast Forests

Opportunities	Constraints
Area is mostly undisturbed	High environmental sensitivity
Promontory points with excellent views	Vulnerable to grazing impacts
Ecological interpretation/learning	Fire risk

Gopher Creek Ravine

Opportunities	Constraints
Area is mostly undisturbed	High environmental sensitivity
Existing trails largely avoid ravine	Vulnerable to grazing impacts
Ecological interpretation/learning	Fire risk

2 Engagement Process Summary

Community engagement for the Park Management Plan began in June of 2015 when stakeholders were invited to a facilitated workshop. The workshop, held at the Environmental Education Centre for the Okanagan (ECCO), was attended by 18 participants representing over 10 organizations. Stakeholders provided valuable input for the park vision, objectives, and amenities to be included in park development. Individual meetings were also held with the Westbank First Nation, City of Kelowna, tower operators and private property owners.

Conservation and protection of the park's unique ecosystems was a top priority of the participants. The need for a well-defined trail network, ecological restoration, and education/ interpretation were also identified as important objectives. Participants identified outdoor recreation activities like hiking, biking, and horseback riding as the most appropriate park uses. The top priorities for park amenities were a multi-use trail system, parking with washrooms and potable water, fencing to restrict grazing, and signage to assist with wayfinding and resource interpretation. A summary of the stakeholder workshop input is in **Appendix B**.

With the direction provided by the stakeholders, the planning team prepared two concept plan options for the entire park, the summit area, and the parking lot/trailhead staging area at the Swainson road entrance. These were illustrated on presentation panels along with the project background, park history, site analysis, and draft guiding statements.

In September of 2015, the concept plan options were presented at an open house held at the ECCO. Participants were asked to provide input on the options through a comment form that was available in hard copy and online. The presentation panels were also posted on the RDCO's website. There were 42 responses to the survey, of which 15 answered all questions. Overall, support for the vision and guiding statements was strong with over 80% of respondents indicating that the vision statement was great or needed only minor revisions. Support was strongest for the concept plan option with minimal interventions and the lightest footprint on the land. The responses were equally divided between the summit concept plan options. For Swainson Parking lot more respondents favored the compact parking arrangement in concept 1. A summary of the survey responses is in **Appendix C**.

Based on the input received, preferred plans were prepared for the overall park plan, the Swainson Road parking area, and the summit; these are presented in section 7.

3 Guiding Statements

3.1 Vision

The vision establishes the overall direction for planning and design of the park. It is based on stakeholder and community input, and is expressed in the present tense since it is hoped that this is how the park will be described in the future.

Black Mountain / sntsk'il'ntən Regional Park is a regionally significant park where the protection of ecosystems and biodiversity is balanced with respectful recreation, allowing people to experience the beauty and tranquility of nature and the spectacular views of the Okanagan. The park is a sanctuary for wildlife near the city, and a living classroom that teaches appreciation of our natural and cultural heritage.

3.2 Goals and Objectives

Goals for the park identify the overall intentions of the management plan. Objectives elaborate upon the goals and provide direction on how goals can be accomplished. The goals and objectives are organized under topic headings.

Goal 1

Conservation and Environment

Protect and enhance ecosystems to support a diverse community of native species.

- Manage ecosystems to be diverse, healthy and resilient.
- Maintain the integrity of regionally significant, rare and endangered species and ecosystems, including grasslands, cliffs, rock outcrops, and forest communities.
- Restore grassland communities.
- Maintain and enhance connectivity between the ecosystems within the park, and connectivity with surrounding protected areas.

Goal 2

Recreation and Outdoor Experience

Provide opportunities for various forms of recreation that are in balance with conservation objectives.

- Establish a well-defined network of trails to accommodate diverse users, including links to multiple staging areas, and large and small loop opportunities.
- Site and design trails and other park improvements to protect sensitive ecosystems from disturbance.
- Provide public amenities that support visitor enjoyment and environmental protection, considering wayfinding, garbage management, dog management, and rest opportunities.
- Design the mountain summit to maximize opportunities for viewing, relaxing, and walking.

Goal 3

Interpretation and Awareness

Raise awareness and provide learning opportunities in relation to the park's ecosystem and heritage values.

- Encourage community appreciation of the park's resources and the importance of respecting and protecting them through information provided on signs, websites, and other materials.
- Prepare in-park interpretation and outreach education programming to build community understanding of Black Mountain / sntsk'il'ntən's ecological and heritage values.
- Incorporate local culture and sense of place in the design of amenities.

Goal 4

Stewardship and Partnerships

Establish models of park management that are unique to the co-management approach and the unique features of this park.

- Continually evolve the roles, responsibilities and opportunities offered by the co-management approach.
- Establish and implement a fire management plan, including a public awareness component.
- Establish and implement a cattle management plan that respects the natural movements of large and small mammals that inhabit the park and surrounding areas.
- Establish, implement, and monitor a dog management plan.
- Continue to work with landowners and leaseholders with rights within and around the park on park access, management of park resources, and respect for the rights of all stakeholders.
- Continue to work closely with the City of Kelowna on planning of staging areas and integration of the new park with City parks and trails.
- Continue to work closely with the MoTI on planning and coordination of park access and parking lot staging.
- Continue to build and maintain strong working relationships with School District #23 (e.g., Rutland Senior Secondary and Rutland Middle School), and Friends of Black Mountain.

Goal 5

Operations Safety and Security

Anticipate and mitigate risks to park visitors, resources and stakeholder assets.

- Plan and design amenities to minimize interactions between vehicles and park visitors.
- Provide information on the relative accessibility of trails (ratings) at key staging areas.
- Monitor and manage resources with regard for safety, e.g., fuel management, hazard tree removal, maintenance of fencing, public notices regarding risks.
- Construct and maintain safety railings adjacent to steep drop-offs.
- Work with tower operators to manage facilities and visitor use to minimize potential disruption of infrastructure.
- Monitor and maintain works that direct the public away from environmentally and culturally sensitive resources.

4 Concept Plans

4.1 Overall Park Plan

The Five management zones proposed for the park are described below **(Figure 4)**:

» **Special Preservation**

- Associated with the most sensitive and valuable cultural resources

» **Ecosystem**

- Associated with the most sensitive habitats
- Regionally significant critical habitats for sensitive species
- Require conservation efforts to mitigate disturbance

» **Natural Environment**

- Associated with high ecological value
- Critical habitats to be protected
- Limited recreation opportunities provided
- Disturbed areas restored and invasive plants controlled

» **Outdoor Recreation**

- Previously disturbed
- Candidate for restoration
- Suitable for signage, benches, and other visitor facilities

» **Parks Services**

- Areas dedicated to park service delivery such as parking and washrooms
- Associated with staging areas outside park boundaries

Two concept plan options for the overall park plan were prepared and presented to the community during an open house and on the RDCO's website **(Appendix D)**. Input on the options was synthesized into an overall preferred concept.

The following principles guided the preparation of the overall preferred plan (**Figure 5**):

- Incorporate existing trails into the park network where appropriate to reduce capital costs and impacts to sensitive ecosystems and cultural resources
- Anticipate desire lines and provide trails to points of interest to reduce additional user-created trails
- Identify opportunities to implement ecological restoration of trails that have limited recreation value to the overall network
- Link key park access points and provide loops where possible and appropriate
- Create alternative routes to the summit of Black Mountain to allow for different experiences and skill levels
- Protect sensitive ecosystems from grazing impacts with fencing

The preferred concept proposes the addition of 5.7 kilometers of new trails, decommissioning and ecologically restoring over 3 kilometers of trails, bringing the total network length to just under 30 kilometers. The table below shows the breakdown of trail types and lengths in the network.

Trail Network Overview

Trail Type	Length (m)
Existing	**24,147**
Decommissioned Road	3,318
Hiking	5,222
Multi-Use Trail	8,454
Restricted Vehicle and Multi-Use	7,153
Proposed	**5,791**
Hiking	5,553
Multi-Use Trail	238
Grand Total	**29,938**

RDCO REGIONAL DISTRICT of CENTRAL OKANAGAN

WESTBANK FIRST NATION

Black Mountain / sntsk'il'ntən
Regional Park Management Plan

Park Management Zones

Legend

- Existing Trails
- Park Access Road
- Park Boundary
- City of Kelowna Boundary

Park Management Zones (boundaries are approximate)

- Ecosystem
- Natural Environment
- Outdoor Recreation
- Parks Services (Swainson Road Parking Area)
- Special Preservation

The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.

120 60 0 120 240
Metres

N

Coordinate System:
NAD 1983 UTM Zone 11N

Scale:
1:15,000

Data Sources:
RDCO
City of Kelowna
Digital Road Atlas
Environmental data provided by Ecoscape

Project #:	1179.0087.01
Author:	BP
Checked:	SM
Status:	FINAL
Revision:	A
Date:	2016 / 5 / 24

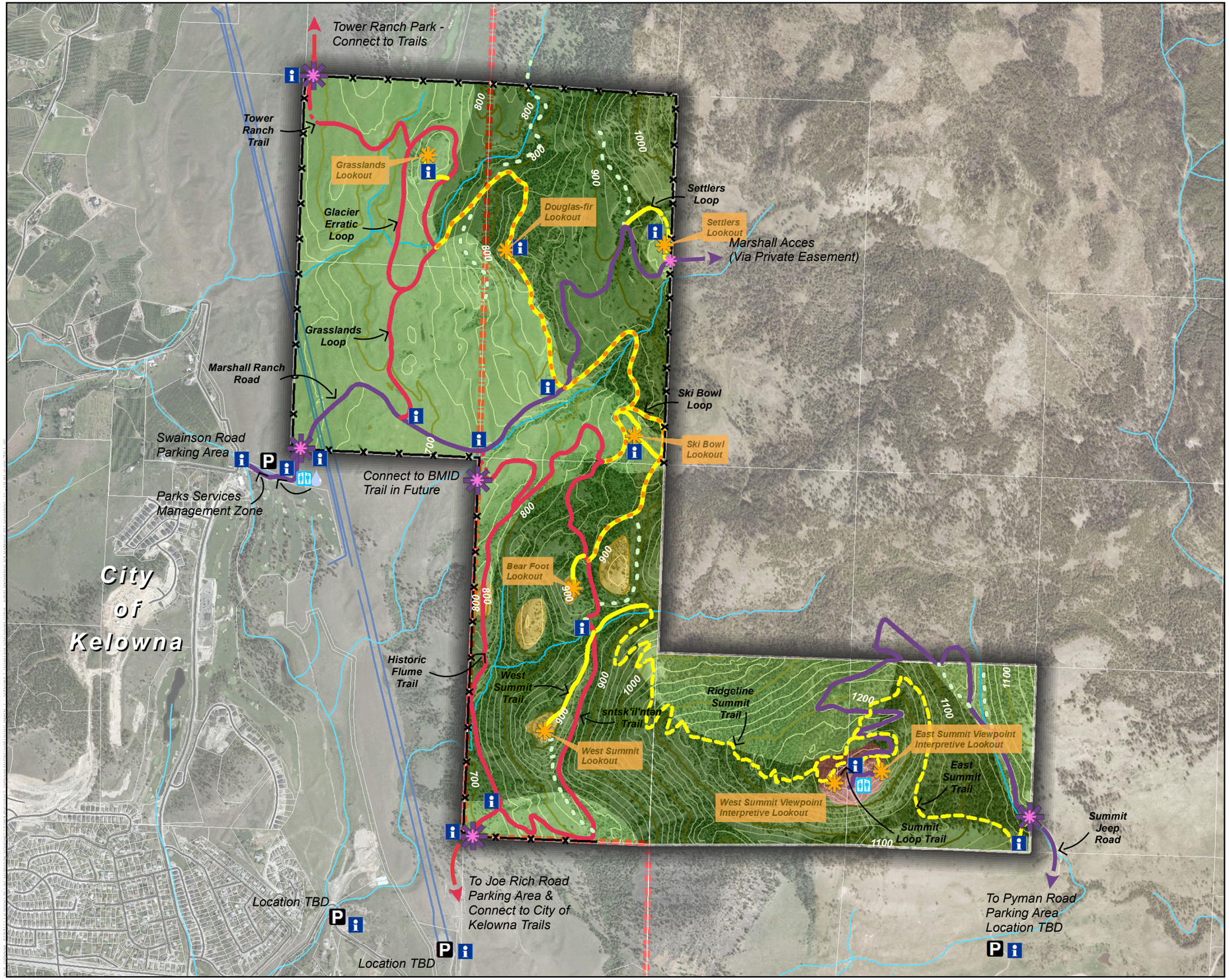
URBAN systems

FIGURE 4

From the park's primary access points, the lower trails are open to all users, and as one moves into the higher elevations of the park, the use of the trails become increasingly restricted, with the proposed new summit trails being intended for hiking only. The network provides numerous loop trails to support easy navigation and quality experiences.

A Strengths, Weaknesses, Opportunities, and Threat Analysis (SWOT) analysis was performed on the preferred overall park plan. The table below identifies the key internal and external factors that may affect implementation of the preferred plan.

Strengths	**Weaknesses**
• Plan takes advantage of existing trail network • Park can be accessed from multiple points • Summits are accessible via trail network • Interpretive features are proposed in areas of significance • Trail network will be easy to navigate with signage at each intersection • Cultural resources are protected	• Existing trails do occur in sensitive habitats • Many trails need to be ecologically restored • Access points are far from summits and other desirable destinations within the park and all require new infrastructure
Opportunities	**Threats**
• Inform park users about grasslands and trail etiquette • Build partnerships with adjacent land owners to facilitate park access • Park boundary expansion or conservation buffering through the Central Okanagan Land Trust could protect more critical habitats and create a larger buffer for the sensitive portions of the park • Interpretation about ecological and cultural features	• Increased use may lead to habitat loss or reduced habitat quality • Pyman Road access not secure into future as it traverses private land • Unmanaged fuel loads on adjacent lands could threaten park in the event of a wildfire • Improper public use may lead to degradation of First Nations cultural resources



REGIONAL DISTRICT of CENTRAL OKANAGAN

WESTBANK FIRST NATION

Black Mountain / sntsk'il'ntən
Regional Park Management Plan

Overall Preferred Concept

- Cattle Guard / Gated Access
- Destination Node / Lookout
- Interpretive / Wayfinding Point
- Park Entry
- Parking
- Potable Water Source
- Washroom Facility

- Decommissioned Trail
- Hiking Trail (Improved)
- New Hiking Trail
- Multi-Use Trail (Improved)
- New Multi-Use Trail
- Restricted Vehicles & Multi-Use Trail
- Bikes Permitted
- Fencing
- City of Kelowna Boundary

Park Management Zones

- Ecosystem
- Natural Environment
- Outdoor Recreation
- Parks Services (Swainson Road Parking Area)
- Special Preservation

The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.

130 65 0 130 260
Metres

N

Coordinate System:
NAD 1983 UTM Zone 11N

Scale:
1:16,000

Data Sources:
RDCO
City of Kelowna
Digital Road Atlas

Project #:	1179.0087.01
Author:	BP
Checked:	SM
Status:	FINAL
Revision:	B
Date:	2016 / 10 / 17

URBAN systems

FIGURE 5

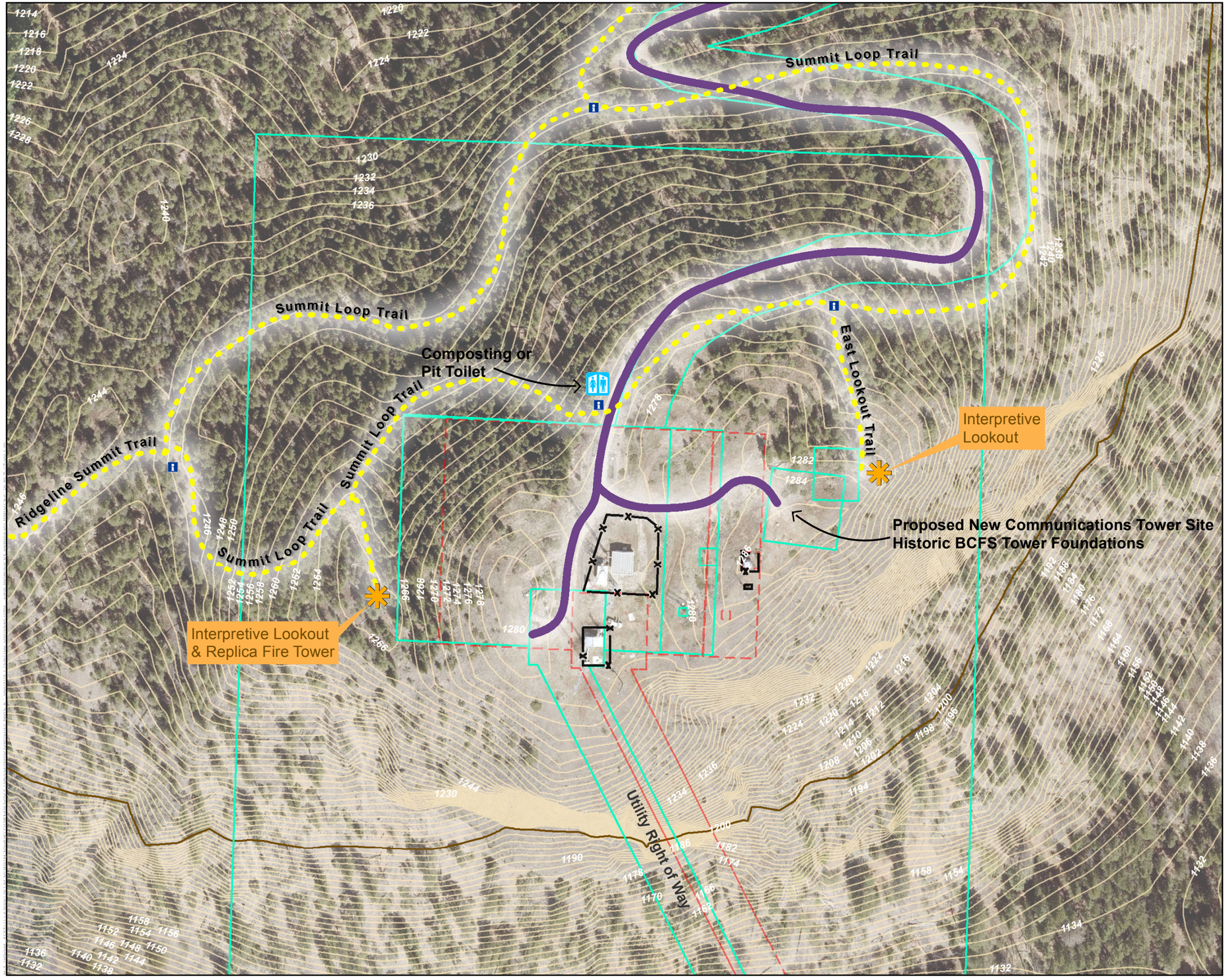
4.2 The Summit

Two concept plan options for the Black Mountain Summit were prepared (**Appendix E**); these related to the overall park plans. Concept 1 presented a minimal approach to the development of the summit area. Concept 2 proposed a more complex network with additional amenities and interpretive features.

The preferred plan for Black Mountain Summit incorporates the following features:

- An primary interpretive lookout styled as replica fire tower with views to the west-southwest
- A composting or pit toilet facility
- A lesser interpretive lookout with views to the east-southeast
- An interpretive summit loop trail
- Screening vegetation
- Connections to the Ridgeline Summit Trail and the East Summit Trail
- Wayfinding signage at trail intersections

A review of the provincial GIS data suggests that the tenure exclusion area (**Figure 6**) at the summit may be aligned incorrectly. The preferred concept presented below shows the likely correct location of the tenure area and the configuration of the summit facilities outside this exclusion area. Confirmation of the location of the tenure area boundaries will be critical prior to advancing the design for the summit area improvements.



REGIONAL DISTRICT of CENTRAL OKANAGAN

WESTBANK FIRST NATION

Black Mountain / sntsk'il'ntən
Regional Park Management Plan

Summit Preferred Concept

Legend

- Destination Node / Lookout
- Wayfinding Point
- Washroom Facility
- Tenure Boundaries (Adjusted)
- Tenure Boundaries (Original)
- New Hiking Trail
- Restricted Vehicles & Multi-Use Trail
- Existing Chainlink Fence

Note: Tenure boundaries have been manually adjusted in some areas to more accurately reflect current boundaries. However, we recommend that all tenure boundaries be surveyed to confirm precise alignments.

The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.

10 5 0 10 20
Metres

N

Coordinate System:
NAD 1983 UTM Zone 11N

Scale:
1:1,500

Data Sources:
RDCO
City of Kelowna
Digital Road Atlas

Project #:	1179.0087.01
Author:	BP
Checked:	SM
Status:	FINAL
Revision:	A
Date:	2016 / 3 / 29

URBAN systems

FIGURE 6

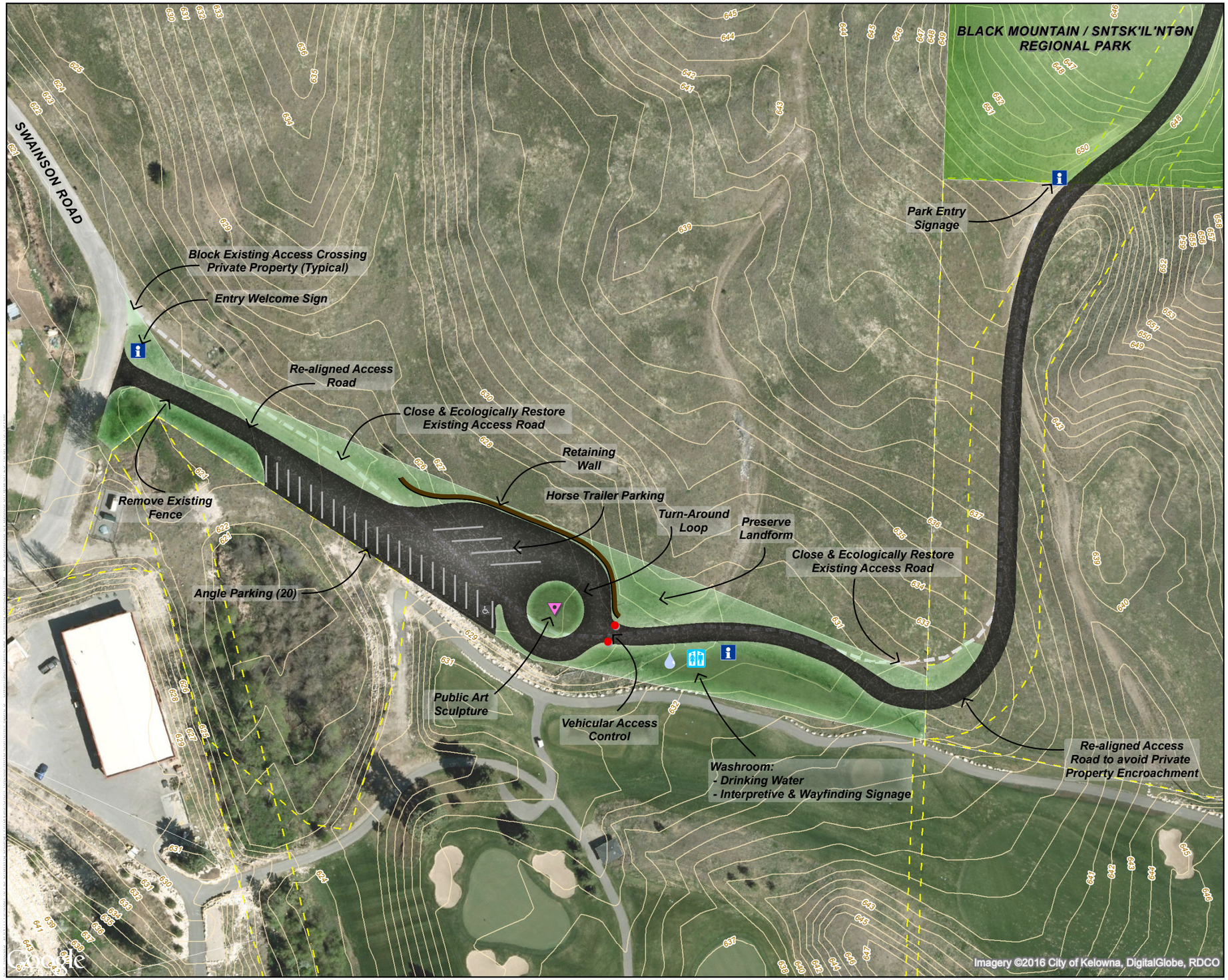
4.3 Swainson Road

Two concept plan options for the development of a parking lot/staging area at Swainson Road were prepared (**Appendix F**). Concept 1 presented a compact arrangement of parking and facilities. Concept 2 used the alignment of the existing access road with smaller parking areas placed along the road with naturalized spaces in between.

Both options included the following amenities:

- Washrooms
- Drinking water
- Interpretive/ wayfinding signage
- Opportunities to increase parking capacity
- Realignment of the access road on the east boundary where it extends beyond the easement area

Following the community input, the design for the Swainson Road parking area was refined to better accommodate horse trailers. This required a retaining wall and cuts into the hillslope to the north. Within the turn-around for the trailers, an opportunity was identified for some First Nations' public art.



REGIONAL DISTRICT of CENTRAL OKANAGAN

WESTBANK FIRST NATION

Black Mountain / sntsk'il'ntən
Regional Park Management Plan

Swainson Trailhead Parking Concept

Legend

- Public Art Sculpture
- Signage and Information
- Potable Water Source
- Vehicular Access Control
- Washroom Facility
- Handicapped Parking
- Existing Park Access Road
- Easement

The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.

8 4 0 8 16
Metres

Coordinate System:
NAD 1983 UTM Zone 11N

Scale:
1:1,000

Data Sources:
RDCO
City of Kelowna
Digital Road Atlas

Project #:	1179.0087.01
Author:	BP
Checked:	SM
Status:	FINAL
Revision:	B
Date:	2016 / 3 / 29

URBAN systems

FIGURE 7

5 Key Park Management Challenges, Priorities and Actions

Park issues and associated management priorities and actions within the same topic areas as the goals and objectives are identified below and are presented generally in order of importance.

5.1 Conservation and Environment

Challenges	Priorities	Actions
Ongoing impacts to rare grassland health due to increased visitation and users in the park	Mitigate user impacts to park ecosystems to support natural recovery and regeneration of resilient ecosystems	1) Establish park trail network that takes advantage of existing trails and anticipates visitor desire lines (improvised connections to attractive nodes) 2) Establish clear and attractive wayfinding system – clearly mark all trails, and post network maps at all major intersections especially where permitted trail uses change 3) Implement ecological restoration of existing trails that are to be excluded from the park network
Ongoing impacts to rare grassland health due to grazing, as cattle can move freely in and out of parklands	Limit cattle access to sensitive grasslands to support natural regeneration of grassland ecosystem health	4) Prepare and implement a cattle management plan 5) Establish fencing in strategic locations to protect grasslands in the park from further grazing impacts 6) Annually evaluate effectiveness of fence configuration and adapt as required

Challenges	Priorities	Actions
Invasive and non-native species occurrence in park's sensitive communities	Reduce populations of invasive plant species Limit dispersal of invasive plants in park	7) Establish invasive non-native species management plan i) Identify and map key areas of concern and extent of target species ii) Update this map over time as needed iii) Identify candidate area for species management, the priority of each and a phasing plan iv) For each species, prepare a prescription for management, potentially including plant removal, plant disposal, and revegetation (if applicable)
Role of fires in ecosystem health	Improve overall ecosystem health through fire management practices	8) Incorporate prescriptive burning as a management tool in accordance with recommendations from a fuel management plan i) Follow procedures outlined in 2013 RDCO Fuel Management Prescription Black Mountain Crown Lands

Challenges	Priorities	Actions
Biophysical inventory identified 17 potentially occurring rare vascular plants, and 42 potentially occurring species at risk (two observed)	Develop park to minimize impacts to sensitive habitats Continue to observe and record observed occurrences of rare and endangered species	9) Establish park amenities and trail network that reduce impacts to known sensitive areas 10) Prepare a vegetation management plan i) Continue to collect information on rare and significant plants and sensitive habitats ii) Develop a system of monitoring these plants and habitats iii) Delineate and monitor environmentally sensitive features to be protected and prepare a plan to protect each area iv) Develop vegetation management practices to be applied within each ecosystem community addressing approach to succession, fuel management, climate change, response to fire, and invasive species management 11) Conduct ecological restoration and enhancement projects

Challenges	Priorities	Actions
		i) Identify candidate areas for enhancement, the priority of each and a phasing plan ii) For each enhancement area, prepare and implement a prescription including site preparation, planting, maintenance, and site protection 12) Prepare and implement a wildlife management plan i) Continue to collect information on the wildlife species that use the park ii) Develop a system of monitoring wildlife iii) Delineate and monitor wildlife habitats and features to be protected and prepare a plan to protect each area iv) Prepare recommendations for support and encouragement of specific wildlife populations 13) Encourage park users including local naturalist groups, nearby schools, and park visitors to participate in the Conservation Data Centre's program for recording and monitoring rare and endangered species 14) Develop partnerships to support environmental research and studies in the park i) Work with others to identify appropriate research topics ii) Work with scientists and academic institutions to coordinate and support research projects 15) Compile and analyze the results of environmental monitoring on a regular basis – apply adaptive management as necessary

Challenges	Priorities	Actions
Environmental impact of parking and staging areas	Minimize environmental impacts of parking and staging areas	16) Design parking areas to manage stormwater through sustainable best practices i) Limit or avoid impervious surfaces ii) Intercept and infiltrate any runoff generated by impervious surfaces in planted areas iii) Consider habitat and environmental enhancement in plantings iv) Permit no light trespass from parking areas v) Provide garbage and recycling containers vi) Design staging areas to limit use beyond vehicular and pedestrian surfaces

5.2 Recreation and Outdoor Experiences

Challenges	Priorities	Actions
Proposed trail network is largely comprised of existing user-created trails that will require upgrades and minor modifications to achieve a quality experience and reduce ecological impacts from erosion	Create a quality network of trails that conform to Regional Parks Design Guidelines, and that are consistent with the trails' intended uses	1) Conduct an analysis of trail condition and identify areas of concern, e.g., rutting, rilling 2) Build trails to RDCO Regional Park Design Guidelines, improving existing trails rather than establishing new ones where possible
Swainson parking/ staging area, the Black Mountain Summit will receive intensive use when the park opens	Provide safe and enjoyable visitor use facilities at these key locations	3) Design and construct parking/staging areas through a process that includes detailed designs, contract documents, and quality assurance during construction

Challenges	Priorities	Actions
Lookouts will receive intensive use when the park opens	Provide safe and enjoyable visitor use facilities at these key locations	4) Design and construct lookouts through a process that includes detailed designs, contract documents, and quality assurance during construction i) Confirm location of tenure area on summit prior to detailed design
Some of the arrival points and parking/ staging areas lie outside the park boundaries and are spatially constrained	Provide parking/ staging areas that accommodate and welcome visitors and establish the importance of stewardship	5) Develop efficient and low-impact parking lots and staging areas that sustainably manage runoff, discourage off-route travel, and introduce park flora in a pleasing and celebratory manner 6) Demonstrate use of native species in planted areas around parking and trailheads 7) Integrate appropriate public art into staging areas
Park access from Highway 33 via Black Knight Forest Service Road and Pyman Road is not explicitly permitted by some private land owners	Secure park access via this route if possible	8) Continue to explore alternatives for access off of Highway 33, preferably working with the Province of British Columbia and the Ministry of Transportation and Infrastructure
Portions of the park are very steep, and will not be accessible to many, e.g., Black Mountain Summit	Provide multiple opportunities for visitors to experience views and achieve a “summit” experience	9) Locate lookouts close to trails on minor summits and along promontory points that lend themselves to good sightlines 10) Include meaningful interpretive signs and experiences at lookouts
Dogs currently run off leash in the park, and it is difficult to manage off-leash dogs and their waste in remote parks like this	Prevent dogs from causing harm to sensitive habitats Keep trails free from dog feces Minimize plastic dog bags littering the landscape	11) Include clear regulations regarding dogs in the park on signs at staging areas 12) Prepare and implement a dog waste management strategy

5.3 Interpretation and Awareness

Challenges	Priorities	Actions
Park has First Nations cultural and archaeological significance	Increase public awareness regarding First Nations ancestral presence and traditional uses of the park and early settler history Engage WFN and traditional knowledge experts in informing and leading all visitors to a deeper connection to the park and a better understanding of the First Nations culture	1) Complete an archaeological assessment of the entire park and adjust park development plan as necessary to mitigate impacts to archaeological resources 2) Provide interpretive signs in the park that inform visitors about the First Nations traditional uses of the area, e.g., source of material for stone tools, hunting, gathering plants for food and medicine, and spiritual/ cultural connections to the land, plus historical and cultural heritage associated with early settlers, BMID, BCFS toweras 3) Consider including similar information re: First Nations traditional uses on park website in consultation with WFN, plus early settler history and culture 4) Provide park programming led by First Nations who are willing to share stories and help visitors gain a new perspective and deeper appreciation of the land and its history

Challenges	Priorities	Actions
Park is within traditional WFN territory and WFN has not extinguished rights and title to the land	Increase public awareness about First Nations land rights	5) Provide interpretive signs in the park that illustrate the relationship of the park to current First Nations interests and land claims 6) Consider including similar information re: First Nations on park website in consultation with WFN
Many visitors are unaware of the significance and fragility of the park's ecosystems	Increase awareness and appreciation of park's unique ecology, especially the grasslands	7) Provide interpretive signs in the park and content on the park website that illustrate the characteristics, features, significance, and fragility of the park's rare ecosystems 8) Provide park programming led by grasslands ecologists, wildlife biologists and other experts to provide opportunities for visitors to gain a deeper understanding of the ecosystems in the park
Many visitors are unaware of the invasive and non-native plants established in park	Increase awareness and recognition of invasive and non-native species and the effects they can have on natural ecosystems	9) Provide interpretive signs in the park and content on the park website that helps users understand how invasive and non-native species are spread, what they can do to prevent spreading them, and how to identify the ones that they are likely to encounter in the park
Grassland ecosystems and arid lands are frequently misunderstood and underappreciated	Cultivate a regional appreciation for the rugged beauty that is characteristic of the Black Mountain grasslands Link native grassland species to xeriscape and water use reduction efforts in the region Link native grassland aesthetic with concepts of chic and sophisticated	10) Promote the beauty of the grasslands through marketing materials 11) Collaborate with local native plant nurseries to identify, produce, brand and market a collection of plants typical to Black Mountain, potentially with some proceeds directed to funding park improvements 12) Make use of park plant communities for seed source collection and consider developing a native plant nursery for restoration

5.4 Stewardship and Partnerships

Challenges	Priorities	Actions
The park will be co-managed by the RDCO and the WFN, and this is a new management model for both parties	Establish and maintain an effective working relationship through open and honest communication and good faith Share the successes and challenges of the management model to other agencies to encourage similar partnerships	1) Establish the key responsibilities of both parties early in the life of the park and review and improve responsibilities and processes as needed over time 2) Establish regular meetings to update the parties on park development, brainstorm solution to challenges, and celebrate successes 3) Always include both partners in decisions and follow-through 4) Prepare a strategy for external communications that shares the elements for successful co-management of this park, e.g., presentations at conferences, presentations to Councils, scholarly articles, media/internet postings 5) Work with WFN to support traditional land uses and management practices
Increased use of the site has the potential to cause impacts to neighbouring properties	Maintain good relationships and communication with neighbouring property owners Identify opportunities for synergies in management and operations	6) Continue to correspond and meet with neighbours as required 7) Publically recognize good stewardship actions and partnership initiatives undertaken by Central Okanagan residents 8) Work with the City of Kelowna to monitor impacts on neighbouring residents, e.g., traffic on Swainson Road, and adopt management actions as required 9) Work with tower operators to coordinate management initiatives, e.g., road, gates, fences

Challenges	Priorities	Actions
Friends of Black Mountain (FOBM) were established to promote the acquisition of the park	Maintain and celebrate the continuation of the partnership with Friends of Black Mountain	10) Consult FOBM regularly to gain insight into how the park is being used, and new challenges that may emerge 11) Identify opportunities to recognize the efforts of FOBM 12) Support FOBM through providing meeting space and encouraging membership
Few other user groups, schools and other organizations are aware of the park	Engage multiple community groups and schools in the stewardship and park accessibility	13) Identify and engage community groups and schools that may wish to have ongoing involvement in park stewardship and programs, e.g., Community Recreation Initiative Society (CRIS), mountain bike, equestrian, naturalist, hiking, geological, elementary/secondary school, university/ college, nearby homeowner organizations

5.5 Operations, Safety and Security

Challenges	Priorities	Actions
Potential for wildfires to be initiated within the park and threaten nearby community	Mitigate wildfire risk to park and nearby properties Improve overall ecosystem health through fire management practices	1) Follow procedures outlined in 2013 RDCO Fuel Management Prescription Black Mountain Crown Lands 2) Prepare a Fuel Management Prescription plan for the remainder of the park and implement recommendations
Significant lengths of fencing will be required to protect park resources	Keep fencing in good repair	3) Regularly inspect fence lines and repair damage as necessary i) Modify fence locations as needed over time in response to changes in park boundaries or adjacent land uses

Challenges	Priorities	Actions
Unauthorized motorized travel in the park	Eliminate unauthorized motorized travel in the park Reduce the risk of damage to park resources and tower infrastructure Educate users about why motorized recreation is not permitted in the park	4) Erect fences and gates that physically limit motorized travel in the park, .e.g., on the Forest Service road, at the Swainson Road entrance, at top of access road to Marshall ranch 5) Provide signage and content on the park website that identifies the permitted modes of travel in the park, and the negative effects that can occur from motorized use 6) Reach out to motorized users to clarify park rules and identify nearby locations where motorized uses are permitted
Increased visitation at the Black Mountain summit could lead to vandalism, littering, and risks of injuries	Mitigate/reduce incidence of vandalism and littering Reduce risk of falls and injuries near cliffs	7) Provide quality user facilities and evidence of visible stewardship 8) Establish a “pack it in –pack it out” policy to eliminate expectations that the Regional District will be responsible for visitors’ garbage 9) Collaborate with tower operators to determine if security cameras are desired or required 10) Provide warning signage where trails approach steep drops 11) Provide safety railings in strategic locations to provide visitors safe places to experience the views 12) Routinely inspect railings for signs of wear or deterioration
Different types of non-motorized users have interests in using trails, e.g., hikers, cyclists, equestrians	Reduce conflicts and risks arising from different types of users on one trail	13) Designate different sections of trail for specific uses, e.g., hikers, cyclists, equestrians, keeping equestrians on lower elevation trails 14) Clearly sign the uses for each trail 15) Engage park stewards in helping to inform visitors about the designated uses

Challenges	Priorities	Actions
Understanding park use and success of facilities	Identify and quantify park use with meaningful metrics	16) Coordinate collection of park data using the following metrics: i) Ecological scorecard ii) User days iii) Trail network length iv) Park programs v) Volunteer hours vi) Visitor satisfaction vii) Partnerships viii) Vehicle counts ix) Transportation alternatives
Ongoing park management	Ensure the management plan is meeting District's needs over time	17) Review and evaluate Park Management Plan every five years to guide management in alignment with the park vision and goals as changes occur

6 20 Year Implementation Plan

The 20-year implementation plan lists the proposed actions from the management plan (**Figure 4**). For each action that involves capital works, the timing of works and estimated costs in 2016 dollars are provided. These are Class E order-of-magnitude costs that include a 25% contingency and 15% for design fees. For actions that require staff resources, the anticipated effort in full-time equivalents (FTEs) is estimated. One FTE is 1820 hours per year for park planning and visitor services (7 hours per day, 35 hours per week), 2080 for operations staff (8 hours per day, 40 hours per week). Some actions need annual attention and others are one-time efforts, as indicated on the table. For the portions of the park requiring significant capital investments, break-outs of the estimates have been provided.

The implementation plan for this park requires more resources than are currently or projected to be available for this park. There may be opportunities to secure funding from new sources, such as grants, in the future. Having the implementation plan in place can be an aid in securing funds. The implementation plan will need to be updated on a regular basis as part of the regional district's budgeting process that considers all of the parks within its mandate.

Item #	Management Plan Actions	Budget Allocation	Short Term (Yr 1-5)	Short - Medium Term (Yr 6-10)	Medium - Long Term (Yr 11-15)	Long Term (Yr 16-20)	Park Resource Effort (Hrs/FTEs)
5.1	**Conservation and Environment**						
1	Establish park trail network that takes advantage of existing trails and anticipates visitor desire lines (improvised connections to attractive nodes)	$980,000.00	$300,000.00	$300,000.00	$240,000.00	$140,000.00	70 hours per year
2	Establish clear and attractive wayfinding system – clearly mark all trails, and post network maps at all major intersections especially where permitted trail uses change	$50,000.00	$20,000.00	$20,000.00	$10,000.00		70 hours
3	Implement ecological restoration of existing trails that are to be excluded from the park network	$200,000.00	$50,000.00	$50,000.00	$50,000.00	$50,000.00	
4	Prepare and implement a cattle management plan	$10,000.00	$10,000.00				
5	Establish fencing in strategic locations to protect grasslands in the park from further grazing impacts	$200,000.00	$200,000.00				35 hours
6	Annually evaluate effectiveness of fence configuration and adapt as required						16 hours per year
7	Establish invasive non-native species management plan	$10,000.00		$10,000.00			
8	Incorporate prescriptive burning as a management tool in accordance with recommendations from a fuel management plan	$20,000.00	$5,000.00	$5,000.00	$5,000.00	$5,000.00	
9	Establish park amenities and trail network that reduce impacts to known sensitive areas	included in action 5.5.1					
10	Prepare a vegetation management plan	$10,000.00		$10,000.00			
11	Conduct ecological restoration and enhancement projects	$40,000.00	$10,000.00	$10,000.00	$10,000.00	$10,000.00	
12	Prepare and implement a wildlife management plan	$15,000.00		$15,000.00			
13	Encourage park users including local naturalist groups, nearby schools, and park visitors to participate in the Conservation Data Centre's program for recording and monitoring rare and endangered species						70 hours per year
14	Develop partnerships to support environmental research and studies in the park						35 hours per year
15	Compile and analyze the results of environmental monitoring on a regular basis – apply adaptive management as necessary						35 hours per year
16	Design parking areas to manage stormwater through sustainable best practices	included in action item 5.2.3					
	Subtotal	**$1,535,000.00**	**$595,000.00**	**$420,000.00**	**$315,000.00**	**$205,000.00**	

Item #	Management Plan Actions	Budget Allocation	Short Term (Yr 1-5)	Short - Medium Term (Yr 6-10)	Medium - Long Term (Yr 11-15)	Long Term (Yr 16-20)	Park Resource Effort (Hrs/FTEs)
5.2	**Recreation and Outdoor Experiences**						
1	Conduct an analysis of trail condition and identify areas of concern, e.g., rutting, rilling						24 hours per year
2	Build trails to RDCO design guidelines, improving existing trails rather than establishing new ones where possible	included in action 5.1.1					
3	Design and construct parking/staging areas through a process that includes detailed designs, contract documents, and quality assurance during construction	$1,279,800.00	$354,000.00	$217,000.00	$223,000.00	$485,800.00	70 hours
4	Design and construct lookouts through a process that includes detailed designs, contract documents, and quality assurance during construction	$480,000.00		$448,000.00	$5,000.00	$27,000.00	70 hours
5	Develop efficient and low-impact parking lots and staging areas that sustainably manage runoff, discourage off-route travel, and introduce park flora in a pleasing and celebratory manner	included in action item 5.2.3					
6	Demonstrate use of native species in planted areas around parking and trailheads	included in action item 5.2.3					
7	Integrate appropriate public art into staging areas	$20,000.00		$20,000.00			
8	Continue to explore alternatives for access off of Highway 33, preferably working with the Province of British Columbia and the Ministry of Transportation and Infrastructure						70 hours
9	Locate lookouts close to trails on minor summits and along promontory points that lend themselves to good sightlines	included in action item 5.2.4					
10	Include meaningful interpretive signs and experiences at lookouts	$50,000.00	$20,000.00	$20,000.00	$10,000.00		
11	Include clear regulations regarding dogs in the park on signs at staging areas						35 hours
12	Prepare and implement a dog waste management strategy						35 hours
	Subtotal	**$1,829,800.00**	**$374,000.00**	**$705,000.00**	**$238,000.00**	**$512,800.00**	

Item #	Management Plan Actions	Budget Allocation	Short Term (Yr 1-5)	Short - Medium Term (Yr 6-10)	Medium - Long Term (Yr 11-15)	Long Term (Yr 16-20)	Park Resource Effort (Hrs/FTEs)
5.3	**Interpretation and Awareness**						
1	Complete an archaeological assessment of the entire park and adjust park development plan as necessary to mitigate impacts to archaeological resources	$25,000.00	$25,000.00				
2	Provide interpretive signs in the park that inform visitors about the traditional uses of the park, e.g., source of material for stone tools, hunting, gathering plants for food and medicine, and spiritual/cultural connections to the land	included in action item 5.2.10					
3	Consider including same information re: First Nations traditional uses on park website						35hours
4	Provide park programming led by First Nations who are willing to share stories and help visitors gain a new perspective and deeper appreciation of the land and its history	$200,000.00	$50,000.00	$50,000.00	$50,000.00	$50,000.00	80 hours per year
5	Provide interpretive signs in the park that illustrate the relationship of the park to current First Nations interests and land claims	included in action item 5.2.10					
6	Consider including same information re: First Nations on park website						20 hours
7	Provide interpretive signs in the park and content on the park website that illustrate the characteristics, features, significance, and fragility of the park's rare ecosystems	included in action item 5.2.10					
8	Provide park programming led by grasslands ecologists, wildlife biologists and other experts to provide opportunities for visitors to gain a deeper understanding of the ecosystems in the park	included in action item 5.3.4					
9	Provide interpretive signs in the park and content on the park website that helps users understand how invasive and non-native species are spread, what they can do to prevent spreading them, and how to identify the ones that they are likely to encounter in the park	included in action item 5.2.10					
10	Promote the beauty of the grasslands through marketing materials	$40,000.00	$10,000.00	$10,000.00	$10,000.00	$10,000.00	14 hours per year
11	Collaborate with local native plant nurseries to identify, produce, brand and market a collection of plants typical to Black Mountain, potentially with some proceeds directed to funding park improvements						
12	Make use of park plant communities for seed source collection and consider developing a native plant nursery for restoration.						40 hours per year
	Subtotal	**$265,000.00**	**$85,000.00**	**$60,000.00**	**$60,000.00**	**$60,000.00**	

Item #	Management Plan Actions	Budget Allocation	Short Term (Yr 1-5)	Short - Medium Term (Yr 6-10)	Medium - Long Term (Yr 11-15)	Long Term (Yr 16-20)	Park Resource Effort (Hrs/FTEs)
5.4	**Stewardship and Partnerships**						
1	Establish the key responsibilities of both parties early in the life of the park and review and improve responsibilities and processes as needed over time						70 hours per year
2	Establish regular meetings to update the parties on park development, brainstorm solution to challenges, and celebrate successes	included in action item 5.4.1					
3	Always include both partners in decisions and follow-through	included in action item 5.4.1					
4	Prepare a strategy for external communications that shares the elements for successful co-management of this park, e.g., presentations at conferences, presentations to Councils, scholarly articles, media/internet postings	included in action item 5.4.1					
5	Work with WFN to support traditional land uses, ecological knowledge and management practices	included in action item 5.4.1					
6	Continue to correspond and meet with neighbours as required						7 hours per year
7	Publically recognize good stewardship actions and partnership initiatives undertaken by Central Okanagan residents						14 hours per year
8	Work with the City of Kelowna to monitor impacts on neighbouring residents, e.g., traffic on Swainson Road, and adopt management actions as required						7 hours per year
9	Work with tower operators to coordinate management initiatives, e.g., road, gates, fences						7 hours per year
10	Consult FOBM regularly to gain insight into how the park is being used, and new challenges that may emerge						35 hours per year
11	Identify opportunities to recognize the efforts of FOBM	included in action item 5.4.10					
12	Support FOBM through providing meeting space and encouraging membership	included in action item 5.4.10					
13	Identify and engage a list of community groups and schools that may wish to have ongoing involvement in park stewardship and programs, e.g., Community Recreation Initiative Society (CRIS), mountain bike, equestrian, naturalist, hiking, geological, elementary/secondary school, university/college, nearby homeowner organizations						35 hours per year

Item #	Management Plan Actions	Budget Allocation	Short Term (Yr 1-5)	Short - Medium Term (Yr 6-10)	Medium - Long Term (Yr 11-15)	Long Term (Yr 16-20)	Park Resource Effort (Hrs/FTEs)
5.5	**Operations, Safety and Security**						
1	Follow procedures outlined in 2013 RDCO Fuel Management Prescription Black Mountain Crown Lands	included in action item 5.1.8					
2	Prepare a Fuel Management Prescription plan for the remainder of the park and implement recommendations	$15,000.00		$15,000.00			
3	Regularly inspect fence lines and repair damage as necessary						16 hours per year
4	Erect fences and gates that physically limit motorized travel in the park, .e.g., on the Forest Service road, at the Swainson Road entrance, at top of access road to Marshall ranch	$8,000.00	$8,000.00				
5	Provide signage and content on the park website that identifies the permitted modes of travel in the park, and the negative effects that can occur from motorized use	included in action item 5.1.2					
6	Reach out to motorized users to clarify park rules and identify nearby locations where motorized uses are permitted						7 hours per year
7	Provide quality user facilities and evidence of visible stewardship	included in action item 5.2.3 and 5.2.4					
8	Establish a “pack it in –pack it out” policy to eliminate expectations that the Regional District will be responsible for visitors’ garbage	included in action item 5.1.2					
9	Collaborate with tower operators to determine if security cameras are desired or required						T.B.D.
10	Provide warning signage where trails approach steep drops	included in action item 5.1.2					
11	Provide safety railings in strategic locations to provide visitors safe places to experience the views	included in action item 5.2.4					
12	Routinely inspect railings for signs of wear or deterioration						T.B.D.
13	Designate different sections of trail for specific uses, e.g., hikers, cyclists, equestrians, keeping equestrians on lower elevation trails	included in action item 5.1.1					
14	Clearly sign the uses for each trail	included in action item 5.1.2					
15	Engage park stewards in helping to inform visitors about the designated uses						35 hours per year
16	Coordinate collection of park data						35 hours per year
17	Review and evaluate Park Management Plan every five years to guide management in alignment with the park vision and goals as changes occur						70 hours
	Subtotal	**$23,000.00**	**$8,000.00**	**$15,000.00**			
	TOTAL	**$3,652,800.00**	**$1,062,000.00**	**$1,200,000.00**	**$613,000.00**	**$777,800.00**	
	FTE Annual						0.76
	FTE One-time						0.41
1 FTE = Full Time Equivalent							

6.1 Break-out Costs

Trail Type	Length (m)	Cost per Lineal metre	Total
Existing	**24,147**		
Decommissioned Road	3,318	$40	$132,800
Hiking	5,222	$10	$33,200
Multi-Use Trail	8,454	$50	$165,900
Restricted Vehicle and Multi-Use	7,153	$30	$99,600
Proposed	**5,791**		
Hiking	5,553	$25	$83,000
Multi-Use Trail	238	$140	$464,500
Grand Total	**29,938**		**$979,000**

Swainson Parking and Trailhead	
Site prep and grading	$16,000.00
Retaining wall (78 l.m.)	$10,000.00
Gate	$2,000.00
Parking surface (2280 sq.m.)	$115,000.00
Washroom	$80,000.00
Site servicing	$10,000.00
Planting	$20,000.00
Subtotal	$253,000.00
Contingency 40%	$101,200.00
Total	**$354,200.00**

Pyman Parking and Trailhead	
Site prep and grading	$19,000.00
Parking surface (4000 sq.m.)	$230,000.00
Pit toilets (2)	$58,000.00
Horse corral	$20,000.00
Planting	$20,000.00
Subtotal	$347,000.00
Contingency 40%	$138,800.00
Total	**$485,800.00**

Joe Rich Parking and Trailhead	
Site prep and grading	$16,000.00
Parking surface (2000 sq.m.)	$100,000.00
Pit toilet	$24,000.00
Planting	$15,000.00
Subtotal	$155,000.00
Contingency 40%	$62,000.00
Total	**$217,000.00**

Tower Ranch Parking and Trailhead	
Site prep and grading	$20,000.00
Parking surface (2000 sq.m.)	$100,000.00
Pit toilet	$24,000.00
Planting	$15,000.00
Subtotal	$159,000.00
Contingency 40%	$63,600.00
Total	**$222,600.00**

Summit Improvements	
Replica Fire Tower	$180,000.00
Overlook deck	$65,000.00
Site furnishings	$31,100.00
Pit toilet	$24,000.00
Plantings	$20,000.00
Subtotal	$320,100.00
Contingency 40%	$128,040.00
Total	**$448,140.00**

Glossary

Ecological restoration
Ecological restoration is the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed.[1]

Interpretation
Interpretation is an educational activity that examines and reveals in an attractive way the characteristics of an area and its biophysical and cultural relationships, through direct experiences which generate enjoyment, sensitivity, knowledge and commitment to the values interpreted.[4]

Cultural resource
Cultural resource is general term used to refer to archaeological sites, historic structures, monuments, artifacts, traditional cultural properties, and/or other human expressions of ethic or national identity. They are places or objects of local and national heritage with cultural, historical, spiritual or ceremonial significance.[2]

Ecological scorecard
An ecological scorecard is a reporting tool that takes complex existing monitoring data and provides stakeholders with the status and condition of key ecosystem elements such as water, habitat, living resources and human activities.[3]

[1] Society for Ecological Restoration International Science & Policy Working Group. 2004. The SER International Primer on Ecological Restoration. www.ser.org & Tucson: Society for Ecological Restoration International.

[2] National Association for Interpretation. 2007. Definitions Project. www.definitionsproject.com.

[3] Adapted from National Oceanic & Atmospheric Administration. 2011. NOAA National Marine Protected Areas Center Ecological Scorecards: A Powerful Communication Tool Capable of Distilling Complex Technical Information into a Format Useable by Many. Brock, Robert J. PhD., Ault, Jerald S. PhD, Bohnsack, James A., PhD.

[4] Adapted from Environmental Interpretation Manual for Protected Areas in the Mesoamerican Barrier Reef System Region. 2005. Technical Document No. 25. https://www.cbd.int/doc/pa/tools/Environmental%20interpretation%20manual%20for%20protected%20areas%20in%20the%20MBRS.pdf

Appendix A:
Resources and References

REGIONAL DISTRICT OF CENTRAL OKANAGAN

BYLAW NO. 884

Being a bylaw to adopt an Official Regional Park Plan for the Regional District of Central Okanagan

---

WHEREAS the Supplementary Letters Patent for the function of Regional Parks was issued to the Regional District of Central Okanagan on the 25th day of October, 1974, amended by Supplementary Letters Patent on the 19th day of December, 1986 and established as an extended service under the provisions of Part 24 of the Municipal Act and cited as "Regional Parks Extended Service Establishment Bylaw No. 410, 1990" on the 5th day of March, 1990 with the Electoral Areas A, G, H, and I as electoral participating areas and the City of Kelowna and the Corporation of the District of Peachland as municipal participating areas;

AND WHEREAS the provisions of the Park (Regional) Act R.S. Chapter 354 apply to this extended service;

AND WHEREAS, the Regional Board is required by Section 16 of the Park (Regional) Act, R.S. Chapter 345, to designate a Regional Park Plan as an Official Regional Park Plan;

AND WHEREAS, Section 16(2) of the Park (Regional) Act requires that plans may be expressed in "maps, plans, reports or by other means, and may be general in scheme, without specific detail, indicating present and projected regional parks".

NOW THEREFORE, the Board of the Regional District of Central Okanagan in open meeting assembled, enacts as follows:

1. The "Our Regional Parks – The Central Okanagan's Plan for the Regional Park System", marked Schedule "A", attached to and forming part of this Bylaw is hereby designated for the purposes of the Park (Regional) Act as an "Official Regional Park Plan of the Regional District of Central Okanagan".
2. This bylaw may be cited as the "Official Regional Park Plan Designation Bylaw No. 884, 2000".

READ A FIRST TIME THIS 10th DAY OF JULY, 2000.

READ A SECOND TIME THIS 10th DAY OF JULY, 2000.

READ A THIRD TIME THIS 10th DAY OF JULY, 2000.

RECEIVED APPROVAL BY THE MINISTRY OF ENVIRONMENT, LANDS AND PARKS THIS 14th DAY OF September, 2000.

RECONSIDERED AND ADOPTED THIS 20th DAY OF November, 2000.

CHAIRPERSON

DIRECTOR OF CORPORATE SERVICES

I hereby certify the foregoing to be a true and correct copy of Bylaw No. 884 cited as the "Official Regional Park Plan Designation Bylaw No. 884, 2000" as read a third time by the Regional Board on the 10th day of July, 2000.

Dated at Kelowna, B.C. this
12th day of July, 2000.

for DIRECTOR OF CORPORATE SERVICES

I hereby certify the foregoing to be a true and correct copy of Bylaw No. 884 cited as the "Official Regional Park Plan Designation Bylaw No. 884, 2000" as adopted by the Regional Board on the 20th day of November, 2000.

Dated at Kelowna, B.C. this
22nd day of November, 2000.

DIRECTOR OF CORPORATE SERVICES

(data/admin/bylaw/regparks.blw)

Our Regional Parks

The Central Okanagan's

Official Plan for the Regional Park System

"SCHEDULE A"

Prepared by:

Residents and Enthusiastic Park Users of the Central Okanagan
with the
Assistance of the
Parks & Recreation Department
Regional District of Central Okanagan

November 2000

TABLE OF CONTENTS

1 The Central Okanagan's Official Regional Parks Plan

1.1 Introduction

The Regional District of Central Okanagan (RDCO) can be counted as one of the most beautiful areas in the world to live. Rivers and creeks meander down from mountains and rocky hilltops spilling into one of the regions many lakes. As well as providing us with wonderful setting in which to live, the magnificent diversity in physical landscape creates a rich natural environment for a great number of species. This rare combination is what attracts visitors and new residents from all corners of the globe.

Your regional parks system plays a significant role in protecting natural habitats and providing outdoor recreation opportunities within the spectacular Okanagan Valley. For over 25 years, residents and elected representatives of the RDCO have been working to create a regional parks system that provides outstanding opportunities for both residents and visitors to learn about and experience the region's ecological diversity and spectacular landscapes.

The RDCO's 24 regional parks are places where residents and visitors can experience nature. Opportunities for swimming, hiking, biking and other passive recreation are provided within a setting where nature is encouraged to flourish and evolve.

With the coordination of RDCO Parks, the municipalities, electoral areas, residents, interest groups and First Nations work together to help make regional parks and trails possible.

1.2 Purpose of the RDCO Official Regional Parks Plan

The Official Regional Parks Plan (ORPP) is a document that will provide a vision for our system of regional parks in the Central Okanagan. The ORPP will give direction towards protecting the natural environment, providing outdoor recreation opportunities, setting regional park priorities, and providing environmental education opportunities to park users.How to Use the RDCO's Official Regional Parks Plan

The Official Regional Parks Plan is divided into six sections.

Section 1: RDCO Official Regional Parks Plan

The first section of the ORPP provides a brief overview of RDCO Parks and the purpose of the Official Regional Parks Plan. As well as a guide to the use of the Official Regional Park Plan's use, key concepts are also included in Section 1 of the plan.

Section 2: Background Information

Background information important to understanding the Official Regional Parks Plan is provided in this section. An overview of the Parks (Regional) Act, the role of Regional Parks in relation to other park systems in the area, Regional Growth Management Strategy policies related to the Regional Parks system, the Official Regional Parks Plan planning process, and public involvement in the research and writing of this document.

Section 3: Our Regional Parks System History

The Central Okanagan Regional Parks system was initiated in 1974 and has grown to 24 parks consisting of over 800 Ha (2000 acres) of land. This section describes the history of regional park development and outlines "gaps" in the existing inventory.

Section 4: Population Growth in the Central Okanagan (2000 – 2020)

The diversity of economy and the pleasant climate make the Central Okanagan one of the more popular locations to move to in the province. Net inflows of interprovincial migrants (largely retirees) and natural increase will continue to result in strong population growth for the area. This section describes population projections over the next 25 years, with "conservative" population growth estimates advising that an additional 100,000 residents will be serviced by a Regional Parks system.

Section 5: A Community 2020 Vision for the Regional Parks & Trails System

This section sets the direction for the Official Regional Parks Plan and outlines the community vision for regional parks and regional trails.

Section 6:. Regional Parks & Trails Stewardship Policies

This section gives detail as to how regional parks and regional trails will be acquired, managed and operated. Included in this section are strategic policies regarding park land acquisition criteria, financing of regional park acquisitions, and general policies concerning management of both the natural processes and human use within regional parks and regional trails.

1.3 Key Concepts

In order to understand the Official Regional Parks Plan there are several key concepts users should understand. The following key concepts provide a foundation for the direction set out by the Official Regional Parks Plan.

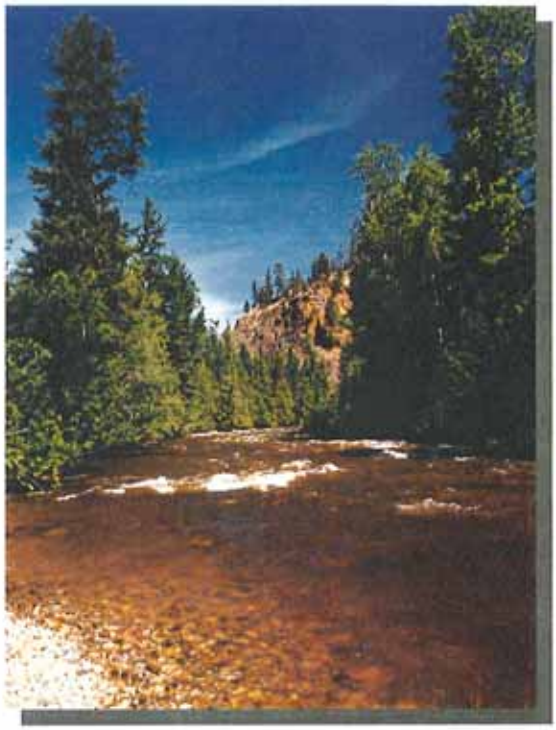
Ecosystem

An ecosystem is an interacting unit of all the natural elements and living organisms (air, water, soils, plants and animals) in a given area, plus all the non-living physical and chemical factors of their environment. Ecosystems vary greatly in size from a small pond to an entire forest but it always functions as a whole unit. Although an ecosystem may cover many kilometres with several different natural environments and a countless number of species, they are generally described according to their major type of vegetation and land form (See BC Biogeoclimatic Classification system below).

Ecological Integrity

Ecological integrity is defined as a state of ecosystem development that is optimized for its geographic location. For regional Parks, this optimal state is referred to by such terms as natural, naturally evolving, pristine, and untouched. It implies that ecosystem structures and functions are unimpaired by human-caused stresses and that native species are present at viable population levels. Ecological integrity is important to regional parks for four primary reasons:

It is the foundation for a park's ability to sustain biodiversity in healthy ecosystems and natural habitat
Healthy ecosystems provide an environmental scale against which changes on the rest of the landscape can be measured.
It contributes to the experience of nature for park visitors
RDCO Parks' goal is to pass on to future generations a legacy of intact, healthy, evolving ecosystems.



Ecosystem-based Management

In the establishment and management of regional parks, the Regional District of Central Okanagan will strive to maintain ecological integrity. Achievement of this goal will require the cooperation of residents and other government agencies in ecosystem management beyond the park boundaries. Decision making associated with the protection of park ecosystems will be scientifically based on provincially and nationally accepted principles and concepts

of conservation biology. Ecosystem based management requires that regional parks be managed with minimal interference to natural processes unless the structure or function of an ecosystem has been seriously altered. In this event, manipulation of the naturally occurring processes can occur using techniques that duplicate natural processes as closely as possible.

British Columbia's Biogeoclimatic Ecosystem Classification System (BEC)

The BEC system is a hierarchical ecosystem classification scheme with three levels of integration:

Regional
Local and;
Chronological.

Coupled with this, BEC combines three classifications:

Climatic (or zonal)
Vegetation and;
Site

At the regional level, the vegetation/soil relationships are used to infer the regional climate; this climatic or zonal classification defines biogeoclimatic units. At the local level, ecosystems are classified using vegetation and soils information, into vegetation and site units. At the chronological level, ecosystems are organized according to site specific chronosequences. To do this, the vegetation units recognized for a particular site unit are arranged according to site history and successional status.

The classification system organizes our knowledge of ecosystems and serves as a framework within which to manage the terrestrial land base. This classification system can form the basis for the selection and establishment of natural areas or conservation parklands.

Regionally Significant

Regionally Significant means:
Natural areas that exemplify landscapes from the region and are important to the residents of the region. These areas provide opportunities for appropriate outdoor activities that will attract people from throughout the Central Okanagan

2 Background Information

2.1 Parks (Regional) Act

Regional districts within British Columbia assume the regional park function through the Park (Regional) Act. Regional Parks are an extended service provided to both municipalities and unincorporated areas (electoral areas) by the Regional District of Central Okanagan (a Regional Park District). A Regional District is authorized, by provincial legislation, to provide this service and must adhere to the legislative provisions outlined in the Parks (Regional) Act.

The Parks (Regional) Act states that a regional district that has a regional parks function shall prepare an *Official Regional Parks Plan* which must be approved by the Minister of Environment, Lands and Parks.

The Parks (Regional) Act provides direction regarding, among other topics, the powers of the district, terms of leases and agreements, requisition amounts, borrowing powers, expenditures for parks, grants, and approval of bylaws.

Under the Park (Regional) Act, Regional Park means:

"Any area of land set aside and dedicated as a park under this act or as a municipal park transferred under section 7".

Regional Trail means:

"Any footpath, trail or area of land held in fee simple or as a registered easement or right of way by a regional district and dedicated as a regional trail under this Act".

2.2 Role of Regional Parks and Trails

The regional parks system does not exist in isolation but compliments parklands held by other jurisdictions. A corresponding set of park systems exists with park lands held by municipalities, school district, and provincial government in addition to regional parks in our area. In general terms, key factors that

distinguish these different jurisdictional systems include their legal mandate, location, accessibility, activities and level of development.

The Regional District of Central Okanagan appears to have abundant protected lands and outdoor recreational opportunities. However, with a land base of over 295,000 Ha within the boundary of the Regional District of Central Okanagan, park land accounts for a mere 1.27%. In fact, the Regional District of Central Okanagan is characterized by a land base that is predominantly administered and managed by the Provincial Government in conjunction with resource industries.

The public has been fortunate to have informal access to many of the area's valued site and features. The Okanagan – Shuswap Land and Resource Management Plan (LRMP) has recently been challenged with the task of reaching consensus among all resource stakeholders regarding nomination of expanded provincial park lands. The LRMP process has identified a number of candidate provincial park areas that, if approved by provincial government, will significantly increase the Central Okanagan's existing compliment of 3745 Ha of park land to over 30,000 Ha of parkland (10.17% of RDCO land base).

2.3 Regional Growth Management Strategy

The adoption of an Official Regional Park Plan will also provide required input into the RDCO Regional Growth Strategy. Section 942.12 of the Growth Strategies Statutes Amendment Act states that a regional district growth strategy **must include**, among other topics, actions proposed for the regional district to provide for the needs of the projected population in relation to **parks and natural areas.**

The Growth Management Strategy for the Regional District of Central Okanagan establishes a regional growth management vision and a set of common regional statements (goals), growth management objectives, and general growth management policies to be considered and reflected in the future decisions made by the Municipal Councils and the Regional Board. The Growth Management Strategy is an agreement among governments and agencies to work together on common issues to find common solutions with respect to housing, transportation, regional services, parks and natural areas and economic development.

In the 20/20 Vision Statement the Central Okanagan was identified as "...a region that protects and respects its natural attributes. The region's green spaces and water resources are managed to ensure their long-term health and sustainability." Furthermore, the 20/20 Vision Statement went on to describe this area as "a centre for arts, culture, tourism and recreation." Continuing, "our parks, trail systems, recreation areas and sports venues are extensive and attract thousands of visitors a year." Furthermore, the following two

objectives were identified as two of the 10 Major Growth Management Objectives:

"Improve the quality of life through enhancement of the arts, culture, tourism, and recreation opportunities within the region"

and...

"Protect the scenic quality of the region and preserve significant features, open space and cultural heritage resources".

These objectives reflect a commitment to protecting the environment and significant natural features of this region. These statements also highlight the importance of parks and open space in providing for recreation opportunities for residents of the region as well as the value of these resources in attracting visitors from all over the world.

2.4 Regional Park Plan Public Involvement Process

In an effort to obtain representative feedback from a breadth of residents and stakeholders in the Central Okanagan throughout the planning process, several advisory groups were formed, public open houses were held throughout the Central Okanagan, and several consultation workshops were also conducted involving both elected officials and NGO partner groups.

Public Advisory Group (P.A.G.)

Members of the public from each of the municipalities and electoral areas were selected to form our Public Advisory Group. This group was formed with the following purpose in mind:

To assemble a diverse group of people from throughout the RDCO, who represent a broad range of outdoor recreation interests, in order to contribute local resident perspectives regarding RDCO Regional Parks to the RDCO Parks Committee.

Several meetings with P.A.G. were held throughout the planning process to ensure that the public was represented in all areas of the regional district. These meetings helped ensure region specific issues, or issues pertinent to the entire region, were heard.

Technical Advisory Group (T.A.G.)

In order to obtain professional advice, staff from both Municipal Parks departments and BC Parks assisted in the development of the Official Regional Parks Plan. A Technical Advisory Group (T.A.G.) was formed in 1999 with the primary purpose as follows:

To assemble staff from both local municipal parks departments and BC Provincial Parks to discuss the contemporary issues facing Central Okanagan parks systems.

Meetings were held throughout the planning process to ensure that all agencies were working together to form an overall "integrated" and "complimentary" park system that would meet the needs of the Central Okanagan.

Opportunities for Public Involvement

Random telephone survey conducted by Okanagan University College.

Random survey and mail-in questionnaire distributed to over 49,000 homes in the Central Okanagan.

Two open houses at each of the following three locations (6 Open House Meetings total):
Mission Creek EECO Centre (Kelowna);
District of Lake Country (Municipal Offices);
Mt. Boucherie Community Centre (Westbank).

In addition, the following public consultation events were conducted:
Community presentation at Joe Rich Ratepayers Association Meeting;
Central Okanagan Alliance Group (NGO's) Workshop;
Display set up and staffed at Orchard Park Mall (Fall 1999);
Display set up at RDCO Office on KLO Rd;
RDCO Web site information and "downloadable" version of draft Official Regional Parks Plan for public comment.

RDCO "Think Tank" Groups

This group was comprised of RDCO Park's & Recreation Department staff assembled on three occasions with a mandate of providing "on the ground" comments regarding the proposed park land classification system, management policies, and to also shed insight as to matters raised by members of the public who contact RDCO staff regarding use of regional parks.

3 Our Regional Parks System History

3.1 The Central Okanagan Parks System

On July 21, 1971 Director J. Stuart, Chairman of the Regional Parks and Recreation Committee presented a report entitled " A Regional Parks Plan" to the Board of the Regional District of Central Okanagan. The report contained the synthesis of years of work and provided strategic recommendations for the establishment of a *"Regional Parks System"*. After several years of debate and discussion between the Regional Board and member municipalities, a Regional Park function was granted to the Regional District by supplementary Letters Patent issued on October 25, 1974 and amended on December 19, 1986. The Regional Parks "function" was converted to an "extended service" on January 22, 1990 though the adoption of Bylaw #410.

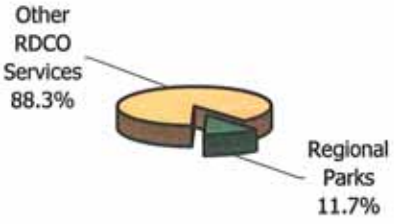
3.2 Funding Structure for Regional Parks

The RDCO Regional Park Budget is approximately $1,500,000 / year. Nearly 26% of this total was spent servicing debt on previously purchased land (25.7%), while the remaining 74% was spent on operational costs (74.3%).

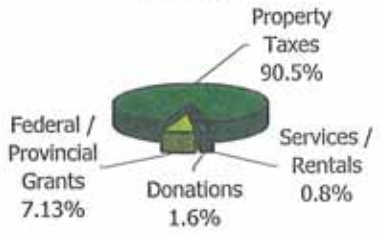
Regional Parks Expenditure Budget

Operating costs include everything from maintenance of parkland and providing environmental education to advertising park locations to providing staff salaries.

RDCO Tax Requistion Summary



RDCO Regional Parks Budget Sources of Revenue



In total, approximately 1.1% of a homeowner's total property tax went to Regional Parks. This means that a home with an assessed value of $150,000 paid approximately $20.00 in property taxes for Regional Park services.

4 Population Growth in the Central Okanagan (2000 – 2020)

In 1999 the population of the Regional District of Central Okanagan was 150,000 making it the 4th most populous Regional District in the province. Seventy-five percent of the region's population live in it's three municipalities: the City of Kelowna (98,130 people – 65% of the region's population); the District Municipality of Lake Country (9,934 people – 7 % of the region's population) and the District Municipality of Peachland (4,958 people – 3% of the region's population). The remaining 25% of the population live within three electoral areas within the region's boundaries.

4.1 Existing Population Base and Demographics

The Regional District of Central Okanagan 1999 population age distribution, with about one-third (30%) of its residents between 30 and 49 years old, demonstrates a typical Baby Boom generation structure. Due to the presence of a large retirement base, the median age of the population is significantly higher than the provincial median.

4.2 Population Demographic Forecast

While growth will impact the overall size of the Regional District of Central Okanagan's population, aging will change it's structure. The number of people in the 30 – 49 age groups will steadily increase in absolute terms, however their overall share of the population will drop slightly from the current 30% to 28% by 2020.

Area	1999 Population
City of Kelowna	98,130
Peachland DM	4,958
Lake Country DM	9,934
Electoral Area I (Joe Rich - Ellison)	4,041
Electoral Areas G & H (Westside)	25,183
Reserves (IR 9,10 and Duck Lake Reserve)	7,754
RDCO	150,000

5 A Community 2020 Vision for the Regional Parks System

The Regional District of Central Okanagan has an exceptionally valuable resource in the park lands presently existing within the region. Both the amount and the quality of these natural environments are a significant valued asset for all residents of the community.

The continued purpose of the Regional Park System is:

To establish and conserve a network of regional parks and trails in perpetuity which represent the complete range of regionally significant natural environments that are within the Okanagan Valley.

Regional Parks will provide opportunities for outdoor experiences and activities that encourage public understanding, appreciation and enjoyment of the region's natural and cultural landscapes while ensuring the long term ecological and commemorative integrity of each park or trail.

The existing Regional Parks system is shown on Map 1 (back leaf). In addition, potential new regional park and trail "interest" areas are identified. The intention of the Regional Park Plan is not to set site-specific goals for land acquisition, but instead highlight the needs of the residents of this region, which have been identified to include the provision of increased opportunities for outdoor recreation and the protection of representative landscapes. More specifically, the proposed regional parks and trails system is designed to assist:

establish new regional parks that protect natural environments that are under-represented in the existing system (i.e. biogeoclimatic zone "gaps" in upland habitat);

establish new regional parks that protect regionally significant natural landscape features;

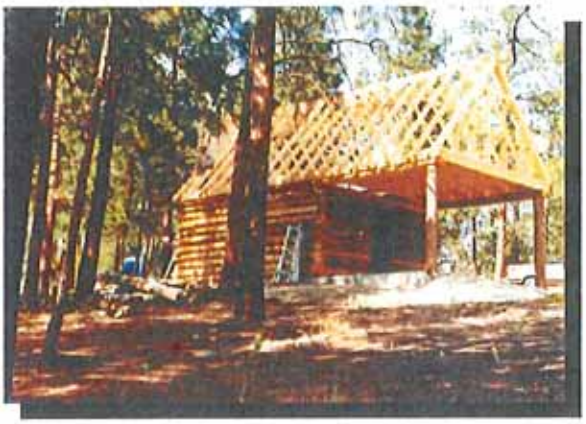
establish new regional parks that highlight regionally significant recreational features in proximity of natural lakes and watercourses;

establish new regional parks that assist in the conservation of the regionally significant cultural landscape of the Central Okanagan;

collaborate with municipal and provincial park systems in the development of a regional trails (greenways) system that provides both recreational and habitat links to provincial, regional or major municipal parks (i.e. Mission Creek Greenway, Powers Creek, Trepanier Creek, Kettle Valley Railway, etc.);

add to the boundaries of existing regional parks to improve ecological health.

It is important to note that as time goes by new opportunities, challenges and information may induce a change in the proposed objectives of the regional park system. The process outlined will require co-operation, innovation and partnerships with all stakeholders. Most importantly, completing the process is heavily dependent upon financial resources and time. Direction from the RDCO Board, establishing partnerships, opportunities to purchase land, gaining public opinion, and learning about federal, provincial, regional, and municipal planning initiatives are all vital to the success of our regional parks and trails system; however, all these processes will take time to happen and will require money to be spent.



5.1 Regional Parks System

The proposed regional parks system is based on 4 key goals.

- Addressing the Entire Regional Parks System
- To assemble a regional park system that works to complement the existing provincial, regional and municipal park systems and protected areas.
- To meet the present and anticipated future needs of the residents of this region.
- To establish regional parks that are accessible to all residents of the RDCO.

Protecting the Natural Environment

- To protect and maintain natural environments in existing regional parks.
- To protect areas containing rare and critically endangered viable ecosystems.
- To protect natural environments which are either regionally significant or under-represented in regional parks or protected areas within the RDCO.
- To link existing regional parks and protected areas by natural area corridors.

Providing Opportunities for Outdoor Recreation and Environmental Education

To assemble a regional park system that will provide a range of outdoor recreation experiences, as well as opportunities for environmental education

Adding to the Boundaries of Existing Regional Parks

- To use ecological or watershed boundaries for making decisions about park boundaries.
- To provide adequate buffers from activities on adjacent lands.
- To protect natural environments adjacent to regional parks, in order to consolidate ecosystems bisected by park boundaries.

As the population of this region continues to grow, natural areas will be lost to development and changes in land use therefore opportunities to acquire natural areas for park and open space will also decrease. As a result, the Official Regional Parks Plan takes a long term view toward meeting to goals and objectives of the regional park system.

5.2 Regional Trails System

Despite the Mission Creek Greenway being one of RDCO's most popular form of regional park, the Regional Parks System has not previously designated "regional trails" within the Regional Park District. The idea of establishing regional trails in the Central Okanagan dates back to the mid 1970's and was included in the original Regional Parks System report presented in 1971, the RDCO Board has continued to be supportive of initiatives like the Mission Creek Greenway.

With overwhelming support from the community, the Official Regional Parks Plan proposes that a regional trails system be established. The following purpose of the regional trails system has been identified:

To create, where feasible, non-motorized and multiple-use trails in a natural setting to link the region's communities and major parks and to connect communities to other parts of the Okanagan Valley.

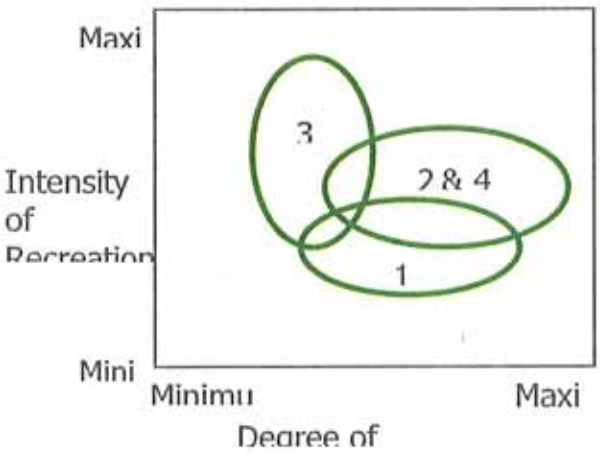
The Official Regional Park Plan proposes that a enhanced regional trail system be based on the following objectives:

- To connect regional parks to other provincial and major municipal parks and trails, key points of interest, major community facilities, transportation facilities and commercial centres.
- To encourage a reduction in pollution by offering alternative modes of transportation
- To connect urban, suburban, and rural parts of the region

As proposed, the regional trails system will extend through existing parks and connect parks with other trails and communities. Due to the comprehensive nature of this trail system, partnerships with public landowners, interest groups, other levels of government and business will be critical to its success.

5.3 The Regional Parks and Trails Management Classification System

The park management classification system is composed of four primary park classes: (1) Conservation, (2) Natural, (3) Recreation / Cultural / Waterfront, and (4) Trails (Greenways).



These classes are separated primarily by the degree of protection afforded to the environment and the intensity of recreation use. Although most regional parks and proposed park areas will contain a mixture of these characteristics, the park class in which they are categorized will reflect the primary management focus of the park as shown in Table 1.

5.3.1 Regional Conservation Parks

General Description

Regional Conservation Parks are managed for the protection or enhancement of habitat values of vegetation and wildlife. The provision of recreation may occur but is subordinate to habitat values. Natural processes may take their natural course and management practices may occur at the detriment of aesthetics or public access.

Size Criteria

The practical limit of hectares set aside within this classification lies in the resource quality, availability, community development considerations, and acquisition costs.

Development Parameters

Although Regional Conservation Parks are resource rather than user based, they can provide some passive recreation opportunities. Most notable are nature viewing and studying. They can also function as greenways and development should be kept to a level that preserves the integrity of the resource.

5.3.2 Regional Natural Area Park

General Description

Regional Natural Area Parks provide opportunities for increasing awareness and knowledge of the natural environment of the Okanagan Valley. These areas must contain regionally significant features of geology, physiography, vegetation communities, or wildlife habitat.

Size Criteria

Feature availability and community interest are the primary determinants of a Regional Natural Area Park. Although an optimal size for a Regional Natural Area Park is greater than 40 hectares, it actual size should be based on the land area needed to conserve and protect the regionally significant feature while affording

opportunities for public access and education.

Development Parameters

Regional Natural Area development will be limited to a menu of potential passive recreation facilities including internal trails, general open space, unique landscape feature interpretive facilities, and nature study areas. User facilities must adhere to sound environmentally appropriate design. Parking lots should be provided as necessary to accommodate user access. Park lighting should be used only for security, safety and lighting facilities with minimal environmental impact.

5.3.3 Regional Recreation / Cultural / Waterfront Park

General Description

Regional Recreation/ Cultural/Waterfront Parks provide varied forms of more active recreation. These parks primarily focus on meeting the aquatic recreation needs of the region and/or preserve unique cultural landscapes. The management emphasis within Regional Recreation / Cultural Parks will be intensive outdoor or interpretive program day use.

Size Criteria

Although an optimal size for a Regional Recreation/Cultural/Waterfront Park is between 5 and 10 hectares, it actual size should be based on the land area needed to accommodate desired uses. In an effort to provide regionally significant access for aquatic recreation, a minimum of 200 metres of water frontage is required. Cultural sites should be of regional significance and optimal size is dependant on conservation requirements associated with the site feature(s).

Development Parameters

A Regional Recreation/Cultural/Waterfront Park will provide for an extensive assortment of outdoor experiences, activities and events, and will be managed to accommodate a relatively high number of visitors. Facilities will be developed to support this level of use and the area must lend itself to development for a variety of uses that meet recreational needs and be able to withstand intensive public use.

Potential recreation facilities include active swimming areas, swimming docks, fishing wharfs, boat launch facilities, large play structures and / or creative play attractions, informal sport fields, etc. Passive activity facilities include extensive internal tails, individual and group picnic / sitting areas, general open space and unique landscape features, and nature study areas. Parking lots should be provided as necessary to accommodate user access. Park lighting should be used for security, safety and lighting facilities as appropriate.

5.3.4 Regional Trail (Greenways)

General Description

Regional Trails will be established to link provincial, regional and major municipal parks throughout the Central Okanagan. Development of the Regional Trail System will require collaboration with municipal and provincial park partners as well as non-government organizations in the acquisition and development of "greenway" systems that provide both recreational and habitat links to other open spaces.

Size Criteria

The Regional Trail corridor must be of sufficient width to allow simultaneous multiple use access of different non-motorized recreation. A Regional Trail is also intended to provide adequate habitat (width) to successfully support a viable ecological corridor for vegetation and wildlife species.

Development Parameters

The actual trail alignment and type of use will be determined through detailed planning; **not all trails will be multiple-use**. Facility development will be limited to environmentally appropriate designed structures providing services for interpretation and passive human use.

Table 1: Classification of Regional Parks by Management Class

Regional Park	Management Classification			
	Conservation	Natural	Recreation (R) / Cultural ©/ Waterfront (W)	Trails (Greenways)
Antlers Beach / Hardy Falls			• (R&W)	
Bertram Creek			• (R&W)	
Cedar Mountain		•		
Gellatly Heritage Park			• ©	
Glen Canyon				•
Kalamoir		•		
Kaloya			• (R&W)	
Kopje			• (R/W&©)	
McCulloch			• (R&©)	
Mill Creek		•		
Mission Creek		•		
Mission Creek Greenway				•
Mount Boucherie	•			
Okanagan Centre Safe Harbour			• (R&W)	
Raymer Bay			• (R&W)	
Robert Lake	•			
Reisweg			• (R&W)	
Rose Valley	•			
Scenic Canyon		•		
Shannon Lake			• (R&W)	
Stevens Coyote Ridge	•			
Traders Cove			• (R&W)	
Woodhaven		•		

5.4 The Regional Parks and Trails Natural Environment Classification System

Utilizing the Province of British Columbia's Biogeoclimatic Ecosystem Classification System (BEC), Regional Parks are distinguished by the type of natural environment they represent.

The BEC classification system organizes our knowledge of ecosystems and serves as another frame of reference within which to manage the Regional Parks System land base. The natural environment classification system is proposed to form the basis for the selection and establishment of natural areas or conservation parklands.

There are 5 distinct biogeoclimatic zones within the Regional District of Central Okanagan:

- Ponderosa Pine (PP)
- Interior Douglas-Fir (IDF)
- Montane Spruce (MS)
- Interior Cedar-Hemlock
- Engelmann Spruce – Subalpine Fir

Classification of Regional Parks using the natural environment (BEC) system provides residents with an indication of the types of natural environments that have been historically considered of interest to the community as well as indicates which environments are under-represented in the existing Regional Parks System model as shown in the following map and Table 2.

5.5 Gaps in the Existing Regional Parks System

Designing the ideal regional parks system is a complex task. Many factors require consideration – the population of the region, the recreational needs and expectations, the region's economy, the existing park systems, and the potential parkland. An important part of the Official Regional Parks Plan is to identify areas of interest for future park purposes. To assess any potential park land areas, it is necessary to review at "gaps" in the current regional parks system in light of the two classification systems:

- Management Classification System.
- Natural Environment (BEC) Classification System.

5.5.1 Management Classification

The significant gaps identified within the management classification analysis include:

- Conservation Area parks such as Stevens Coyote Ridge and Rose Valley that focus on providing representative natural landscapes with accompanying passive forms of recreation and environmental education facilities;
- Regionally significant waterfront park access is considered essential to the residents of the Central Okanagan because of the magnitude of this type landscape and pressure for alternative land uses within this area;
- Regional Trails that link the region's communities and major parks. The recent success of the Mission Creek Greenway project illustrates the communities strong desire to see this as

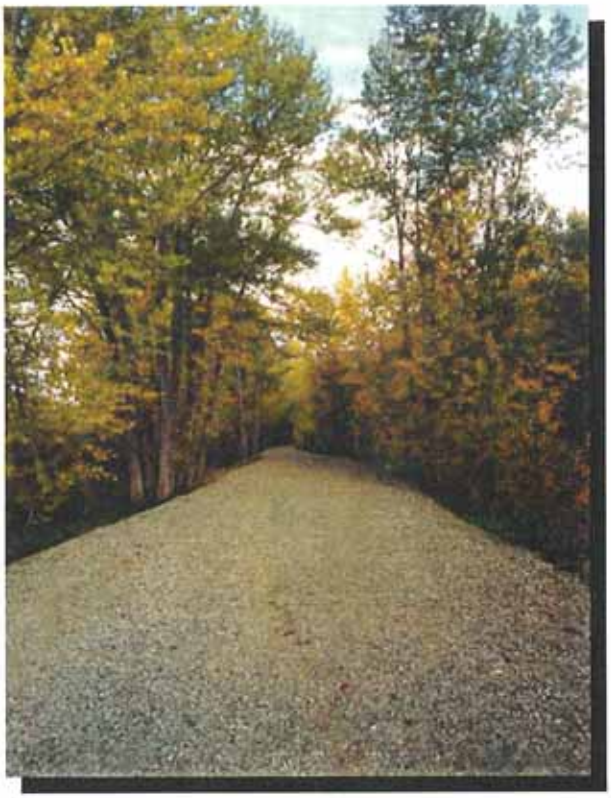
a priority management focus for RDCO Parks.

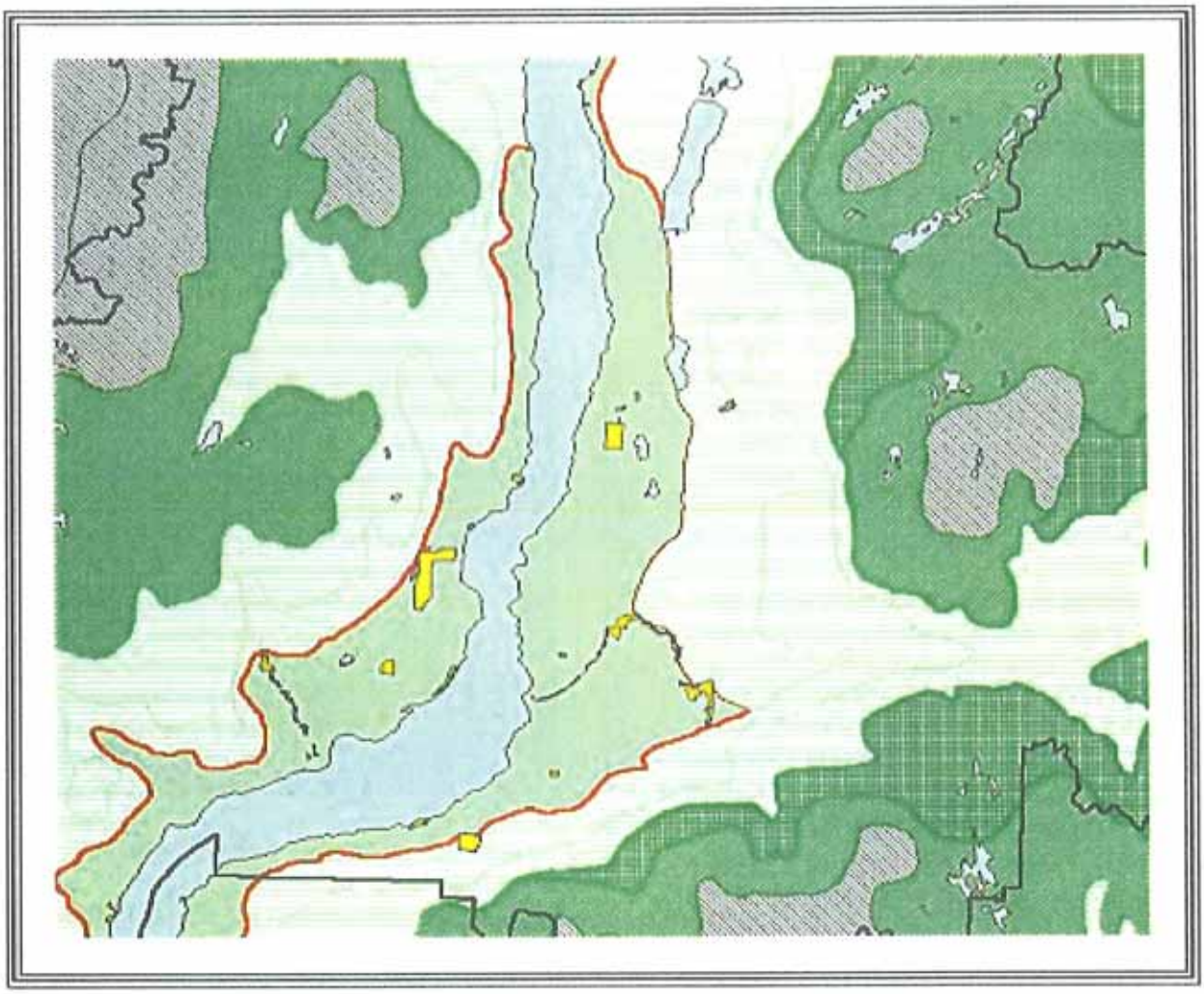
5.5.2 Natural Environment Classification

As Table 2 illustrates, there are three classes of natural environment that are under-represented in the current regional parks system:

- Montane Spruce (MS)
- Interior Cedar Hemlock (ICH)
- Engelmann Spruce / Subalpine-Fir (ESSF)

Regional Parks and trails do not exist in isolation. Other levels of government also protect the region's natural environment and provide areas for outdoor recreation. In addition to major municipal parks, provincial parks and ecological reserves, the Okanagan-Shuswap Land and Resource Management Plan (LRMP) has identified over 27,000 hectares of "candidate" provincial park areas from the crown land base in the Central Okanagan. If approved, many of these areas will encompass the above natural environment classes.





RDCO Regional Parks
RDCO Boundary
Lakes

Biogeoclimatic Zones

Engelmann Spruce - Subalpine Fir
Interior Cedar Hemlock
Interior Douglas Fir
Montane Spruce
Ponderosa Pine

Table 2: Classification of Regional Parks by Natural Environment (BEC)

Regional Park	Biogeoclimatic Ecosystem Classification (BEC)				
	Ponderosa Pine	Interior Douglas-Fir	Montane Spruce	Interior Cedar Hemlock	Engelmann Spruce – Subalpine Fir
Antlers Beach / Hardy Falls	•				
Bertram Creek	•				
Cedar Mountain	•	•			
Gellatly Heritage Park	•				
Glen Canyon	•				
Kalamoir	•				
Kaloya	•	•			
Kopje	•				
McCulloch	•		•	•	
Mill Creek	•	•			
Mission Creek	•				
Mission Creek Greenway	•				
Mount Boucherie	•				
Okanagan Centre Safe Harbour	•				
Raymer Bay	•				
Robert Lake	•				
Reisweg	•	•			
Rose Valley	•	•			
Scenic Canyon	•	•			
Shannon Lake	•				
Stevens Coyote Ridge	•				
Traders Cove	•				
Woodhaven	•				

6 Regional Parks & Trails Stewardship Policies

Stewardship Policies

The successful representation of the landscape characteristics of the region and the provision of a diverse and equitable spectrum of educational and recreational opportunities for the public can only result from careful planning and management. An ongoing commitment to a sound planning process for the regional park system will help to ensure long-term benefits of these natural areas for present residents and for their children.

6.1 Systems Planning

6.1.1 A system plan will be prepared by the Parks Department and approved by the RDCO Board. The plan will address such topics as the park system's purpose, goals, and objectives, program and operational policies, potential park land, acquisition and implementation priorities, and funding.

6.1.2 The system plan will be reviewed and up-dated every five years.

6.1.3 Opportunities will be provided for public review of the system plan.

6.2 Park Classification and Names

6.2.1 All regional parks will be managed in accordance with an approved classification system. The classes which are used will reflect natural features and recreational activities as follows:

1. Conservation Area Parks,
2. Natural Area Parks,
3. Recreational / Cultural / Waterfront Parks,
4. Regional Trails (Greenways).

6.2.2 Within each park class five management park zones will also be identified according to the predominant nature of the landscape. The park management zones are as follows:

1. Special Preservation
2. Ecosystem
3. Natural Environment
4. Outdoor Recreation
5. Park Services

6.2.3 In selecting the name for a Regional Park and/or park features, consideration will be given to local geography, history and tradition, and to natural features. Names of persons will not normally be used. Where acknowledgement of donations or significant individual contributions to parks and

conservation is considered important, other means such as a plaque or cairn should be used.

6.3 Regional Trails

Trails and associated linear parks will be established as "regional trails" under the regional park system.

6.3.1 The system of natural "greenways" will be established to link major parks within the municipal, regional, and provincial park system as well as any other significant points of interest throughout the Regional District.

6.3.2 General public use through a variety of non-motorized means of travel will be encouraged along the Park Corridor system.

6.3.3 The Regional Trail System may be supplemented with a coordinated network of trails administered by local jurisdictions.

6.3.4 Efforts will be made to coordinate with initiatives of the Regional District of North Okanagan and Okanagan-Similkameen in developing links between the regional trail systems of our neighboring two regional districts.

6.4 Selecting Regional Park Land

Potential park area will offer features that are regionally significant for nature appreciation, recreation, or wilderness experiences.

6.4.1 The presence of cultural heritage resources within the potential park area will enhance its value as park land, however, sites with cultural heritage value will not, in themselves, constitute candidate parks for the regional park system.

6.4.2 The parks system will be representative of the Central Okanagan geography and vegetation, emphasizing the dominance of the freshwater shoreline while illustrating the diversity of upland forest and freshwater ecology.

6.4.3 The regional park system will contain sufficient park lands so that there exists a ratio in excess of 12 hectares of park land per 1000 people of resident population.

6.5 Master Plans

6.5.1 All lands and facilities administered by the Parks Department will be managed in accordance with an approved master plan for each park. The plan will address such topics as programs and facilities, land acquisition, park classification, recreational activities, interpretation, maintenance, staffing, funding, and interest group agreements.

6.5.2 Each master plan will be reviewed and updated as required.

6.5.3 From the initial stage; of planning, opportunities will be provided for public review of master plans and programs.

6.5.4 Each master plan will be approved by RDCO Board.

6.6 Land Acquisition

6.6.1 Additional parklands will be acquired by purchase, gift or transfer in accordance with the park system plan or specific park master plan.

6.6.2 In evaluating the suitability of a candidate property for park purposes, consideration will be given to: size and configuration; proximity to regional residents; accessibility; recreation and/or interpretive potential; adjacent land uses; gaps and deficiencies within the existing parks system; costs of acquisition and management.

6.6.3 The criteria for assessing additional parkland will be used to assess both potential additions to existing parks as well as any site/property which could be considered as a potential new park but which is not included in the park system plan.

6.6.4 Priority will be given to the acquisition of natural landscapes threatened by development that are acknowledged as integral to the completed regional park system.

6.6.5 Careful consideration will be given to the most appropriate means of disposal for lands which are no longer required for park purposes.

6.7 Resource Management

In a province which is increasingly dominated by resource exploitation, man-made landscapes and urbanization, the regional parks are important sanctuaries of nature and recreation for RDCO residents. The regional parks perform an important and invaluable role in protecting representative examples of regional landscapes, including local flora and fauna. Sound ecologically based management policies are required to ensure long-term protection of the natural values of regional parks. Maintaining these natural environments is a goal that is widely supported by public opinion within the RDCO.

6.8 Resource Protection

6.8.1 Natural resources within regional parks will be given a high degree of protection, and will be managed with minimal interference to natural processes.

6.8.2 Measures to control or direct visitor use so as to avoid the need for active resource management, will be undertaken where appropriate. These will include: the installation of gates and barriers; the erection of signs; and the enforcement of fire restrictions and park closures.

6.8.3 Exploitation, extraction or development of natural resources will not be permitted in regional parks, except as required for purposes of park management.

6.8.4 Community infrastructure and facilities such as reservoirs, communications facilities, etc. will

not be developed in regional parks except as provided for below.

6.8.5 In special situations non-related facilities may be developed if all of the following conditions are not:

- absolutely no other site outside a regional park is available or feasible;
- the development of the facility will not jeopardize the ability of the park to fulfill its purpose;
- the development is located and undertaken with a sensitivity to the park resources and the experience of the park visitor; and
- the development avoids key park resources and focal points of use.

6.9 Management Strategies

6.9.1 An integrated natural resource data base will be developed and maintained for each regional park.

6.9.2 The highest degree of protection will be given to those specific areas which contain or support unique, rare or endangered features, or the best examples of natural features.

6.9.3 Specific park features requiring special protection, and the appropriate means for achieving that level of protection, will be identified in the park master plan.

6.9.4 Individual park master plans will specify the types and extent of terrain or landscape modification that will be permitted within the park. Such modification will reflect the classification of the individual park, with lower levels of modification being acceptable in conservation and natural area parks than in recreation parks.

6.9.5 Terrain or landscape modification may take place in order to:

- protect or enhance opportunities for appreciation and enjoyment;
- construct essential park facilities;
- provide for access within a park;
- maintain the vista from a designated viewpoint;
- control exotic species, weeds, etc.;
- ensure an acceptable level of visitor safety; or
- protect or enhance habitat for fish, wildlife and plants.

6.9.6 Certain vegetation modification programs are considered appropriate within regional parks. These include:

- knapweed control;
- aquatic weed harvesting in beach and other high use areas of lakes within recreation parks;
- vegetation control (mowing grass and maintaining open fields in designated use areas such as park entry areas and picnic and play areas); and
- removal of hazardous trees in designated visitor use areas

6.10 Research

The Parks Department will encourage and conduct research regarding the natural phenomena, public needs, visitor use and impacts so as to contribute directly to the protection, development, interpretation,

planning and management of regional parks.

6.10.1 Research activities within regional parks will be controlled by the Parks Department so as to protect natural resources and recreation opportunities.

6.10.2 The Parks Department will seek to establish and maintain cooperative working relationships with active environmental and parks research groups, such as relevant Departments of the Okanagan University College, who may have an interest in the protection and management challenges of the regional park system.

6.10.3 Research activities within Regional Parks will be directed by the Parks Department so as to provide the most relevant and high priority research data required by the department for the management and operation of its parks.

6.10.4 The results of all approved research will be submitted to the Parks Department for its unqualified use.

6.11 Resource Management and Adjacent Lands

The Parks Department will endeavor to be a "good neighbor" with adjacent land owners. Park staff will ensure that adjacent land owners are made aware of the goals and objectives of the regional parks, and will seek their cooperation in this regard.

6.11.1 In special circumstances, park staff may take action to protect adjacent lands from natural processes (eg. falling trees) which could be damaging to private property. However, the Parks Department will not be responsible for damage to private property associated with normal management practices or natural processes on park lands.

6.12 Visitor Use

The Central Okanagan's Regional Parks have a long history of use by individuals, families and organized groups. Individuals and families enjoy swimming, walking, boating, hiking, picnics, running, horseback riding, and nature appreciation. Groups with special interests have frequently organized nature outings and special events and/or constructed facilities for more specialized activities such as nature appreciation, rowing, dog training, and horseback riding. Sound management policies and practices will help to ensure that a variety of appropriate activities and increasing numbers of people can continue to be accommodated up to capacity limits within the regional parks.

6.13 Appropriate Activities

6.13.1 Those recreational activities which are considered to be appropriate will be encouraged. An appropriate recreational activity is one which:

- is dependent upon a natural setting; and
- encourages an appreciation and enjoyment of the natural environment, and
- is compatible with other park uses.

6.13.2 Those activities which are considered to be inappropriate will be

discouraged or prohibited. An inappropriate activity is one which:

- interferes with the enjoyment or activities of other visitors;
- causes excessive noise;
- involves the use of motorized vehicles or equipment;
- causes a significant impact to the natural environment;
- or is prohibited by law, bylaw or regulation.

6.13.3 Day use recreational activities will be encouraged in most Regional Parks. No camping will be permitted in the park system other than in Regional Parks designated for camping.

6.13.4 Certain recreational activities will be allowed only in designated parks or in designated areas because of the facilities they require, their impact on the environment, or the degree of influence on other recreational pursuits. Such activities include: horseback riding, orienteering, bicycle riding and group events.

6.13.5 The recreational activity opportunities and restrictions addressed above, will be identified in detail in the master plan for each park.

6.13.6 The carrying capacity of each park, and high use areas within the park, will be designated within the master plan for the park.

6.13.7 The carrying capacity will identify the levels and locations of visitor use of the park to the extent possible. A standard system of data collection and recording will be developed and regularly implemented.

6.14 Commercial Services

6.14.1 Commercial facilities will not be permitted in regional parks.

6.14.2 Commercial services will not be permitted in regional parks unless they are program oriented, personal services such as guided programs or recreational activity training. In such exceptional cases, each proposed service will be assessed according to the criteria identified below.

6.14.3 In special situations commercial services may be permitted to operate within a regional park if all of the following conditions are met:

- the service and/or activity is 'appropriate', as defined above;
- the service is not able to be operated effectively outside the park boundary;
- the business has demonstrated previous, successful operation and have a proven record and credentials for safety, insurance, etc.;
- all business licences and standards required by the municipality are up-to-date;
- a minimum of environmental impact will result from continued service;
- the location used is selected with a sensitivity to the park resources and the experience of park visitors; and
- no facilities, permanent or temporary, are associated with the service or activity.

6.14.3 Non-profit societies with approved facilities within regional parks may

also provide associated public services in accordance with the conditions identified in their license of occupation.

6.14.4 Additional facilities for the sole purpose of commercial enterprises will not be acceptable.

6.14.5 Commercial services and non-profit society services will only be allowed in designated areas in designated parks because of their impact on the environment, or the degree of influence on other recreational pursuits. Specific limitations on the area of use will be identified in the park use permit or license of occupation.

6.14.6 The recreational activity opportunities and restrictions addressed above, will be identified in detail in the master plan for each park. Any request for additional commercial services or new non-profit group agreements must be reviewed in the context of a master plan review for the park.

6.14.7 Parks Department staff may cooperate with adjacent commercial enterprises that provide services and facilities which enhance existing opportunities for public appreciation and enjoyment of regional parks. Provisions for the management of visitor activities both inside and outside the park, including access to and from the park, signage, garbage disposal facilities, etc., may be cooperatively planned and executed.

6.15 Special Events and Organized Groups

The Parks Department may provide opportunities for organized non-profit groups to use park lands to construct and operate special facilities and conduct special events in conjunction with appropriate recreational activities where a need for regional parkland can be demonstrated to the RDCO Parks Committee. This type of use will be administered by license of occupation.

6.15.1 A license of occupation will be accompanied by a fee or rent based on the nature of the facility, the location and extent of the area being used, the facility use levels, the effect of the facility on park use, etc.

6.15.2 A license of occupation, referred to above, will specify terms and conditions of use. The following terms and conditions will normally apply:

- the general public shall not be denied access to any facility;
- the financing, construction, operation and maintenance of a special facility will be the responsibility of the organized group, not the Parks Department;
- the group will be required to submit an annual report and financial statement;
- the group will be required to submit by November 30, a schedule of activities for the following calendar year;
- fund-raising events will be permitted only if the central focus of the event
- is an appropriate activity as defined above;

- where a group fails to conform to the standards and guidelines of the Parks Department or maintain their site or facility in a condition satisfactory to the Parks Administrator, as specified in the permit, license agreement or lease, the site or facility may be transferred to another group or reverted to general public use. In such cases, the group may be responsible for the removal of their facilities and any site restoration deemed necessary by the Parks Administration; where a group fails to conduct any of their affairs according to the policies of the RDCO Parks Department and the terms of the permit, license, agreement or lease, the permit, license, agreement or lease will be terminated and future applications from said group will not be considered.

6.15.3 The Parks Department may provide opportunities for organized non-profit groups to use park lands for special events involving appropriate recreational activities as defined above. This type of use will be administered by permit and will include a fee designated for each occasion of use.

6.15.4 The permit referred to above will specify terms and conditions of use. The following terms and conditions will normally apply:

- the event will be limited to the area and times designated in the permit;
- the operation of the event (including any additional temporary support facilities) and clean-up of the site will be the responsibility of the organized group, not the Parks Department; and
- where a group fails to conduct their affairs according to the policies of the RDCO Parks Department and the terms of the permit, the permit will be terminated and future applications from said group will not be considered.

6.15.5 Competitions will be considered as special events and be subject to all the appropriate policies described above which control the type of activity, location, duration, conditions of the permit, etc.

6.16 Visitor Safety

6.16.1 Each visitor is responsible for his/her own health and safety while using park lands or facilities.

6.16.2 The amount, kind, time and location of outdoor recreation activities will be controlled to contribute to visitor safety and enjoyment, and to protect park resources. The Parks Department will determine the most appropriate form of control based on the nature of the resources and the visitor risk. Examples of actions that may be utilized include: signage, park closures, gates, and activity restrictions.

6.17 Regulations

6.17.1 Park visitors will be made aware of relevant rules and regulations through personal contact with parks staff, and through park signing and publications.

6.17.2 The Parks Department will encourage the establishment of a

common set of municipal by-laws associated with park management issues throughout the Regional District.

6.17.3 All parks staff and designated volunteers will encourage visitors to comply with rules and regulations and all relevant regulations will be enforced as required. Parks staff will maintain an ongoing liaison with the RCMP to ensure their cooperation in this regard.

6.17.4 Wherever possible designated employees will be granted legal enforcement status (e.g. Peace Officer) to facilitate the effectiveness of their enforcement.

6.17.5 Enforcement of park regulations will be undertaken according to the procedures outlined in the Parks Department Regulations Enforcement Manual.

6.18 Information and Interpretation

One of the greatest assets of such an extensive system of natural parklands within the region is the opportunity to provide visitors with an appreciation for the diversity and character of the environment in which we live. Educating park visitors about natural systems and processes will help to ensure wise use and public support for the establishment and protection of park lands. The efforts made by the Parks Department to show people how to enjoy and benefit from the parks in ways that are consistent with such protection will contribute greatly to the regional parks reaching their potential with the desirable balance between recreation and protection.

6.19 Information and Marketing

6.19.1 Accurate information about regional parks will be made available to all regional residents and to park visitors so as to encourage and assist them to appreciate and enjoy regional parks.

6.19.2 The Parks Department will provide information to make visitors aware of the opportunities for the understanding, appreciation and enjoyment of each regional park, including programs and facilities, rules and regulations, equipment and natural hazards.

6.19.3 Efforts will be made to encourage local residents to visit the regional parks, and to inform them about the parks, using appropriate advertising techniques (e.g. announcements on radio and television, displays in shopping malls, participation in community events, etc.).

6.19.4 Efforts will be made to ensure that information about the parks which is dispensed by local tourism agencies and other organizations is accurate, up-to-date, and appropriate. Assistance may be provided to such organizations to assist them in providing a quality information concerning the park system.

6.20 Interpretation

6.20.1 Interpretation will be provided in all regional parks to promote understanding and appreciation of each park's natural and cultural values. In some parks, this will simply consist of providing signs and

publications. In others, more elaborate opportunities will be possible including the presence of an interpretive facility and the availability of regular on-site programs.

6.20.2 The general extent of interpretation in each park will be identified in the park master plan and will be based on the following factors:

- the nature of the park resources;
- the suitability of the resources for on-site interpretation; and
- the present number of visitors in the park, or the potential of the park to attract and withstand visitors.

6.20.3 An interpretive plan will be prepared for each regional park. Priority will be given to regional parks in the Natural Area class. In addition, priorities will be established based on the direction provided in the master plans for the parks. The plan will address goals and objectives, interpretive themes and messages, audience, programming, media, facilities, staff, and volunteers. The plan will recognize and be consistent with the master plan for the park.

6.20.4 Children, seniors, special needs groups and school groups will be considered as special target groups for interpretive programs.

6.20.5 Along with other government agencies and local schools, the Parks Department will deliver outdoor education programs in the RDCO. The primary role of the Parks Department in this regard is to conduct on-site nature interpretive programs within the parks. A secondary role is to respond to requests for information about the parks and their ecosystems from teachers, educators and special interest groups.

6.20.6 Interpretive programs will not be conducted outside regional parks.

6.21 Publications

6.21.1 Publications will be produced for all major parks, and for the RDCO park system, in accordance with approved guidelines. Guidelines will be prepared and will address such topics as purpose and objectives, messages, distribution, production standards and specifications, and funding.

6.21.2 Park publications will be distributed to RDCO residents as a first priority, and to visitors as budgets permit.

6.21.3 Efforts will be made to recover part of the costs associated with producing park publications.

6.22 Park Facilities

The Parks Department encourages all residents of the Central Okanagan to appreciate, enjoy and benefit from the regional parks. To do this, the Parks Department must continue to provide and maintain appropriate, high-quality facilities. Park facilities which are carefully designed and well maintained can serve to protect park resources, to reduce vandalism, to project a distinctive and attractive image of the regional parks, to enhance recreational opportunities and to ensure visitor safety.

6.23 Facility Types

The Parks Department will provide those facilities essential for public appreciation and enjoyment of the regional parks. This will include (but not necessarily be limited to) trails, parking lots and roads, litter barrels, toilet facilities, picnic tables and/or shelters, and signs.

6.24 Site Plans

6.24.1 All facilities, whether provided by the Parks Department or other groups, will be constructed in accordance with specifications as set forth in an approved site plan.

6.24.2 The site plan will recognize and be consistent with the master plan for the park, and the interpretive plan where appropriate.

6.24.3 The site plan must be approved by the Manager of Park Planning & Design in advance of any construction or pre-construction site preparation.

6.25 Facility Standards

6.25.1 Facility standards and designs will be developed for all Parks Department facilities.

6.25.2 All facilities will be constructed and maintained to an appropriate standard, as defined in the Parks Department Maintenance Management System.

6.25.3 All park facilities will be designed and constructed so as to project an image that is distinctive, unique and appropriate to the regional parks. Local, natural materials will be used wherever appropriate.

6.25.4 All facilities will be designed, constructed and maintained so as ensure a high degree of visitor safety.

6.25.5 Efforts will be made to protect park property, and that of visitors, from acts of vandalism and theft. Suitable measures will be taken at each stage of the design, location and construction of facilities.

6.25.6 All park signing will be in accordance with approved guidelines provided in the proposed Parks Department Sign Manual.

6.26 Administration

6.26.1 While financial resources have been adequate in the early years of development of the park system, the high personal commitment and resourcefulness of the staff have been instrumental in achieving the level of park services and programming visitors now appreciate.

6.26.2 Maintenance of existing facilities, provision of new facilities and continued delivery of visitor services and programs will require an on-going commitment to adequate levels of staffing, maintenance of staff incentives and adequate financial resources for the Parks Department.

6.27 Staffing

6.27.1 The Parks Department will hire sufficient staff to adequately develop, administer and manage the regional parks and associated programs and services.

6.27.2 A staffing plan that is consistent with the approved system plan will be prepared and implemented. Such a plan will be up-dated as required by the review and revision of the system plan.

6.27.3 Additional staff beyond the scope of the staffing plan will be hired on a temporary basis from time to time to undertake special projects and to respond to extra demands of special public events.

6.27.4 All staff will receive training, as required, to improve their on-the-job effectiveness and performance. This will include training in relevant professional and technical duties, public relations, law enforcement, and first aid.

6.28 Volunteers

6.28.1 The Parks Department will provide opportunities for local residents to volunteer their services in such areas as interpretation, maintenance, enforcement, and facility and trail construction.

6.28.2 All volunteers will be readily identifiable as such, and the basic resources required to support each volunteer will be provided by the Parks Department.

6.28.3 The system of volunteer recognition will be designed and implemented to make the general public aware of the volunteer contributions made to the system and the opportunities to be involved.

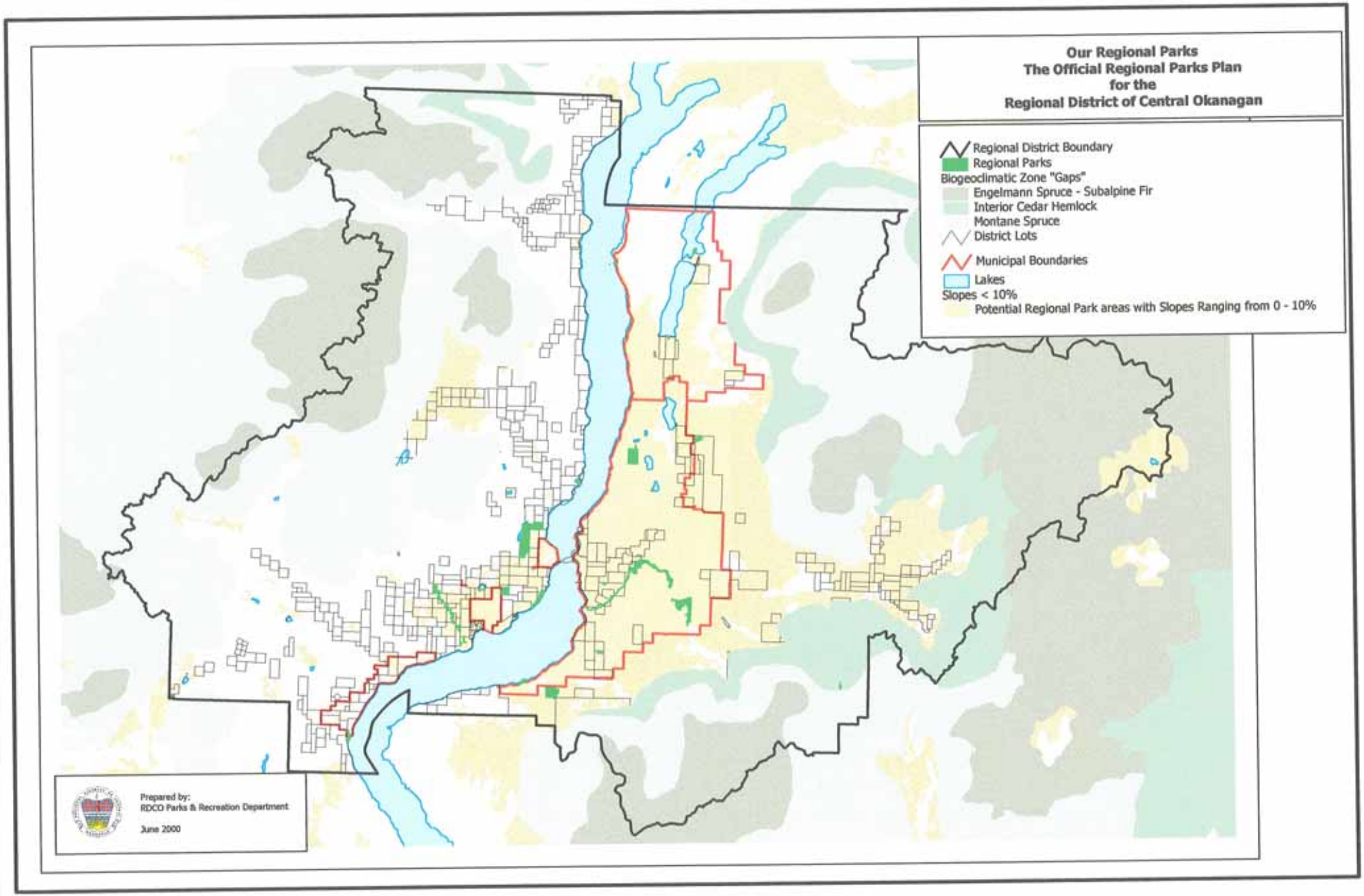
6.28.4 Recognition of the role of volunteers, and the importance of organization and effort on the part of the Parks Department to create an effective system, will be reflected in the staffing plan identified above.

6.28.5 The Parks Department will also encourage and respond to initiatives of organized groups of volunteers to work cooperatively with the Department in the on-going planning, development and operation of the parks. Long-term relationships and agreements may result from such initiatives.

6.29 Financial Management

6.29.1 Efforts will be made to recover operating costs associated with programs and/or facilities for organized groups or special-interest groups.

6.29.2 Private citizens, local businesses and organized groups will be encouraged to contribute towards the costs associated with the regional park system. A special regional parks fund, and fundraising events, may be organized to assist in this regard.


Our Regional Parks
The Official Regional Parks Plan
for the
Regional District of Central Okanagan
Regional District Boundary
Regional Parks
Biogeoclimatic Zone "Gaps"
Engelmann Spruce - Subalpine Fir
Interior Cedar Hemlock
Montane Spruce
District Lots
Municipal Boundaries
Lakes
Slopes < 10%
Potential Regional Park areas with Slopes Ranging from 0 - 10%
Prepared by:
RDCO Parks & Recreation Department
June 2000

APPENDIX A

Resolution #473/00

REGIONAL DISTRICT OF CENTRAL OKANAGAN

RESOLUTION

WHEREAS Bylaw No. 410 being "Regional District of Central Okanagan Regional Parks Extended Service Establishment Bylaw No. 410, 1990" was adopted March 5, 1990;

AND WHEREAS the Board of the Regional District of Central Okanagan has consistently set the annual requisition limit for the extended service of regional parks at sixteen ($0.16) cents per $1,000 of the net taxable value of land and improvements within the service area;

AND WHEREAS it is deemed desirable to increase the annual requisition limit by three cents ($0.03) per $1,000 net taxable value of land and improvements within the service area for each of the years 2002 through 2006 inclusive;

AND WHEREAS the purpose of the increase is to assist in the purchase of property commonly called the Gellatly Nut Farm for regional park purposes;

NOW THEREFORE the Regional Board of the Regional District of Central Okanagan agrees as follows:

1. The maximum amount of money that may be requisitioned annually pursuant to Bylaw No. 410 will not exceed sixteen ($0.16) cents per $1,000 of net taxable value of land and improvements for Regional District purposes within the service area.

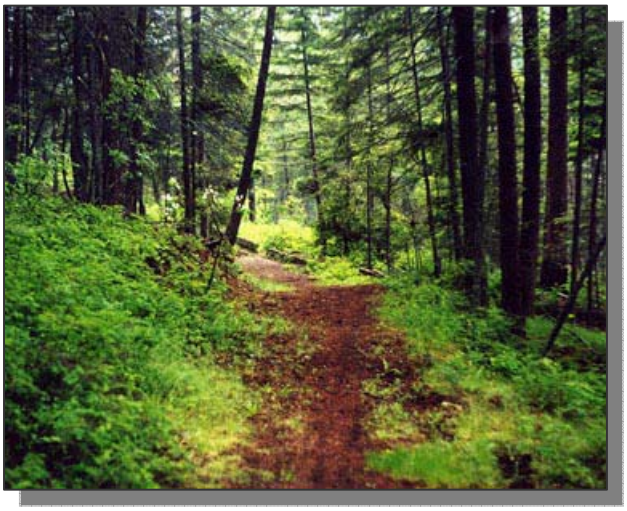
2. Notwithstanding Paragraph 1, the maximum amount of money that may be requisitioned pursuant to Bylaw No. 410 will not exceed nineteen ($0.19) cents per $1,000 of net taxable value of land and improvements for Regional District purposes within the service area for each of the years 2002 through 2006 inclusive.

3. A change to this policy will require consent of 2/3 of the participants to the Regional Parks Service as set out and established by Bylaw No. 410. (Participant means and refers to the participating areas of the service area.) Those participating areas are Kelowna, Lake Country, Peachland and the Electoral Areas "G", "I", and Westbank. Therefore, consent will be required from 4 of the 6 participants.

I, W.B. d'Easum, Chief Administrative Officer of the Regional District of Central Okanagan do hereby certify that the above is a true and correct copy of a resolution which was adopted by the Regional Board at its meeting held the 30th day of October, 2000.

Dated at Kelowna, B.C.
this 22nd day of November, 2000.

W.B. d'Easum, Chief Administrative Officer



REGIONAL PARKS AND GREENWAYS PLAN

FOR THE CENTRAL OKANAGAN

(2008 – 2020)

REGIONAL DISTRICT of CENTRAL OKANAGAN

A Brief History of the Central Okanagan Regional Parks System

On July 21, 1971 Director J. Stuart, Chairman of the Regional Parks and Recreation Committee presented a report entitled "A Regional Parks Plan" to the Board of the Regional District of Central Okanagan (RDCO). The report contained the synthesis of years of work and provided strategic recommendations for the establishment of a *"Regional Parks System"*. The report described the importance of establishing a regional parks systems and provided the following as rationale for establishing a "regional" approach to a park system delivery.

> *"In this Regional District, centrally located in the Okanagan Valley, we have already experienced pains of park shortage. People are unable to find enough space at the beach, and people simply stay at home to avoid being frustrated.*
>
> *The demands for public open space are real, and we must endeavor to satisfy all these demands adequately, within our park system. The prospect is for ever increasing need for public open space and unless we allow for these future needs now, our diminishing regional resources will not meet these needs.*
>
> *Today, with transportation facilities available to us, it is not unusual for a casual drive to take us across the whole Regional District, or in some cases even to cross regional boundaries. It is this expanding social world that has brought the problem of regional parks to the forefront. People are no longer satisfied with only local community recreational opportunities, and cannot be expected therefore, to use only community parks."*
>
> *"Report to the Regional Board of the Regional District of Central Okanagan on a Regional Parks Plan" Prepared by – Regional Parks Committee Chair Mr. J. Stuart June 1971*

After several years of debate and discussion between the Regional Board and member municipalities, a Regional Park function was granted to the Regional District by supplementary Letters Patent issued on October 25, 1974 and amended on December 19, 1986. The Regional Parks "function" was converted to an "extended service" on January 22, 1990 though the adoption of Bylaw #410.

Central Okanagan Regional Parks and Greenways Defined

Since 1974, the Central Okanagan Regional Parks and Greenways service program has evolved into a system of 28 regional parks and greenways totaling over 1100 Ha (2800 acres) which are now considered integral to contributing to the quality of life and sustainability interests expressed by residents within each community of the Central Okanagan.

In redefining "regional parks and greenways" in the context of other public park space providers within the Central Okanagan (i.e. municipal parks, provincial parks, etc), the 2008 plan does not attempt to reconcile existing regional park land properties that may be viewed as "inconsistent" with a new definition for future regional park land acquisition interests. Adjacent land use changes, increasing demands for recreation oriented service provision (i.e. beach access amenities, active sport amenities, etc) require that the management of the existing system of parks be responsive to these needs.

As the regional park service is delivered for the benefit of all residents of the Central Okanagan, differentiating "regional" parks from other forms of park land within the various communities is best described by emphasizing that the regional park land and greenways system was established to focus on properties that are "regionally significant". In the Central Okanagan these areas must exhibit the following characteristics:

> ***Central Okanagan Regionally Significant Areas are geographic areas that exemplify natural and/or cultural attributes from the region which are considered important to all the residents of the region. These areas must provide opportunities for appropriate outdoor activities that will attract people from throughout the Central Okanagan.***

This plan proposes that future regional park land acquisition and management planning will focus on the following key regionally significant interests:

1. ***Regional Parks will secure "regionally significant" natural and human heritage park areas. Future park land acquisitions will strive to protect lands which will augment an existing provincial, regional and municipal parks system such that these parks collectively represent a complete range of ecosystems for the Central Okanagan.***

2. ***The Regional Parks system will strive to develop a "Greenway Network" of park spaces which represent and help conserve a diverse range of Central Okanagan natural environments. Central Okanagan Greenways will contribute to livability in the region by providing citizens with opportunities to recreate, commute and prosper through the protection of a complete range of area ecosystems.***

Proposed guiding principles for implementation of the regional parks and greenways plan include that:

(1) The RDCO and Municipal Partners regional parks management relationship for greenways will continue to provide for flexibility based on the level of improvements identified for the greenway, geographic character of the trail(s), proximity to intensive urban land uses, and proximity to urban / rural boundaries. Identified future / municipal greenway management relationships include:

- Mission Creek Greenway (RDCO / Kelowna)
- Lebanon Creek Greenway (RDCO / Kelowna)
- Bellevue Creek Greenway (RDCO / Kelowna)
- Mill Creek / Wood Lake Greenway (RDCO / Kelowna / Lake Country)
- Glen Canyon Greenway (RDCO / Westside)
- Trepanier Greenway (RDCO / Peachland)

(2) Future regional park land acquisitions are encouraged to explore opportunities for partnership funding. These acquisitions must clearly demonstrate that any shared park land acquisition interests demonstrate the essential characteristics of a "regional park" as defined as well as the complimentary park land values which are important to a partner organization.

(3) Cultural heritage regional park areas will be considered only if the sites have regional, provincial or national heritage value characteristics and also can provide for other "regionally" significant values as defined above.

The Existing System of Regional Parks and Greenways

The park management classification system is composed of four primary park classes: (1) Conservation, (2) Natural, (3) Recreation / Cultural / Waterfront, and (4) Trails (Greenways).

1. Regional Conservation Parks

Regional Conservation Parks are managed for the protection or enhancement of habitat values of vegetation and wildlife. The provision of recreation may occur but is subordinate to habitat values. Natural processes may take their natural course and management practices may occur at the detriment of aesthetics or public access.

2. Regional Natural Area Park

Regional Natural Area Parks provide opportunities for increasing awareness and knowledge of the natural environment of the Okanagan Valley. These areas must contain regionally significant features of geology, physiography, vegetation communities, or wildlife habitat.

3. Regional Recreation / Cultural / Waterfront Park

Regional Recreation/ Cultural/Waterfront Parks provide varied forms of more active recreation. These parks primarily focus on meeting the aquatic recreation needs of the region and/or preserve unique cultural landscapes. The management emphasis within Regional Recreation / Cultural Parks will be intensive outdoor or interpretive program day use.

4. Regional Trail (Greenways)

Regional Trails will be established to link provincial, regional and major municipal parks throughout the Central Okanagan.

Development of the Regional Trail System will require collaboration with municipal and provincial park partners as well as non-government organizations in the acquisition and development of "greenway" systems that provide both recreational and habitat links to other open spaces.

Table 1: Classification of Regional Parks by Management Class

Regional Park	Management Classification			
	Conservation	Natural	Recreation (R) / Cultural ©/ Waterfront (W)	Trails (Greenways)
1. Antlers Beach			• (R&W)	
2. Bertram Creek			• (R&W)	
3. Cedar Mountain		•		
4. Coldham Park	•			
5. Evely Forest Recreation Site			• (R&W)	
6. Gellatly Heritage Park			• ©	
7. Gellatly Nut Farm				
8. Glen Canyon				•
9. Kalamoir		•		
10. Kaloya			• (R&W)	
11. Kopje			• (R/W&©)	
12. McCulloch			• (R&©)	
13. McCulloch Recreation Site			• (R&W)	
14. Mill Creek		•		
15. Mission Creek		•		
16. Mission Creek Greenway				•
17. Mount Boucherie	•			
18. Okanagan Centre Safe Harbour			• (R&W)	
19. Raymer Bay			• (R&W)	
20. RDCO Sport Fields – KLO Road				
21. Robert Lake	•			
22. Reisweg			• (R&W)	
23. Rose Valley	•			
24. Scenic Canyon		•		
25. Shannon Lake			• (R&W)	
26. Stevens Coyote Ridge	•			
27. Traders Cove			• (R&W)	
28. Woodhaven		•		

Financial Tools for Regional Parks and Greenways System Management

- Annual tax requisition (i.e. 2007 tax rate = $0.1583 per $1000 assessed value)
- Partnerships & Donations – NGO Partners including Central Okanagan Parks & Wildlife Trust, Friends of Mission Creek, Gellatly Nut Farm Society, Friends of Kalamoir Regional Park, Nature Trust of B.C., etc.)
- Regional Parkland Legacy Program (Parkland Acquisition Reserve Fund) – 2007 tax requisition of $0.02 per $1000 assessed value

  The key principle behind the establishment of the "Regional Parkland Legacy Fund" is the capacity to utilize the fund for short term (< 5 year) loan debt servicing as well the associated residual investment into a regional park land acquisition reserve fund for intermediate term acquisitions. Other benefits are:

  1. Long term debt servicing costs to the Regional Parks System budget are better managed.
  2. The Regional parkland acquisition program can utilize reserves in a strategic "pay-as-you-go" approach for key regional park interests.
  3. Implementation of short term (< 5 year) debt servicing program for "immediate" park land acquisition interests will assist in securing protection of critical sensitive ecosystems and provide for establishing key "greenway" linkages in the Central Okanagan.
  4. An option will exist for the implementation of a 5 year - $3.5 Million debt servicing program for "immediate" park land acquisition interests which will secure protection of a critical ecosystems and provide for assisting in the establishment of key "greenway" linkages in the Central Okanagan.
  5. Utilizing a debt servicing term of only 5 years will enable the RDCO to capitalize on reduced loan interest rates (estimated to be 5.5% - 5 year term) and reduce the effect of rising real estate market to secure key park land interest properties.
  6. Establishment of a reserve fund for regional parks acquisition of $0.02 per thousand of assessed value (2007) will secure reserve funds which will grow at approximately $750,000 annually. Net effect on an average home in the Central Okanagan was $8.40 annually (2007).
  7. Long term debt servicing costs to the Regional Parks System budget are better managed.
  8. The Regional parkland acquisition program can utilize reserves in a strategic "pay-as-you-go" approach for key regional park and greenways interests.
  9. Upon retirement of a 2007 debt service load in 2017 and transferring the annual debt servicing requisition to reserves, the Regional park land reserve fund could accrue at a rate equivalent to $0.08 per thousand of assessed value resulting in an estimated value of >$2.5M annually secured in reserves for future park land acquisition purposes.

Future Financing for the Regional Parks and Greenways System

The Regional District of Central Okanagan annually adopts a five year financial plan for each of its service areas and the Regional Parks. In conjunction with consideration of these annual financial plans, the Regional Board also reviews the service delivery mandate, goals and program activities and establishes performance objectives which are reviewed on a quarterly basis throughout each fiscal year. In 2008, the RDCO Board of Directors will review the following proposed service program summary which describes an updated mandate, goals and activities description that will focus the future of regional park interests into:

(1) regionally significant natural area protection (representative Central Okanagan ecosystem conservation);
(2) regionally significant "greenways system conservation and development

Based on the above information, the following is proposed as a revised service program summary for the 2008 Five Year Financial Plan description for the Regional Parks Service program:

REGIONAL DISTRICT OF CENTRAL OKANAGAN
PERFORMANCE BASED BUDGETING AND MEASUREMENT

PROGRAM PLAN SUMMARY

Program: 142 - Regional Parks

Department: Parks and Recreation

Mandate:

Provide a network of regional parks and trails that represent a complete range of ecosystems and regionally significant natural and human heritage features for residents of and visitors to the Central Okanagan. The program will provide opportunities for experiences and activities that encourage public understanding, appreciation and enjoyment of the region's natural and cultural landscapes while ensuring the long term ecological and commemorative integrity of each park and trail.

Program Management Goals:

- Provide region-wide leadership in conservation and environmental stewardship through partnership, education, advocacy and management practices
- Conserve a complete range of ecosystems and regionally significant natural areas
- Provide and protect regionally significant park and trail opportunities that cross jurisdictional boundaries.
- Provide and protect access to crown properties, Okanagan lakes and valley trails.
- Conserve regionally significant human heritage features

Program Activities:

- Protect And Maintain Our Assets
- Provide More Outdoor Opportunities Close To Home
- Enrich The Park Experience
- Conserve Ecosystems For Life – Together
- Build Partnerships And Alliances
- Keep Our Parks Safe, Clean, And Well Maintained
- Secure Today For Tomorrow

Participating Members:

Funding:	All Central Okanagan Ratepayers Westbank First Nation Services Contract Rental Fees
Committees:	Regional Parks Advisory Committee
Contracts / Agreements:	City of Kelowna – Mission Creek Greenway District of Lake Country – Okanagan Center Safe Harbor BC Parks – Fintry Provincial Park Gellatly Cemetery Trustees – Gellatly Heritage Park BC Forestry Ministry – Killiney & McCulloch Campsites Westbank First Nation Services Contract

Regional Parks Listing as at January 2007

Conservation
Robert Lake
Rose Valley
Stephens Coyote Ridge
Mt. Boucherie
Woodhaven
Coldham

Natural
Cedar Mountain
Kalamoir
Mill Creek
Mission Creek
Scenic Canyon
Fintry

Trails (Greenways)
Glen Canyon
Mission Creek Greenway

Recreation / Cultural / Waterfront
Antlers Beach / Hardy Falls
Bertram Creek
Gellatly Heritage Park
Gellatly Nut Farm
Kaloya
Kopje
McCulloch Station
Okanagan Centre Safe Harbor
Raymer Bay
Reiswig
Shannon Lake
Traders Cove

Management Agreements
Evely Forest Recreation Site
(formerly Okanagan Lake Campsite - Killiney)
McCulloch Campsite

Regional Park Land and Greenways Acquisition Options

In 2007, the RDCO Board approved a ten year Regional park land acquisition strategy which identified seventy (70) properties of interest to the RDCO for future acquisition potential. In 2007 these properties represented an estimated $68 million in value and the RDCO Board supported the initiation of acquisition planning on several priority properties which would support the development of significant Central Okanagan greenway park systems in the Lebanon Creek, Bellevue Creek, Mill Creek, Trepanier Creek, Mission Creek and Powers Creek corridors.

The strategy also focuses on the identification of regionally significant Central Okanagan ecosystems that are currently not represented within park tenure. Through "gap analysis" the report identified that the biogeoclimatic zone Interior Douglas-Fir Okanagan Very Dry Hot – Grassland Phase zone (IDFxh1a –) was not represented within any park system type within the region. This zone occurs between 400-1250m with a warm and dry climatic regime and a relatively long growing season in which moisture deficits are common. Types of vegetation found in the zone may be:

> Moist Sites – Idaho Fescue, Bluebunch Wheatgrass, Silky Lupine, Arrow-Leaved Balsamroot, Parsnip-flowered Buckwheat, Junegrass, lichens, and mosses.
> Dry Sites – Pasture Sage, Bluebunch Wheatgrass, Arrow-Leaved Balsamroot, and Silky Lupine.
> Wet Sites – Idaho Fescue, Kentucky Bluegrass, Stiff Needlegrass, and Prairie Grass. On wetter sites Trembling Aspen and Yellow Pine are common.

The RDCO Board has also been working closely with the Province of B.C. and Westbank First Nation in negotiations to secure Crown lands of interest throughout the Central Okanagan. Future management of these interest areas will require a cooperative management model involving First Nations cultural interests, water utilities, and other resource management groups.

Central Okanagan Municipal Partners - Natural Areas Management

City of Kelowna

Project under development - Recreation Parks and Culture Task Force (2006 – 2007)

Natural Parks

Natural areas and open spaces include ravines, lands adjacent to creeks, wetlands, significant natural landscapes, hillsides not suitable for development and significant ecological features. These lands are generally maintained in their natural state but may include parkland development, which reflect environmental sensitivity.

In 1996 City Council endorsed a policy to protect natural areas and open spaces through public ownership in the order of 5% of the total land area of the City within 20 years. In 1996 the City owned 2.3% or 493 ha. By 1999 this total had risen to 3.3% or 710 ha. Although 5% is an achievable target, the standard should be stated as a minimum of 5% to ensure significant ecological features are protected through public ownership.

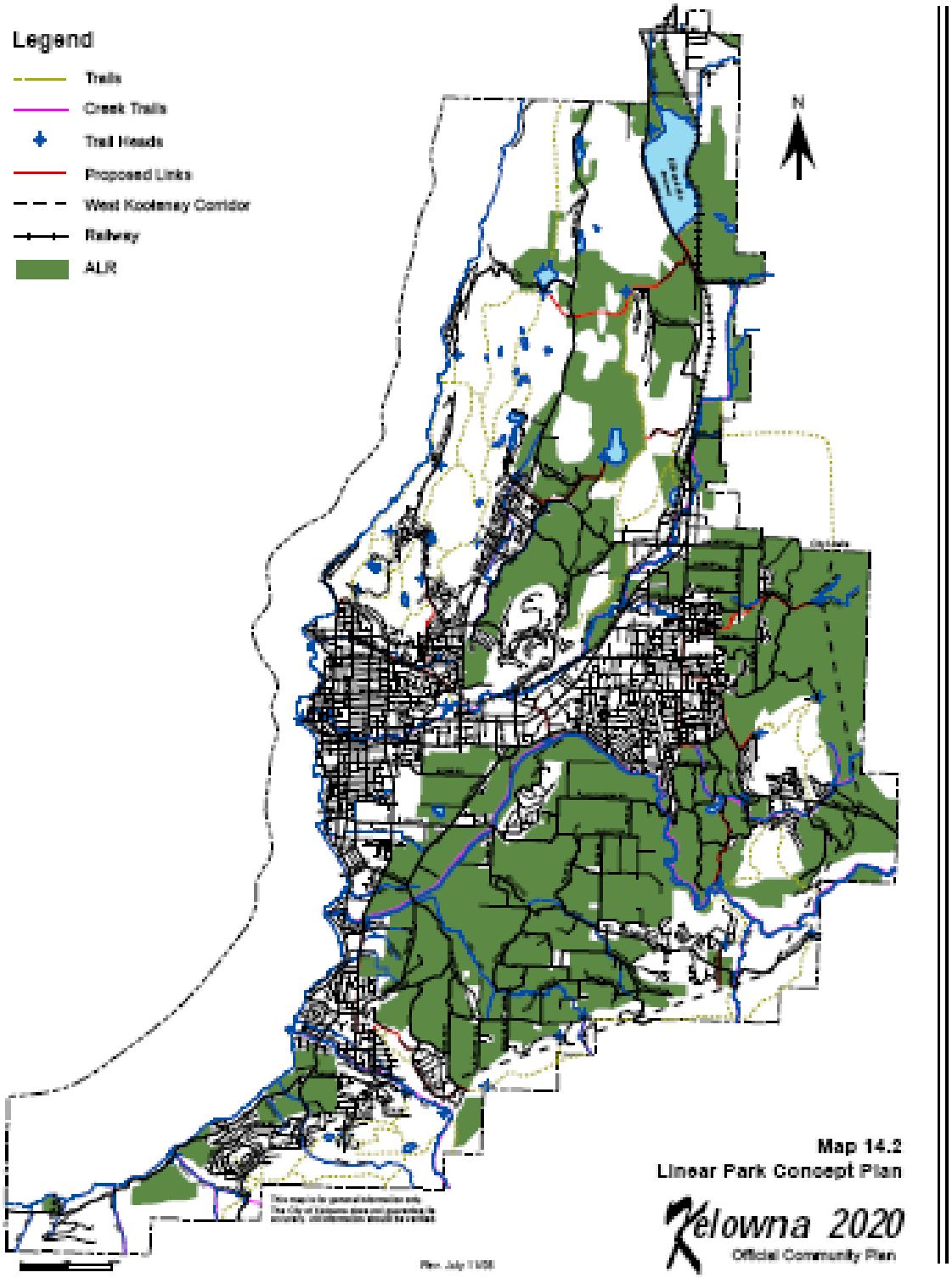
In addition to preserve natural landscapes or open space, it is not necessary that these be held in a public trust. More importantly “no disturb” instruments should be placed on these privately held lands to ensure preservation. Privately held lands are not calculated within the 5% goal of public ownership.

Management plans may be necessary for those significant natural areas to be developed as natural park, to ensure the recreational and environmental needs of the community are balanced.

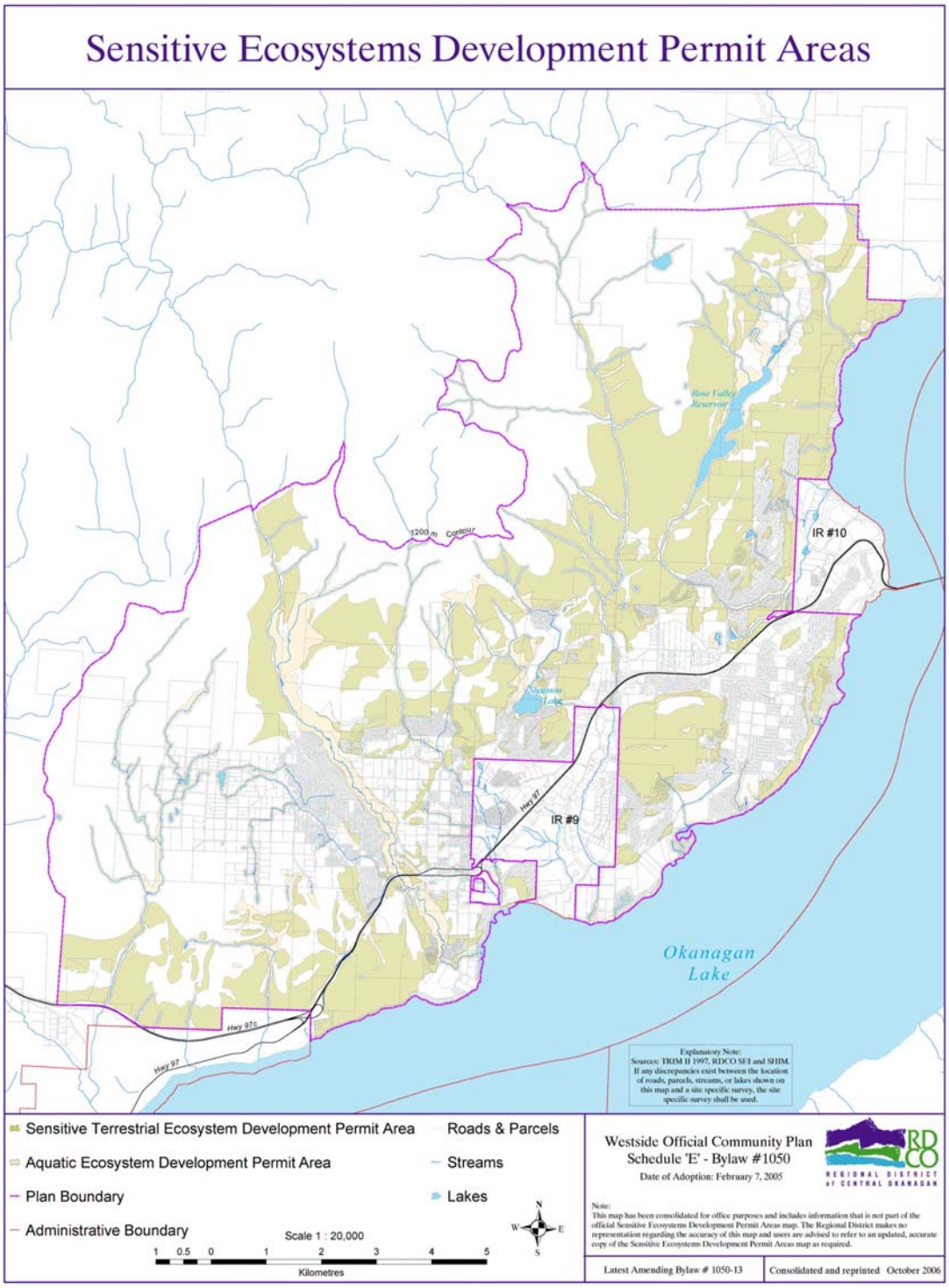
Natural areas provide a range of use and protection. Natural areas will be categorized as follows:

- Natural Parks contain a variety of uses and areas of preservation, conservation and recreation. Knox Mountain Park is a good example.
- Preservation Areas have limited recreational use and may not be accessible to the general public due to steep slopes or significant wetlands. Some of the steep slopes on Dilworth Mountain and Chichester Wetland are good examples.
- Private Conservation Open Space areas, are privately owned lands which preserve natural features and wetlands through no build and no disturb covenants on title. These lands are not part of the 5% goal of public ownership.

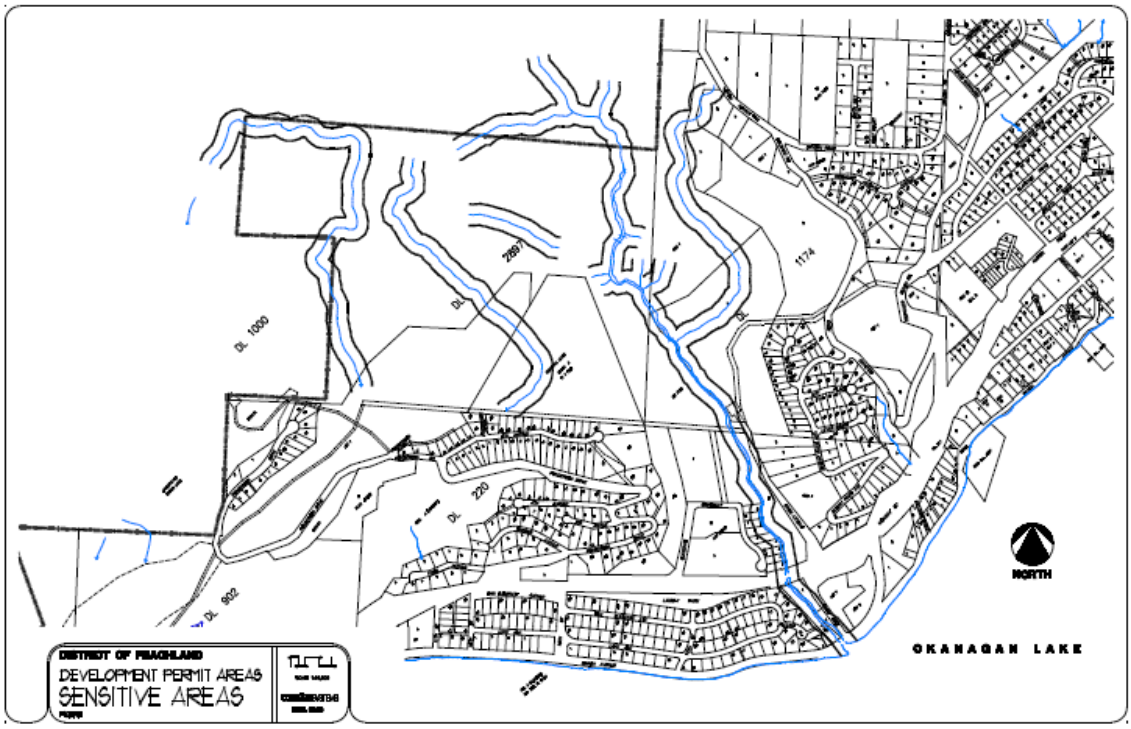
City of Kelowna



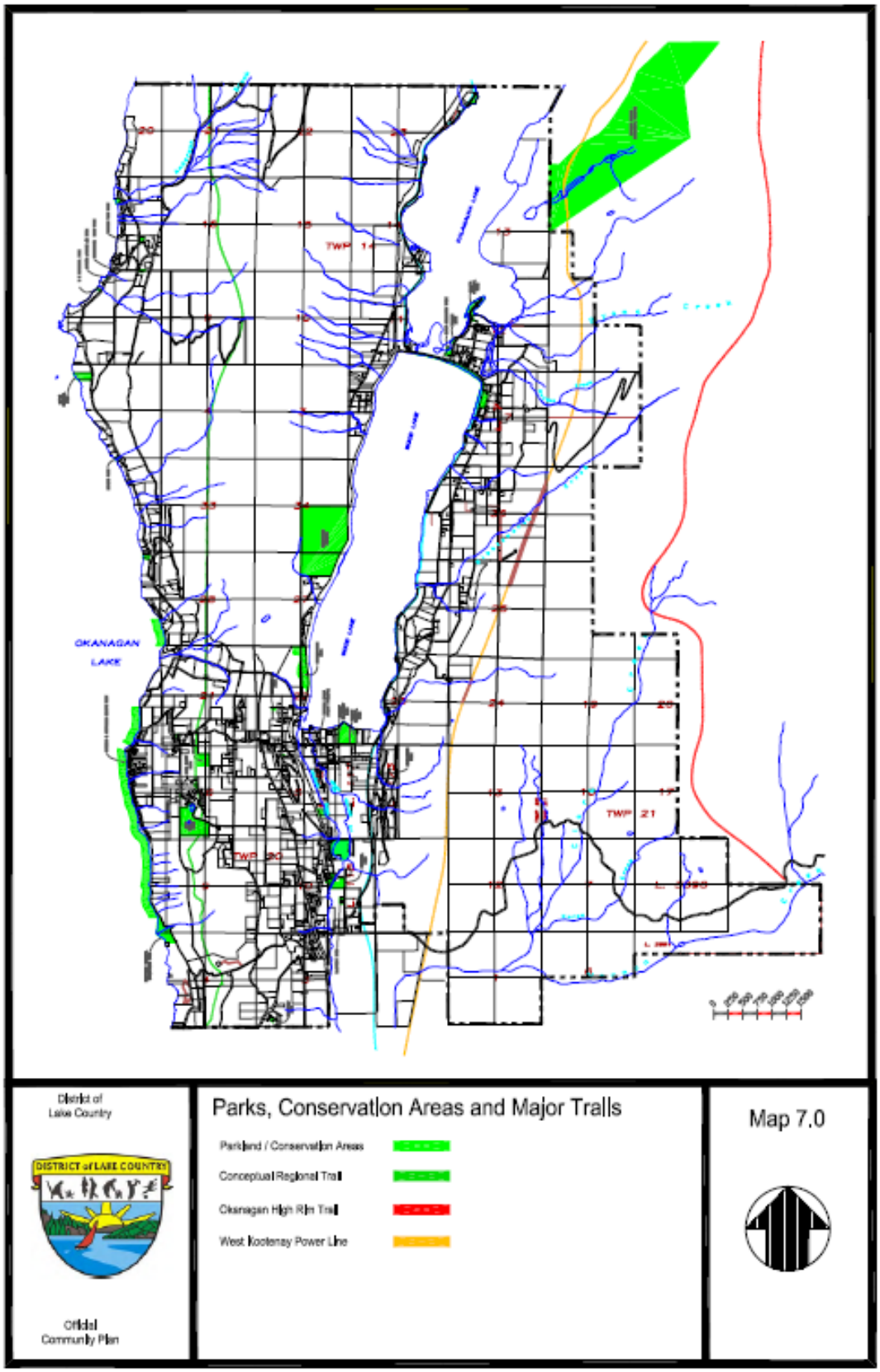
District of Westside



District of Peachland



District of Lake Country District of Lake Country



Proposed Black Knight Mountain Regional Park Acquisition Plan

February 4, 2010

Prepared by:
Integrated ProAction Corp.

Prepared for:
Regional District of Central Okanagan

Executive Summary

The Regional District of Central Okanagan (RDCO) is proposing to formally recognize a Regional Park in the Black Knight Mountain area approximately 10km East of Kelowna on Highway 33 from Highway 97. Integrated ProAction Corp (IPAC) has been contracted to prepare the management and development plans for the proposed Black Knight Mountain Regional Park. This proposed park includes two crown land parcels of interest each approximately 64ha and is intended to protect a portion of the region's available dry grassland ecosystem.

The purpose of the RDCO's Regional Park System is to establish and conserve areas that represent the complete range of regionally significant natural environments and to provide opportunities for experiences that encourage public understanding, appreciation and enjoyment of those environments. The Regional Park System is designed to compliment and support the municipal and provincial park systems by establishing regional parks that protect natural environments that are underrepresented.

Black Knight Mountain Regional Park would be classified as Regional Conservation Park under the RDCO Official Regional Park Plan (RDCO Bylaw No. 884). The primary purpose of a Regional Conservation Area is protection of the natural environment. The proposed park covers an area large enough to make a significant contribution to the long-term viability of the natural features. In environmentally sensitive parts of the park, only activities that have minimal impact on the natural environment are provided for. Although this classification sets out the overall context for park management, different areas within the park must still be managed according to their environmental sensitivity and unique features. The landscapes that make up this regional park can be described according to a combination of ecological factors that define each park zone.

Regional Context

Black Knight Mountain is located approximately 10km East of Kelowna on Highway 33 from Highway 97. Access to the park is provided by public gravel roads: Pyman Road is a "Section 42" (Provincial Transportation Act) accessing Site 1 from Highway 33 and the Black Knight FSR is a BC Forest Service Road accessing Site 2 from Pyman Road. Several unofficial trails and old logging roads are already established in the area and are frequented by visitors. The areas of interest are two 64ha parcels of crown land (Sites 1&2) which are separated and surrounded by private land. The area is important to locals and visitors alike for its rural location, wildlife viewing, and panoramic views of the city, valley, and adjacent hills. Black Knight Mountain is a well known and important landmark to Kelowna and the surrounding area.

Ecological Context

The Black Knight Mountain area is considered an ecological gem. The area contains ecosystems not yet represented in RDCO parks. In particular are grasslands and open forest ecosystems represented by the IDFxh1a, IDFxh1 and IDFmw1 zones from the Biogeoclimatic Ecosystem Classification system. The area supports rich and diverse wildlife populations, as well as some valued ecological habitats. Because of its unique ecosystems, Black Knight Mountain has been classified as a Regional Conservation Area. Quality of natural features and healthy biodiversity are the ecological values of highest priority.

Consultation

First Nation consultation was the responsibility of the Regional District of Central Okanagan staff and is ongoing. The public, identified community interest groups and identified stakeholders were invited to review and comment through a consultation process that included two open houses, local media advertising, open access to the Black Knight Mountain Regional Park website, an online survey, a mail out campaign and a phone campaign. Follow up with identified community interest groups and identified stakeholders was accomplished via phone calls and information mail out.

Proposed Park Management Actions

Park management actions are focused around the need to maintain and improve the quality of the natural environment. There are proposed Management Principles in four key areas:

- Environmental conservation
- Visitor use
- Cultural heritage management
- Park operations and facilities

The Management Principles provide a framework for the park acquisition plan for how issues will be addressed through the development of an action plan for implementing the goals and objectives outlined in the proposed Management Principles. The park is divided into zones, according to the objectives of the Management Principles. Key management actions proposed in the implementation of Phase I of the plan are:

Ecological Conservation

- Conservation will guide all management actions in the park.
- The park will be managed not only to protect what is already there, but to enhance and restore areas that have been altered by previous land uses, and affected by invasive species.

Visitor Use

- Facilities will be provided to support passive activities such as walking, nature study and wildlife viewing.
- The area will be managed so that visitors have minimal impact on the park.

Cultural Heritage Management

- Management actions will be directed to return the land to what it was before it was modified.
- No facilities will be built on any identified archaeological or historically significant sites within the park.

Park Operations and Facilities

- The park will be operated in a manner that supports the conservation goals of the park, including limiting facilities to those needed to access the natural areas.
- Trails will be relocated away from sensitive ecosystems and rare plant communities.

Implementation

Early tasks include next-step planning and phase 1 infrastructure investment. Proposed next-step planning includes a park management plan in coordination with First Nations, a park wildfire management plan and an ecological restoration plan and proposed infrastructure development includes initial trail development fencing, gates and cattleguards. Access and trails are proposed to be established on existing features where possible, with undesirable existing trails being closed off to the public. Later tasks include establishing a central park facility, preparing a restoration plan for Site 2 and preparing a communication plan to distribute park management messages and seasonal information.

Table of Contents

1.0 Introduction

The Regional District of Central Okanagan (RDCO) is proposing to formally recognize a Regional Park in the Black Knight Mountain area approximately 10km East of Kelowna on Highway 33 from Highway 97. The two crown land parcels, totaling 128 hectares (64 each) are separated and surrounded by private land. The lower parcel (Site 1) comprises the majority of the grassland ecosystem, while the upper portion (Site 2) is comprised of Douglas-Fir open forest. The surrounding private land is primarily used as rangeland for cattle grazing and Site 2 provides a strategic location for several communications towers. There are expansive views of the City of Kelowna, the valley below, and the adjacent hills.

Due to its rural setting, Black Knight Mountain backs onto expansive areas of undeveloped hills, fields, and forest. Wildlife accounts in the area are rich and diverse with sightings of black bear, cougar, coyote, badger, deer, raptors, and song birds. Black Knight Mountain also offers wild flowers in the spring and summer time, from arrow-leaved balsamroot to the rare sagebrush mariposa lily. There are interesting geological formations in the proposed park area developed from volcanic and glacial processes. Currently a gate is located at the bottom of Pyman road and is accessible only to land-owners, RDCO, and communication companies. The proposed park is frequented for the most part by local residents, and by visitors to the Okanagan.

1.1 Background

The RDCO Official Regional Parks Plan (RDCO Bylaw No. 884) adopted by the RDCO Board in September 2000 sets out the broad strategic goals for regional parks for this decade. It is system-wide in scope, and provides the vision and purpose for RDCO Regional Parks. It also provides direction for achieving the highest standards of public service and stewardship in protecting the natural environment, while at the same time providing opportunities for outdoor experiences and activities. The Plan establishes a framework for managing the regional parks and trails system, and assists the RDCO Board in making related decisions.

The purpose of the Regional District of Central Okanagan's (RDCO) Regional Park System is to establish and conserve areas that represent the complete range of regionally significant natural environments and to provide opportunities for experiences that encourage public understanding, appreciation and enjoyment of those environments.

Through an ecosystem gap analysis, the RDCO has identified the grassland ecosystems near the Black Knight Mountain area as underrepresented in the parks of the Central Okanagan. As a result, the RDCO is proposing to formally recognize the Black Knight Mountain Regional Park to protect a portion of the region's available grasslandand adjacent dry forest Additionally, the proposed park is intended to visually preserve Black Knight Mountain as a prominent geographic landmark in it's natural state.

Grasslands are recognized as one of British Columbia's most threatened ecosystems and commonly occur on sites targeted for development. Invasive plants also threaten grasslands and only 0.69% of the world's temperate grasslands and 8% of provincial grasslands are protected. This grassland native plant community is listed by the B.C. Conservation Data Centre as rare. Many rare and endangered species live in this ecosystem.

Grasslands support a unique assemblage of species that includes a high proportion of endangered species. Grasslands, in combination with other ecosystems, are used by many species. Grasslands are very sensitive to disturbances and recovery can take decades. Disturbance to grassland soils can damage the fragile biotic crust, and can allow noxious weed invasions, which can slow or limit recovery.

Grasslands provide opportunities for education, walking and hiking, wildlife viewing, and aesthetic enjoyment. The green space that grasslands provide can add to real estate values in adjacent areas, and can draw visitors into the area.

1.2 Purpose of the Plan

The purpose of the regional park acquisition plan is to provide a framework for RDCO Parks to achieve exceptional park land stewardship at Black Knight Mountain. To achieve this, the plan will:

1. Focus on the key issues and policies that relate to this regional park, and provide park management direction based upon the best information available.

2. Set out park management goals and objectives for protecting the natural environment and cultural features of Black Knight Mountain, and define specific actions for achieving them.

3. Identify the types of outdoor recreation uses that will be allowed, and indicate where in the park they will be accommodated.

4. Identify the types and locations of any park facilities and outline what services will be provided. The acquisition plan will provide a set of policies and actions that will provide a logical, trackable science-based rationale for making decisions in the management of the park.

2.0 Park Classification

Because of its conservation focus, Black Knight Mountain Park will be classified as a Regional Conservation Area. The primary purpose of a Regional Conservation Area is the protection of the natural environment. Only outdoor recreation activities that have minimal impact on the natural environment will be permitted. The main activity will be hiking, informal picnicking and viewing nature. Conservation areas generally have only the basic facilities needed to safely and sensitively access the natural areas.

3.0 Park Boundaries

For the most part, the boundaries of Black Knight Mountain Regional Park are based on property lines rather than geographical contours, or other ecological features such as watershed boundaries. Lot lines periodically divide ecological features, resulting in part of a natural feature being left outside the park. Adding these adjoining natural areas to existing natural systems within the parks would improve the overall ecological health of the natural feature. In addition, the park is threatened by cattle grazing on all sides of the park. The result is a need to protect what natural areas already exist, whether they are in the parks or not. Working with the public, a number of actions can be taken to protect sensitive ecosystems. The RDCO Official Regional Parks Plan states that RDCO Parks will strive to:

- Protect and maintain the natural environments in existing regional parks
- Use ecological or watershed boundaries for making decisions about park boundaries
- Provide adequate buffers from activities on adjacent land
- Protect natural environments adjacent to regional parks, in order to consolidate ecosystems bisected by park boundaries.

The Official Regional Park Plan identifies Black Knight Mountain Regional Park as containing natural systems that can be improved by adding certain environmentally significant lands to the parks. RDCO Parks has identified areas outside the park boundaries as having environmental and/or operational significance, and in need of protection or special consideration where cattle grazing occurs.

4.0 Site Characteristics

The areas of interest are South to Southwest facing ranging in elevation from 700m to 1260m. Site 1 is pure grassland and ranges from 700m to 840m while Site 2 is predominantly open forest with fringes of grassland and ranges from 1120m to 1260m. The grassland ecosystem is identified as IDFxh1a under the Biogeoclimatic Ecosystem Classification System of BC (BEC) and occurs only in the Black Knight Mountain area and in some locations in the Similkameen Valley. Due to the limited range of this ecosystem, it is rare in British Columbia and unique in Canada and is underrepresented in parkland from any jurisdiction.

4.1 Ecosystem Classification

Generally, the ecosystems contained in the proposed park area consist of grassland and open forest. Using the Biogeoclimatic Ecosystem Classification System (BEC), the grassland area consists of IDFxh1a and open forest ecosystems consists of IDFxh1 and IDFmw1 BEC zones. IDFxh1a is the Okanagan, very dry, hot Interior Douglas-fir Variant, Grassland Phase. The proposed park area contains mesic-dry IDFxh1a sites with wetter sites in gullies and natural drainage areas. Mesic-dry sites are characterized by occurrences of Pasture sage, Idaho fescue, Bluebunch wheatgrass, Silky lupine, Arrow-leaved balsamroot, and Junegrass. Lichens

and mosses are poorly developed or occur sporadically. Wet sites are characterized by Idaho fescue, Kentucky bluegrass and stiff needlegrass with occurrences of Prairie rose and Aspen and Ponderosa pine.

IDFxh1 is the Okanagan, Very dry, Hot, Interior Douglas-fir Variant and the IDFmw1 is the Shuswap, Moist, Warm, Interior Douglas-fir Variant. The proposed park area contains zonal-dry sites with a wetter site in the gully running North/South in the East side of Site 2 and adjacent to the Black Knight Forest Service road. Zonal/dry sites area characterized by the occurrence of Douglas-fir and Ponderosa pine with Bluebunch wheatgrass, Pinegrass; IDFmw1 sites tend to have an abundant shrubs and herb layer while IDFxh1 sites tend to have an open forest structure. Site 2 is dominated by Douglas-fir overstorey and mottled with areas of open forest changing to areas of abundant shrubs and herbs.

4.2 Listed Species and Ecosystems

A general search on BC Species and Ecosystem Explorer produced a list of Blue and Red listed species that might potentially inhabit or make use of the Black Knight Mountain area. A total of 52 species have been identified as potential species that use or may use the region. Of these 52 species, 13 are mammals, 13 are Plants (including mosses, lichens, and fungi), there are 18 bird species, 2 invertebrate species, 5 reptiles, and 1 amphibian species. 18 blue and red listed ecosystems were also identified as potentially existing in the BEC zones of the Black Knight Mountain region. Of these 4 are within the shrub/grassland habitat and 14 in the woodland/forest habitat.

There are eye-witness accounts of several listed animal species in the area as well as one eye-witness account of a potential red listed bluebunch wheatgrass ecosystem in the vicinity of Black Knight Mountain peak. Reported and witness accounts of animal sightings are described in the habitat notes in the appendices.

4.3 Geology and Soils

Black Knight Mountain is part of the Continental Columbia Region of mountains that covers the Rockies from Crowsnest Pass to Yellowhead Pass as well as the Columbia mountains, extending as far west as the Fraser River and the Monashee Range located between the Columbia and Okanagan-North Thompson Rivers. The Monashee Range stretches from Valemount, BC across the US border to the Grand Coulee Reservoir and the Columbia's confluence with the Okanogan River.

Black Knight Mountain is an erosional remnant of an extensive volcanic complex that developed after a huge chasm split open the Earth’s crust along ancestral Okanagan Valley possibly 50-60 million years ago. This volcanic complex was most active approximately 50 million years ago and probably towered 2000 meters high, or more. The rocks visible today are only remnants that represent just one part of the extensive volcanic field that characterizes the Kelowna region.

This volcanic prominence has been modified and eroded by three main regional geologic events. The first event was the development of a major river that affected the Okanagan Valley near the end of this interval of volcanism. The second event is regional folding and faulting of the bedrock that was broken up along breaks or faults that moved the rock vertically and horizontally. The third event involved erosion by glaciers and ice sheets that periodically ground their way across the land at least six times over the last two million years.

Generally there is a soil gradient from chernozems at lower elevations to brunisols at higher elevations. The soils of Site 1 are chernozems over glaciofluvial/colluvium parent material while the soils of Site 2 are brunisols over colluvium/glacial till parent material with chernozems over glaciofluvial/colluvium parent material at lower elevations. Overall soils are well-rapidly drained, moderatly-rapidly pervious and have low water holding capacity.

4.4 Climate

The Central Okanagan and the Black Knight Mountain Area enjoy mild winters, hot summers, and low precipitation. From 1971-2000, this area experienced an annual daily average temperature of 7.7C with highest average daily maximums of 27.6C and lowest average daily minimums of -7.4C (monthly averages). During the time period, this area experienced yearly average rainfall of 298mm, yearly average snowfall of 101.8cm with an average snow depth of 2cm. Winds normally run North or South at a yearly average of 5.4km/hr.

Central Okanagan Climate from 1971-2000

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Yearly
Temperature:													
Daily Average (°C)	-3.8	-1.1	3.6	8.2	12.6	16.3	19.1	18.7	13.6	7.2	1.4	-2.9	7.7
Standard Deviation	3.1	2.7	1.5	1.3	1.3	1.4	1.4	1.3	1.5	0.9	2.4	2.8	0.8
Daily Maximum (°C)	-0.2	3.3	9.6	15.4	20.0	23.9	27.6	27.3	21.5	13.4	5.4	0.6	14.0
Daily Minimum (°C)	-7.4	-5.5	-2.4	0.8	5.0	8.9	10.5	10.2	5.7	0.9	-2.7	-6.4	1.5
Precipitation:													
Rainfall (mm)	7.8	9.6	16.9	25.6	39.0	40.7	36.9	33.6	32.7	25.0	21.3	9.1	298.0
Snowfall (cm)	29.2	15.7	5.2	0.7	0.0	0.0	0.0	0.0	0.0	0.5	14.8	35.7	101.8
Precipitation (mm)	30.8	22.6	21.8	26.2	39.0	40.7	36.9	33.6	32.7	25.5	34.5	36.2	380.5
Average Snow Depth (cm)	13.0	9.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	6.0	2.0
Median Snow Depth (cm)	12.0	8.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	2.0
Snow Depth at Month-end (cm)	11.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	12.0	3.0
Wind:													
Speed (km/h)	5.0	4.9	5.7	6.5	6.5	6.8	6.2	5.3	4.5	4.2	4.2	4.7	5.4
Most Frequent Direction	SE	N	N	N	S	S	N	N	N	N	N	SE	N
Humidity:													
Average Relative Humidity - 0600LST (%)	87.0	87.9	86.3	82.3	78.8	74.8	76.3	82.7	88.8	88.7	88.5	86.2	84.0
Average Relative Humidity - 1500LST (%)	76.4	68.1	50.3	39.5	40.5	39.7	36.3	37.5	44.1	55.1	71.4	76.8	53.0

4.5 Heritage

The proposed Black Knight Mountain Regional Park area and adjacent land is generally known as the "Pyman Ranch". The original homesteader was Daniel Prather from what's now known as the Lewiston-Clarkston area of the United States. Mr. Prather arrived in 1893 by covered wagon and settled the area since properties lower down in the valley were already taken and was the first to use irrigation in the area from Goudie Creek near what's now known as the 8 Mile Ranch. Activities in the area included ranching, logging, gold panning and harboring outlaws and much later, a forestry fire watch tower was established at the summit of Black Knight Mountain.

The Pyman family contributed to the ranching culture in the late 1800's and early 1900's and the "Pyman Cousins" built a cabin up on the West side Black Knight Mountain above the old downhill ski bowl and ran a

horse breeding operation on the Pyman Ranch. Both Pyman Cousins served in World War one where one cousin was killed; the other cousin did not return and remained in England. The Pyman family homestead is outside the proposed park area and is located several kilometers East of Site 1.

The Black Knight Mountain area has been utilized for water transport and irrigation since the late 1800's. Water use was enabled through individual water licences until 1920 when the first Irrigation Districts were formed including the Black Mountain Irrigation District still currently operating. Evidence of water transportation is apparent through the grasslands below Black Knight Mountain with one irrigation ditch cutting through the Northeast corner of Site 1.

5.0 Tourism and Economic Benefits

Tourism is a major employment and economic contributor to the Kelowna area (Regional District of Central Okanagan and the City of Kelowna). Tourism generates approximately the same number of jobs as manufacturing, and more than construction and forestry, fishing, mining, oil & gas.

The Kelowna area has developed into an international destination that attracts tourists from around the globe. The primary draw for vacationers is the accessibility of natural features parkland and recreation opportunity. In 2006, it was estimated that visitor spending in the Kelowna area totaled approximately $346 million per annum and that the tourism industry in the Kelowna area generated a total of 6,900 direct jobs, or 5,100 fulltime equivalents.

Generally, urban and near-urban residents are increasingly concerned with the proximity of green space and the protection of natural areas. Parks and open space are valued as an integral part of neighbourhoods. Natural open space generally has a positive effect on real estate values. Benefits to communities include higher residential property values in areas proximate to, and/or with views of, natural open space. In addition, proximity to greenways, trails, and natural open spaces can also directly benefit the building industry and real estate market. Proximity may increase property values and increase the marketability of adjacent properties.

Considering the iconic nature of Black Knight Mountain as a geographic landmark in the Kelowna area and the on-site availability of spectacular viewscapes and ecosystems of the Okanagan Valley the Black Knight Mountain Regional Park has the potential to be a major draw for tourism providing local residents with opportunities for bed & breakfast operations as well as opportunities in the ecotourism industry providing experiences to visitors interested in rural accommodation and the unique natural areas of the Central Okanagan.

6.0 Consultation

First Nation consultation was the responsibility of the Regional District of Central Okanagan staff and is ongoing. The public, identified community interest groups and identified stakeholders were invited to review and comment through a consultation process that included two open houses, local media advertising, open access to the Black Knight Mountain Regional Park website, an online survey, a mail out campaign and a phone campaign. Follow up with identified community interest groups and identified stakeholders was done with phone calls and information mail out.

6.1 First Nations Consultation

During the preparation of this acquisition plan, ongoing discussion between the Regional District of Central Okanagan and First Nations occurred with the intent to develop a co-management agreement for the proposed Black Knight Mountain Regional Park. As a result, the final park management plan should incorporate the management considerations from the co-management agreement as well as the management considerations outlined in this acquisition plan. In this way, the final management plan can benefit from First Nations traditional ecological knowledge as well as the management considerations identified by both First Nations and the RDCO.

6.2 Stakeholder Consultation

Identified stakeholders were invited to review and comment through a consultation process that included a direct mail out campaign, phone campaign, 2 open houses, local media advertising, the Black Knight Mountain Regional Park website and online survey. Specific concerns and comments that were expressed by the

identified stakeholders are summarized in the appendices with a description of how this acquisition plan addresses the concern or comment.

6.3 Public Consultation

The public were invited to review and comment through a consultation process that included 2 open houses, local media advertising, the Black Knight Mountain Regional Park website, online survey, and identified interest group mail out campaign. Public open houses were held on Black Knight Mountain on August 26th 2009 and September 30th, 2009. Several members of the public came out to express their views about the park, and overall their comments indicated support for the conservation focused approach Regional Parks was taking in the plan. A second public open house was held on September 30th, 2009 to allow further review the plan.

The online survey successfully had over 100 responses with over 95% of respondents supporting the RDCO's Regional Park System and 93% supporting adding the proposed Black Knight Mountain Regional Park to the Regional Park System. Respondents supported ecological conservation (90%) and recreation opportunity (79%) over education opportunity (61%) and park services (43%) as important management approaches for the proposed Black Knight Mountain Regional Park. Summaries of the online survey results and open house comments are located in the appendices.

7.0 Land Acquisition

The area of interest includes two crown land parcels approximately 64 hectares each (128 hectares total) for designation as the Black Knight Mountain Regional Park. These parcels are currently zoned as Park and Open Space (p-101) as described in the Joe Rich Rural Land Use Bylaw No. 1195. The permitted uses and structures as pertaining to Black Knight Mountain include conservation area, ecological reserves, parks, and washroom facilities. In evaluating the suitability of a candidate property for park purposes, consideration will be given to: size and configuration; proximity to regional residents; accessibility; recreation and/or interpretive potential; adjacent land uses; gaps and deficiencies within the existing parks system; costs of acquisition and management.

Consolidating the two parcels would enhance the park ecosystems, as well as provide a larger more complete area for park visitors to enjoy. A flume right-of-way runs through Site 1 and could serve as a trail connecting Black Knight Mountain with City of Kelowna parks to the West. The existing gravel pit in Site 1 is currently operated by the Ministry of Transportation and Infrastructure and is an integral part of the park acquisition plan. The Ministry of Transportation and Infrastructure has indicated that they may require the use of the gravel pit in the near future.

8.0 Proposed Management Principles

The proposed Management Principles are intended to provide a framework for the future development of a park management plan. The Management Principles goals and objectives and the Conservation Covenant are intended to provide guidance for how issues can be addressed. The proposed Management Principles are set under four major topic areas:

- Environmental conservation
- Visitor use
- Cultural heritage management
- Proposed park operations and facilities

During the preparation of this acquisition plan, ongoing discussion between the Regional District of Central Okanagan and First Nations occurred with the intent to develop a co-management agreement for the proposed Black Knight Mountain Regional Park. As a result, the final park management plan should incorporate the management principles identified in the co-management agreement as well as the proposed management principles identified below. In this way, the final management plan can benefit from traditional ecological knowledge and management considerations brought forward by First Nations.

Vision Statement

Black Knight Mountain encompasses a large area of natural environment in a suburban/rural landscape. The park would protect important regional ecosystems including interior dry grasslands and Douglas-Fir forest. Black Knight Mountain provides people of the region with a place to experience and appreciate the beauty and wonder of nature close to where they live. Visitors marvel at the views rewarded in exchange for considerably low physical investment, and the potential company of wildlife. Many areas in the park retain a feeling of wildness and serenity. People of all ages come to the park to experience a beautiful natural area. Recreational activities in the park are mostly compatible with their natural character and environmental sensitivities. Park visitors and adjacent landowners respect and care for the parks, and each other. The integrity of the natural environment in the park will be carefully considered in all decisions about land use and development within the park and on surrounding lands.

8.1 Environmental Conservation

An ecological inventory was carried out over a period of two months in the summer of 2009 in Site 1. This inventory will assist in forming the basis for measuring the success of future restoration initiatives and invasive species management. The ecological inventory documented a number of observations regarding the ecosystems of the proposed park. The study found that prolonged heavy grazing combined with an abundance of introduced plant species has drastically altered the natural habitat of the IDFxh1a grassland ecosystem. The inventory concluded that both cattle grazing and invasive species are the greatest threat to the ecological integrity of the proposed park, and that action must be taken to reverse the progression of these detrimental trends. The species of particular concern at Black Knight Mountain are Sulphur Cinquefoil, Dalmation Toadflax, Flixweed, Cheatgrass, and Crested Wheatgrass. Cattle grazing has greatly disturbed the native plant species and soil, as well as helped to increase the distribution of invasive plants. The report concluded that the management of invasive species, native plants, and cattle grazing should form the basis of an ecological restoration plan for the proposed park.

Site 2 contains the IDFxh1 and IDFmw1 open Douglas-fir forest and will require management consideration. Spruce budworm, Douglas-Fir bark beetle, Douglas-fir tussock moth, and root-rot are the main forest health issues to be evaluated and monitored in the proposed park. These forest pests have many negative affects in a park setting which include:

- Aesthetic damage as a result of defoliation and tree mortality.
- Safety concerns due to possibility of falling dead branches or trees.
- An increased fire hazard as a result of tree dieback and mortality.

These forest health issues need to be addressed and a forest health plan will need to be put in place to manage and monitor forest insect and diseases. As a result of fire suppression, the Douglas-fir forest is encroaching on areas that were historically grassland. In a “natural” situation without fire suppression, this forest would likely have burned every 5-20 years, which would help thin the forest and eliminate the high density of conifer saplings in the understory. The high density can contribute to forest health problems and poor tree health in some areas. Site 2 has significant value to the proposed park because both the forest and grassland habitats overlap and it also provides a corridor into a larger network of forest and shrub land habitats.

Environmental Conservation Management Principle

Black Knight Mountain will be managed to conserve and protect its natural systems and its rare or endangered plants, wildlife and ecosystems. Conservation of the native diversity will be the primary management direction for this park, and take precedence over all other activities. Restoration of disturbed natural features,management of invasive species and management of forest insects and diseases will be an important part of the conservation strategy for the park.

8.2 Visitor Use

The visitor use management principle was determined with input from a number of sources, including meetings with the RDCO, the open houses, and an online survey available to the public and stakeholders. The turnout for the open houses was roughly 40 individuals for each meeting. Participants had diverse backgrounds with representatives from stakeholders, Central Okanagan residents, non-government organizations, community organizations and local government. The majority of participants supported the proposed park and agreed on the need for some level of ecological restoration. Those providing input into the plan suggested that measures should be put into place to diminish or prevent motorized vehicle access while still maintaining a certain level of pedestrian and equestrian access. To protect the habitat and livestock, and keep visitors on paths, stake-holders suggested that signs and a fenced boundary should be installed in conjunction with a new gate. A non-intrusive two-sided sign near the entrance to the proposed park could be used to highlight seasonal phenomena and to pass on park management and safety messages to visitors.

Park use should be limited to passive activities, such as walking, nature study and viewing the natural surroundings. Dogs will be restricted to designated trails, must be kept on a leash at all times, and owners will be asked to clean up after their pets. Motorized vehicles are not permitted on the trails. Overnight camping, open fires and smoking are not permitted. To help protect vegetation and wildlife in the proposed park visitors would only be allowed to use designated trails, i.e. (*Leave only footprints and take only pictures)*. Visitors would be encouraged to have appropriate clothing, footwear and equipment for activities on the trails. Equestrian use would be restricted to the Pyman road and horses would be discouraged from leaving the road surface.

The park vision is one where the unique ecosystems of the proposed park will reach a natural climax habitat for the particular BEC zones located within. If adjacent land is acquired and added to the proposed park, consideration could then be given to increasing trails and visitor access to other areas of the Black Knight Mountain region. With this context as a guide, it is clear that the Visitor Use Management Principle should support and complement the Environmental Conservation Management Principle, to effectively sustain the biodiversity and naturalness of the proposed park with minimal facilities. The proposed park should be managed to maintain its wild and scenic nature.

Visitor Use Management Principle

Visitor use will be managed in accordance with the conservation and protection objectives outlined in the Environmental Conservation Management Principle.

8.3 Cultural Heritage Management

The RDCO carried out all consultations with First Nation's groups concerned. Eliminating the invasive species that have taken over the land at this location would help restore the site back to what it was before it was modified for agriculture and grazing.

An old flume and concrete water reservoir located within the Southern Crown land parcel indicate that the land had and may still have important irrigation significance to the region. The Black Mountain Irrigation District (BMID) owns the flume right-of-way within the Black Knight Mountain area and has expressed an openness to

discuss an agreement between the BMID and the RDCO to allow public use of the old flume right-of-way to allow connectivity with municipal parks as well as other open spaces such as the Black Mountain Golf course.

Cultural Heritage Management Principle

Black Knight Mountain Regional Park will be managed to respect and protect the land and its resources in such a way that respects traditional human-environment interactions. Restoration activities proposed in the environmental conservation management principle will assist with bringing the land back to the natural, historical condition.

8.4 Proposed Park Operations and Facilities

RDCO Parks has no permanent operational facilities on Black Knight Mountain. Although there will be scheduled visits to the Proposed park to maintain signs and trails, RDCO Parks will depend on Volunteer Wardens and park visitors to advise of any new hazards in the or misuse of the proposed park. RDCO Parks will maintain any facilities to regional parks standards. Public safety will be a keystone of park operations. The proposed park will be operated to the standards of a Regional Conservation Area and be managed and operated in a manner that complements the Environmental Conservation and Visitor Use goals of this plan. Park operations staff will tailor all operations to accommodate the environmental conservation, visitor use and cultural heritage management objectives of the acquisition plan. The proposed Black Knight Mountain Regional Park contains large areas of grasslands that get very dry in summer. RDCO Parks will need to develop a protocol for fighting any fires within the proposed park, and for assisting neighbors as much as possible in the event of a fire on an adjacent property.

Park Operations Management Principle

Black Knight Mountain Regional Park will be managed and operated as a Regional Conservation Area by RDCO Parks within its current resources. Park operations and facility management will be minimal, and carried out in a manner that complements the goals set out in the Environmental Conservation Management Principle.

9.0 Regional Park Land Management Zones

Although the park classification as a regional conservation area sets out the general context for park management, different areas within regional parks must be managed according to specific environmental parameters and unique features. The landscapes that make up regional parks can be described according to a combination of similar ecological factors that can be classified as ‘zones’. Zone classifications are used to determine which activities the lands in each category can support. Pockets of rare species may appear in any zone, and must be managed individually as ecologically sensitive areas. Using the ecological inventory as well as site visits to Black Knight Mountain, a number of zoning categories were explored. Due to the unique ecosystem types of Black Knight Mountain, and RDCO’s Regional Park System mission to establish and conserve areas that represent the complete range of regionally significant natural environments, much of the land within the proposed Black Knight Mountain Regional Park is proposed to be a Special Preservation Zone, requiring the highest degree of protection. The remainder of the proposed park is proposed to be a Natural Environment Zone, Ecosystem Zone, or Park Infrastructure Zone. Details regarding the spatial representation of the proposed land management zones can be found in the appendices.

9.1 Management Zones 1&2 - Special Preservation

Lands that have exceptionally high ecological significance or high sensitivity to disturbance require special attention. Recreational activities and facilities can negatively affect these areas and should be restricted. Specific areas are fragile and subject to damage. As such, they should be managed to protect the species at risk by restricting access to designated trails, roads and interpretive areas. In areas where damage has already occurred, restoration of the natural systems will be warranted.

Management Zone 1 (MZ1) contains IDFxh1a sensitive grassland that has been highly modified by gravel extraction, invasive plant invasion, motorized vehicle use, and grazing. MZ1 is proposed to undergo an intensive restoration and rehabilitation program to reclaim gravel pits, eradicate invasive plant species exclude motorized vehicles and exclude grazing. This will be a long and incremental process lasting decades.

Management Zone 2 (MZ2) also contains IDFxh1a sensitive grassland that has been highly modified by invasive plant invasion and grazing. MZ2 is proposed to undergo road/trail rehabilitation, native plant/habitat restoration, and eradication of invasive plant species. This will also be a long process lasting decades.

9.2 Management Zone 3 - Ecosystem

Management Zone 3 contains upland areas of the IDFxh1a sensitive grassland as well as IDFxh1 and IDFmw1 open Douglas-fir forest that has exceptional examples of natural beauty and diversity. This large natural area has been subjected to human disturbance in the past, including selected harvesting of mature Douglas-Fir, grazing, and contains a number of informally used areas that have not yet benefited from on-going natural area management. This ecosystem has experienced exotic plant invasion and will require invasive plant management strategies.

Some mechanical brushing and thinning may be required to mimic the results that natural wild-fires would have had in limiting the expansion of forest into grassland habitat. Forest health surveys should be conducted to determine the vitality of the existing forest and the potential number of danger trees in the area. Removal of danger trees may be necessary for the safety of visitors. Also an inventory of standing trees and stumps should be completed to determine if any cultural and/or historical “footprints” are present.

9.3 Management Zone 4 - Natural Environment

Although the limits of acceptable environmental change are higher here than in the Special Preservation and Ecosystem Zone, there is still a need to manage the land in a way that respects its natural features. No active restoration is planned for this zone but a management strategy for invasive plants will still be considered. Forest health surveys should be conducted to determine the vitality of the existing forest and the potential number of danger trees in the area. Danger trees imposing safety hazards should be considered for removal. An inventory of standing trees and stumps should be completed to determine if any cultural and/or historical “footprints” are present. An open relationship with communication companies should be maintained and established as Black Knight Mountain is an important communications vantage point for the Okanagan region. Recreation activities and facilities are still trail-oriented, but the visitor numbers may be higher than in the Special Preservation and Ecosystem Zone.

9.4 Proposed park Infrastructure

Facilities and infrastructure are proposed to be located on sites that were previously disturbed or will have a low impact. Trails are proposed to utilize existing roads and trails from previous disturbances. The parking lot, information kiosk, washroom facilities and interpretive features are designed to have a small footprint and proposed to be established in the previously disturbed gravel pit. Efforts are made to ensure that facilities will have minimal impact on the proposed park.

10.0 Proposed Management Goals and Actions

In order to manage the proposed park effectively, it is necessary to define the goals and specific actions needed to provide successful management. As is the case when defining the Management Principles, the proposed goals and actions center on the same four topic areas:

- Environmental conservation

- Visitor use
- Cultural heritage management

During the preparation of this acquisition plan, ongoing discussion between the Regional District of Central Okanagan and First Nations occurred with the intent to develop a co-management agreement for the proposed Black Knight Mountain Regional Park. As a result, the final park management plan should incorporate the management goals and actions identified in the co-management agreement as well as the proposed goals and actions identified below. In this way, the final management plan can benefit from traditional ecological knowledge and management considerations brought forward by First Nations.

10.1 Environmental Conservation

Goals:

To fulfill the intent of the Environmental Conservation Management Principle and the Conservation Covenant:

- Manage Black Knight Mountain in order to conserve and protect its natural systems, its rare or endangered plants, wildlife, and ecosystems.
- Restore disturbed natural features and manage invasive species.
- Outline and implement a fire management plan.

Actions:

- Guide all management actions in this proposed park according to conservation objectives.
- Manage the proposed park to conserve and restore the unique IDFxh1, IDFmw1, and IDFxh1a BEC zones on the hilltop above and the grasslands below.
- Build fences, gates and cattleguards to exclude cattle from the park area and restrict motorized vehicle use. These structures should be built to maintain access for non-motorized park use (ie hiking, cycling).
- To protect the sensitive ecosystems, dogs must remain on the trails only, and be on a leash. Pet owners are required to pick up after their pets.
- Develop a restoration and rehabilitation plan (including invasive species management) for Site 1 including experiment with a number of alternative restorative actions, such as selective prescribed burns, mowing, and raking in the area of invasive grasses to determine the most practical method to restore the natural conditions.
- Develop a restoration plan for Site 2 to determine historical ecological condition, impact of previous logging activities. Additionally, determine the revenue potential of brokering logs removed through restoration activities.
- Develop a fire management strategy using FireSmart program principles and incorporate into regional fire plan initiatives
- Remove invasive species from the proposed park, particularly Sulphur Cinquefoil, Dalmation Toadflax, Flixweed, Cheatgrass, and Crested Wheatgrass.
- Educate visitors to remain on the paths to minimize trampling of native plant species and the dispersal of invasive plant seeds.
- Encourage small formal or organized group activities in the proposed park sponsored by the RDCO's Parks Department.

10.2 Visitor Use

Goals:

To fulfill the intent of the Visitor Use Management Principle:

- Manage the proposed park in accordance with the conservation and protection objectives outlined in the Environmental Conservation Management Principle.

Actions:

- Manage visitor use in accordance with the conservation and protection directives outlined in the Conservation Management Principle.
- Provide facilities that support only passive activities such as walking, nature study, and wildlife viewing.
- Limit structures to interpretive and directional signage, with future consideration of trail-side benches.
- Manage the proposed park so that visitors will be encouraged to leave no trace of their visit. Garbage bins will be available by the parking lot and out-houses.
- Provide primitive out-house washroom facilities adjacent to the parking lot, as well as doggy bags so that pet-owners can pick up after their pets.
- Prepare a Communication Plan that will review and determine the appropriate media for distribution of park messages, including park brochures, web pages, a kiosk and any interpretive or regulatory signing within the proposed park.

10.3 Cultural Heritage Management

Goals: To fulfill the intent of the Cultural Heritage Management Principle:

- Manage the proposed park to respect and protect the land and its resources in a way that respects historical and traditional land use.

Actions:

- Do not construct facilities on any identified archaeologically significant sites found at Black Knight Mountain.
- Conduct a more detailed archaeological examination of any site where future facilities may be required.
- Include information about the First Nations' use of the land in proposed park interpretive signage and brochures.
- Do not remove historic artifacts, such as the fencing built by settlers for grazing livestock, except where they pose a public safety risk, such as loose barbed wire.

10.4 Proposed Park Operations and Facilities

Goals: To fulfill the intent of the Operations Management Principle:

- Manage and operate Black Knight Mountain as a Regional Conservation Area.
- Manage facilities at a minimal level, and operate in a manner that complements the goals of the Environmental Conservation Management Principle.
- Establish park facilities and infrastructure on existing disturbances including existing roads/trails and the existing gravel pit accessed by Pyman Road. Create new disturbance to the minimum necessary to achieve management objectives.

Facilities Actions:

- Commission interpretive and directional signs for the proposed trail system.

- Commission an information kiosk near the trailhead to Black Knight Mountain to highlight natural features and park management messages.
- Identify an area to serve as a small parking lot of approximately a 10 vehicle capacity in the existing gravel pit accessed by Pyman Road.
- Commission portable toilet services to maintain a small facility footprint.
- Establish an interpretive garden near the information kiosk to showcase plants of the resident grassland ecosystem.

Operations Actions:

- Maintain all proposed park facilities to regional park standards.
- Operate and maintain the proposed park with public safety as a primary consideration.
- Locate and maintain signs, trails and the information kiosk in such a way that they support the conservation direction of the proposed park.
- Work with the local volunteer fire department, park neighbors and volunteer groups to manage fire risk.
- Establish a Volunteer Warden program (as part of RDCO's Volunteers in Parks Program) for assistance in managing the proposed park.

Management Issues Relative to Goals and Actions

Issue	Description	Goal	Action
Invasive plants	Several invasive plants have established themselves throughout the area.	To eradicate the presence of invasive plants	Various management options are available, including: burning, rakingand biological control agents, and manual removal
Cattle grazing	The area surrounding the proposed parkland is currently used for grazing	To exclude the proposed parkland from cattle grazing and reverse the damage already caused on the current crown land.	Build a fence surrounding Site 1 and work with ranchers to employ less destructive grazing practices. Reclamation of native plant species.
Forest health (Site2)	Spruce budworm, Douglas-fir bark beetle, Douglas-fir tussock moth, and root-rot.	Eliminate safety hazards caused from these forest pests. Decrease fire hazard caused by defoliators.	Removal of danger trees. Application of biological control agents.
Grassland encroachment	Douglas-fir forest is encroaching on historical grassland areas.	Reclaim grassland that has been overtaken by advancing forest.	Mechanical brushing of coniferous forest regen.
Fire hazard	There is a greater fire hazard in Site 2 due to the forest health issue described above. Tree dieback and mortality increase the area's fire hazard.	To remove or decrease the fire hazard in Site 2 and develop a fire acquisition plan.	Removal of dead trees and development of a fire plan with the FireSmart program in mind.
Visitor use	Visitors use many unmanaged	To keep visitors on	Maintain designated paths

Issue	Description	Goal	Action
	paths through private land and recreational activities are not monitored.	designated paths and to restrict recreational activities to hiking, cycling and equestrian use.	and install signs directing visitors away from paths and areas not to be used. Install a gate on the Pyman rd. to restrict motorized vehicle access beyond Site 1.
Park Management	To monitor and manage a park takes time and money. Paid park wardens are not in the budget.	To monitor and manage Black Knight Mountain Regional Park in a cost effective manner.	Establish friends of Black Knight Mountain and the Volunteer Warden program.

11.0 Plan Implementation, Monitoring and Evaluation

11.1 Plan Implementation

Tasks outlined in the Management Goals and Actions section of this plan will be carried out within existing resources. Significant implementation actions that need to commence once the plan is approved are as follows:

1. Preparing an ecological restoration plan (including invasive species) for the proposed park.

2. Preparing a fire management strategy for the proposed park.

3. Preparing a Communication Plan for the proposed park that can review a range of communication tools to be used to convey management messages about the park.

4. Establishing the Park Volunteer Warden program in the proposed park to assist with park management, visitor use and visitor enjoyment (as part of RDCO's Volunteers in Parks Program). Future costs to restore the site will be determined at that time.

11.2 Plan Monitoring and Evaluation

Because of the overriding conservation directions in this plan, restoration of the site and management of invasive species will be a major contributor to the success of the plan. Monitoring and evaluation will be an integral part of the restoration and invasive species management plans for the proposed park, and as such will ensure that park management goals are met. As restoration occurs, invasive species removed, and the land managed as a regional park, the quality of the natural environment will gradually change towards that which is outlined in the Park Vision. Success of the plan will be measured by comparing the current conditions to the desired future condition, with the current ecological inventory providing a baseline for the on-going evaluation of the plan's success. In this way the plan will be updated on an on-going basis until there is a demonstrated need for a complete review, or until additional lands (either adjacent lands or nearby lands) are added to the proposed park requiring additional planning.

11.3 Suitability of a candidate property for Sponsorship

1. Proposal meets regional, local, or First Nations community priorities.
   a. The RDCO Parks Legacy Program and Official Park Plan both outline the desire to include all BEC zones located within the Regional District boundary in their regional park network. The IDFxh1a zone has been identified as not being represented in the current regional parks of the RDCO.
   b. The majority of local support, through open houses, online survey, and correspondence, has been in support of a conservation driven Black Knight Mountain Regional Park.
   c. Proposing to co-manage the lands with WFN
2. Generates local or regional economic benefits.

a. The creation of proposed Black Knight Mountain Regional Park will add to the regions green space and increase the property value of nearby residential neighborhoods. Parks also add to the area's tourist attractions and increase the overall appeal of the region to visitors.

3. Contribution to community health, safety or education.

a. The proposed park would provide health benefits to the community and visitors would by providing physical recreation in a safe outdoor environment.

b. Black Knight Mountain is already an established unofficial hiking destination among locals. A regional park would address current safety issues within the area (fire hazard and danger trees) and provide a safer environment for current and future visitors.

c. As a part of the Regional Park System, the proposed Black Knight Mountain Regional Park would provide interpretive signs and information on ecosystem habitat and local flora and fauna.

4. Supports sustainable infrastructure development.

a. The proposed Black Knight Mountain Regional Park would provide long-term recreational infrastructure to the local community. Although facilities in the proposed park will be minimal and low impact, they will be designed for longevity and minimal maintenance and provide long-term benefits with the possibility for park expansion in the future.

5. Contribution to environmental quality.

a. By securing, restoring and preserving these fragile areas of grassland and open forest the proposed Black Knight Mountain Regional Park will maintain and improve the regional environment of the RDCO.

b. The encroaching Douglas-fir forest of Site 2 would be managed under the park management plan and would help improve the ecological habitat of the area.

6. Other Support ($ or in kind) contingent on access to Crown land.

a. Several groups have demonstrated their interest and support for Black Knight Mountain Regional Park including the Grasslands Conservation Council of BC, The Central Okanagan Naturalists Club, The Land Conservancy, The Central Okanagan Land Trust, FORREX and the Black Mountain Irrigation District (See Section 11.5).

11.4 Lands of Interest to RDCO Parks

RDCO Parks has an interest in a number of specific natural areas immediately adjacent to the crown land parcels. Identifying lands outside the proposed park boundaries as areas of interest does not commit the RDCO to acquire these or any other lands. The guidelines and criteria for the acquisition of regional parks and trails are outlined in the RDCO Official Regional Parks Plan, and apply to all areas of interest. The regional park acquisition guidelines are as follows:

- Acquire land for regional parks and trails based on fair market value, and a willing buyer and seller;
- Whenever possible, RDCO Parks will work in partnership with community groups, land trusts, and other levels of government to acquire land;
- Acquire property in accordance with the Official Regional Parks Plan, Regional Park Legacy Program, the Regional Parks and Greenways Plan, and park acquisition plan, giving careful consideration to operating and program needs, RDCO Parks' financial position, and timing factors that affect the sale of the property;
- Before acquiring land or land rights, RDCO Parks will prepare an acquisition evaluation for the proposed land, based on the best available information, to determine its consistency with the Official Regional Parks Plan or park plan and its suitability as an addition to the regional parks and trails system.

Some general areas of interest outside of crown land have been identified.

1. An existing flume right-of-way owned by the BMID runs from the north-east corner of Site 1 west towards the City of Kelowna. This flume could be a valuable addition to the Park as it would connect the proposed Black Knight Mountain Regional Park with other municipal.
2. The surrounding private land is an extension of the identified IDFxh1, IDFmw1, and IDFxh1a BEC zones. These areas although separated by legal boundaries, are a continuation of the local ecosystems and the proposed park would benefit if the entire area was managed for ecological protection and restoration. Invasive plants may also freely cross proposed park boundaries and an increase in park-land would help buffer the spread of these plants by increasing the management area for visitors and cattle.
3. The gravel pit in Site 1 has been used by the Ministry of Transportation and Infrastructure for materials and for storage of materials during road construction. They have a continuing interest in the gravel pit and further consultation with the Ministry of Transportation and Infrastructure will be required to fully implement the proposed Black Knight Mountain Regional Park.

11.5 Partnerships

Partnerships with several organizations have been identified to ensure the successful establishment and management of the proposed Black Knight Mountain Regional Park. Staff from the City of Kelowna's Parks Department are interested in a coordinated planning effort to support the proposed Black Knight Mountain Regional Park and possible connectivity with municipal parks and initiatives.

The Grassands Conservation Council of BC is willing to provide technical advice, provide interpretive media and find the proposed Black Knight Mountain Regional Park a good educational opportunity for the public awareness about endangered grassland ecosystems.

The Central Okanagan Naturalist Club is willing to provide technical advice, provide nature tours and interpretive walks and assist in the development and selection of interpretive media. Also, some members of the Central Okanagan Naturalist Club expressed an interest in joining a volunteer group to support the development and management of the park during the public open house events.

The Land Conservancy of BC is willing to discuss a future relationship with the RDCO where common goals exist for endangered grassland and open forest ecosystems where common organizational goals exist.

The Central Okanagan Land Trust is willing to discuss a future relationship with the RDCO where common goals exist for endangered grassland and open forest ecosystems where common organizational goals exist.

Don Gayton of FORREX is willing to provide technical advice regarding grassland/open forest ecosystems and restoration for the development and management of the proposed Black Knight Mountain Regional Park.

The Black Mountain Irrigation District has expressed an openness to discuss an agreement between the BMID and the RDCO to allow public use of the old flume right-of-way to allow connectivity with municipal parks as well as other open spaces such as the Black Mountain Golf course.

12.0 Implementation

Because the proposed Black Knight Mountain Regional Park is classified as a Regional Conservation park and is identified for the RDCO Parks highest level of protection, park management priorities will be based upon environmental considerations. While the objective is to implement the actions outlined in this acquisition plan, it is recognized that not all recommendations can be implemented immediately. Actions need to be scheduled into work plans and future budgets.

Some actions needed to address the outstanding issues can be undertaken right away as they do not involve major capital investment or large commitments of staff time. Other actions are more urgent, and require planning, scheduling and budget allocations. Actions that are easily implemented, and actions that are needed immediately to properly manage the parks, will be given a high priority. Implementation is proposed for completion in phases, with some actions proposed for soon after the plan is adopted, and others scheduled in the following years.

12.1 Phase 1 Implementation Priorities

Land Acquisition

A key priority is to continue to improve the environmental significance of this Regional Conservation Area by securing land outside the current proposed park boundaries that complement the parks' natural features. The Ministry of Transportation and Infrastructure considers Site 1 as an active and available gravel source. Further discussion between the Ministry of Transportation and Infrastructure and the RDCO is required to understand how the overlapping interests will coexist.

Black Knight Mountain Regional Park Entrance

Redesign the proposed Black Knight Mountain Regional Park entrance to create an improved visitor experience from the main gate on Pyman road to the proposed parking area at the existing gravel pit. Enhancements include improving the existing gate system as well as the installation of kiosk which would create a focal point and provide a central location where park visitors can obtain information and interpretive messages about the park's natural assets as well as important park visitor messages regarding park management and sensitive environments.

Cultural Environment Assessment

Undertake a cultural environment assessment of the proposed Black Knight Mountain Regional Park and implement appropriate measures to protect the cultural assets and provide education opportunities where available. Ensure that First Nations are engaged in the development of a cultural environment review process.

Proposed park Restoration

Conduct site restoration on trampled areas around the park where excess use and cattle grazing has caused some areas to be eroded down to bare soil. Conduct habitat restoration and reclamation in areas that have been damaged from unsanctioned off trail use.

Public Education

Install signs at strategic locations in the proposed park to educate visitors about the fragile nature of the parklands, and explain the reasons why park management actions are necessary.

12.2 Phase 2 Implementation Priorities

Trails

Rehabilitate trails in the escarpment and grassland areas of the proposed park.

Proposed park Restoration

Eliminate "desire line" and informal trails as well as clearly define the main trail network with consistent surfacing and signing that will encourage visitors to stay to the main trails. Replant reclaimed areas with native vegetation in an effort to unify adjoining ecosystems.

Public Education

Prepare educational materials that explain the need for park management actions and distribute them outside the park into the community, such as on the RDCO website, at schools and cycling shops.

12.3 Phase 3 Implementation Priorities

Public Education

Work with the local School District administration to ensure that students have an appreciation for the sensitive nature of the proposed Black Knight Mountain Regional Park, and work to ensure that the park is protected and even enhanced through school teaching programs. Consider having the Black Knight Elementary "adopt" portions of the proposed park to foster good stewardship principles with students and teachers.

Appendix 1: Inventory of Ecosystems / Species at Risk

Ecosystems and Species at Risk were inventoried using the Ministry of Environments BC Ecosystems Explorer tool in August of 2009. Ecosystems and Species at Risk were inventoried if part or all life stages were indicated use of BEC zones identified within the 'lands of interest'.

Inventoried Ecosystems at Risk

Scientific Name	English Name	BC Status	BGC	Ecosystem Group
Artemisia tridentata / Pseudoroegneria spicata - Balsamorhiza sagittata	big sagebrush / bluebunch wheatgrass - arrowleaf balsamroot	Red	IDFdm1/00;IDFxh1a/92;IDFxh1a/94;PPxh1/03	Shrub, Grassland, Herbaceous
Festuca idahoensis - Pseudoroegneria spicata	Idaho fescue - bluebunch wheatgrass	Red	IDFxh1a/91	Grassland, Herbaceous
Populus balsamifera ssp. *trichocarpa - Pseudotsuga menziesii / Symphoricarpos albus - Cornus stolonifera*	black cottonwood - Douglas-fir / common snowberry - red-osier dogwood	Red	IDFxh1/00	Riparian, Forest
Populus tremuloides / Philadelphus lewisii	trembling aspen / mock-orange	Red	IDFxh1/00	Forest
Populus tremuloides / Symphoricarpos albus / Osmorhiza berteroi	trembling aspen / common snowberry / mountain sweet-cicely	Red	IDFxh1/00	Riparian, Forest
Populus tremuloides / Symphoricarpos albus / Poa pratensis	trembling aspen / common snowberry / Kentucky bluegrass	Red	BGxw1/08;IDFdk1a/94;IDFxh1a/98;IDFxh2a/95	Riparian, Forest
Pseudoroegneria spicata - Balsamorhiza sagittata	bluebunch wheatgrass - arrowleaf balsamroot	Red	IDFxh1a/93;IDFxm/00;PPdh1/03;PPxh1/00K	Grassland, Herbaceous
Pseudotsuga menziesii / Acer glabrum - Cornus stolonifera	Douglas-fir / Douglas maple - red-osier dogwood	Red	IDFxh1/08	Riparian, Forest
Pseudotsuga menziesii / Penstemon fruticosus - Calamagrostis rubescens	Douglas-fir / shrubby penstemon - pinegrass	Blue	ICHmk1/02;IDFmw1/03;MSdm1/02	Woodland, Forest
Pseudotsuga menziesii - Pinus ponderosa / Calamagrostis rubescens	Douglas-fir - ponderosa pine / pinegrass	Blue	IDFdk2/03;IDFxh1/01;IDFxh2/01;IDFxh2/05	Woodland, Forest
Pseudotsuga menziesii - Pinus ponderosa / Ceanothus velutinus	Douglas-fir - ponderosa pine / snowbrush	Blue	IDFxh1/04	Forest, Woodland
Pseudotsuga menziesii - Pinus ponderosa / Festuca idahoensis	Douglas-fir - ponderosa pine / Idaho fescue	Blue	IDFxh1/05	Forest, Woodland

Scientific Name	English Name	BC Status	BGC	Ecosystem Group
Pseudotsuga menziesii - Pinus ponderosa / Pseudoroegneria spicata	Douglas-fir - ponderosa pine / bluebunch wheatgrass	Red	IDFxh1/02;IDFxh2/02;IDFxh2/03;IDFxw/04	Woodland, Forest
Pseudotsuga menziesii - Pinus ponderosa / Pseudoroegneria spicata - Calamagrostis rubescens	Douglas-fir - ponderosa pine / bluebunch wheatgrass - pinegrass	Blue	IDFdk2/02;IDFdm1/03;IDFxh1/03;IDFxh2/04;IDFxw/02	Woodland, Forest
Pseudotsuga menziesii / Symphoricarpos albus - Spiraea betulifolia	Douglas-fir / common snowberry - birch-leaved spirea	Red	IDFxh1/06;IDFxh1/07;PPxh1/07	Forest
Rosa woodsii / Festuca idahoensis	prairie rose / Idaho fescue	Red	IDFxh1a/97	Shrub, Grassland, Herbaceous
Thuja plicata - Pseudotsuga menziesii / Cornus stolonifera	western redcedar - Douglas-fir / red-osier dogwood	Blue	IDFmw1/05;IDFxh2/07	Forest, Riparian
Thuja plicata - Pseudotsuga menziesii / Maianthemum racemosum	western redcedar - Douglas-fir / false Solomon's seal	Red	IDFxh1/00	Forest, Riparian

Inventoried Species at Risk

Scientific Name	English Name	BC Status	BGC	Habitat Notes
Birds				
Ammodramus savannarum	Grasshopper Sparrow	Red	BG;IDFxh1,IDFxh1a;PP	Moderately open grasslands with patchy bare ground. Nest in bluebunch wheatgrass habitats.
Ardea herodias herodias	Great Blue heron, *herodias* subspecies	Blue	BG;ICH;IDFmw1;IDFxh1;MS;PP;SBPS;SBS	Fragmented forest, solitary trees. Nesting trees can be Fd, Pl, Sx, Ac, Cw, Hw. Forage along riverbanks.
Asio flammeus	Short-eared Owl	Blue	BG;BWBS;CDF;CWH;ICH;IDFmw1, IDFxh1, IDFxh1a;PP;SBPS;SBS;SWB	Breeding: open areas, grasslands, savannahs, and rangeland
Athene cunicularia	Burrowing Owl	Red	BG;CDF;CWH;IDFxh1a;IDFxm;PP	335-1250m, Dominated by sagebrush, antelope-brush, and bunchgrass (*Agropyron & Festuca)*

Scientific Name	English Name	BC Status	BGC	Habitat Notes
Buteo swainsoni	Swainson's Hawk	Red	BG;BWBS;IDF;SBS	335-975m, open habitats with grasslands, scattered trees or shrubs, and transitional habitats. Nest in groves adjacent to grasslands
Catherpes mexicanus	Canyon Wren	Blue	BG;IDF;PP	
Falco mexicanus	Prairie Falcon	Red	BG;ESSF;IDFmw1;IDFxh1a;MS;PP	Valleys and river canyons located near open grasslands or sagebrush steppes (used for hunting). Most breeding sites are near water
Falco peregrinus anatum	Peregrine Falcon, *anatum* subspecies	Red	BG;BWBS;CDF;CWH;IDF;MS;PP;SBS	150-2750m, nests on rock cliffs overlooking lake or river valleys. Hunting: riparian, meadows, parklands, crop lands, valleys, & lakes. Recently re-introductions of Peregrines in the city of Kelowna may have been successful in seeding a small population in that area.
Hirundo rustica	Barn Swallow	Blue	BAFA;BG;BWBS;CDF;CWH;ESSF;ICH;IDF;IMA;MH;MS;PP;SBPS;SWB	Cliff, Cropland/hedgerow, Grassland/herbaceous, Old field, Savanna, Suburban/orchard
Melanerpes lewis	Lewis's Woodpecker	Red	BG;CDF;CWH;ICH;IDFmw1;IDFxh1a;PP	Nests: 250-1160m, open canopy, dead trees. Deciduous groves, Pp forest, sagebrush/pine/bunchgrass grasslands, agricultural areas, and urban environments. Reported sightings in Black Knight Mountain area.
Megascops kennicottii macfarlanei	Western Screech-Owl, *macfarlanei* subspecies	Red	BG;ICH;IDFmw1, IDFxh1, IDFxh1a;PP	<700m, Nesting and roosting sites are in tree cavities, usually those made by Northern Flickers or Pileated Woodpeckers in large diameter deciduous trees (though coniferous trees are also used). Reported sightings at Mission Creek (1990-2003).
Numenius americanus	Long-billed Curlew	Blue	BG;ICH;IDFmw1;IDFxh1;IDFxh1a;PP;SBS	280-1220m, Large openings of gentle sloping grassland. Nesting: nest in dry, open grasslands with low profile vegetation
Dolichonyx oryzivorus	Bobolink	Blue	BG;ICH;IDF;PP;SBS	Native and tame grasslands, haylands, lightly to moderately grazed pastures

Scientific Name	English Name	BC Status	BGC	Habitat Notes
Otus flammeolus	Flammulated Owl	Blue	BG;IDFmw1;IDFxh1;IDFxh1a;MS;PP	400-1375m, nesting habitat includes multi-age class stands with multiple canopy layers, including a veteran tree component. Not observed nesting in areas they had previously occupied after grazing had reduced grasses. Nests are often located within and/or near foraging habitat, characterized by small forest openings (<1 ha) adjacent to Douglas-fir thickets and/or large veteran Douglas-firs or ponderosa pines
Recurvirostra americana	American Avocet	Red	BG;CWH;ICH;IDF;PP;SBPS;SBS	Lowland marshes, mudflats, ponds, alkaline lakes, and estuaries. Reported sightings at Alki & Robert Lakes (1987-2007).
Spizella breweri breweri	Brewer's Sparrow, *breweri* subspecies	Red	BG;IDFxh1;IDFxh1a;PP	340-750m, nests in sagebrush dominated shrub-steppe habitats. forage within sagebrush breeding habitat, although wetlands, mesic ravines, and aspen-dominated ravines may also be important
Tympanuchus phasianellus columbianus	Sharp-tailed Grouse, *columbianus* subspecies	Blue	BG;IDFmw1;IDFxh1;IDFxh1a;MS;PP;SBPS;SBS	275-1190m, range varies with season. Berries are important both for grassland and clearcut populations. Disturbed areas such as roadsides and landings with abundant greens such as clovers, dandelion, and yarrow are heavily used. Residual grass cover with a minimum height of 25 cm is recommended for nesting habitat for grassland populations (bluebunch wheatgrass, Kentucky blue grass & *Festuca campestris*).
Sphyrapicus thyroideus thyroideus	Williamson's Sapsucker, *thyroideus* subspecies	Red	ESSF;ICH;IDFmw1;IDFxh1;IDFxh1a;MS;PP	1050-1200m, Live trees, in open to semi-open (<75% canopy cover) mixed coniferous forests that include western larch, Douglas-fir, grand fir, and trembling aspen are important foraging habitat. nests have largely been found in coniferous trees, particularly Lw, but also in Pp, Fd, Pl, Sx, Ep, and Ac
Mammals				
Gulo gulo luscus	Wolverine, *luscus* subspecies	Blue	BAFA;BWBS;CMA;CWH;ESSF;ICH;IDF;IMA;MH;MS;SBPS;SBS;SWB	Wolverines avoid dry grassland areas, and are rare on the coast

Scientific Name	English Name	BC Status	BGC	Habitat Notes
Martes pennanti	Fisher	Blue	BAFA;BWBS;CDF;CMA;CWH;ESSF;ICH;IDFmw1;IMA;MH;MS;PP;SBPS;SBS;SWB	<1000m, large Ac or Fd trees used as resting & denning sites. Riparian & dense wetland forest habitats
Myotis thysanodes	Fringed Myotis	Blue	BG;ICH;IDFxh1, IDFxh1a;PP	300-854m, arid grassland & Pp/Fd forest
Myotis ciliolabrum	Western Small-footed Myotis	Blue	BG;IDF;PP	300-850m, arid terrain. Foraging: edges of cliffs, rocky slopes, riparian areas, & grasslands. Restricted to arid, low elev. Valleys of dry interior
Euderma maculatum	Spotted Bat	Blue	BG;IDFmw;IDFxh1a;PP	300-900m, foraging & roost: riparian, marshes, fields, grasslands, and open forest. Reported sighting at KLO Creek (1990).
Corynorhinus townsendii	Townsend's Big-eared Bat	Blue	BG;CDF;CWH;ICH;IDF;PP	
Ovis canadensis	Bighorn Sheep	Blue	BAFA;BG;ESSF;ICH;IDFxh1;IMA;MS;PP	300-3000m, open grasslands, alpine, subalpine, shrub-steppe, rock outcrops, cliffs, meadows, moist draws, stream sides, talus slopes, plateaus, deciduous forest, clearcut or burned forest, and conifer forest. forage mainly from bunchgrasses such as wheatgrass (Agropyron spp.), fescues (Festuca spp.), bluegrass (Poa spp.), and needle grasses (Stipa spp.)
Perognathus parvus	Great Basin Pocket Mouse	Red	BG;IDF;PP	Grasslands and shrublands. Associated with natural steppe-grassland, this species also inhabits poor quality rangeland (grazing), disturbed sites, and rangeland dominated by alien plant species such as Cheatgrass. Reported sightings on Mission Creek just South of Black Knight Mountain (1992).
Reithrodontomys megalotis	Western Harvest Mouse	Blue	BG;IDF;PP	300-780m, rangeland, old fields, grassy edge habitats, dry gullies w/ abundant shrub cover bordering grasslands. Prefers high grass cover and shrub understory.
Synaptomys borealis artemisiae	Northern Bog Lemming, *artemisiae* subspecies	Blue	ESSF;IDF;MS	appears to be confined to the area north and east of Manning Park and south of the Similkameen and Tulameen rivers

Scientific Name	English Name	BC Status	BGC	Habitat Notes
Sorex preblei	Preble's Shrew	Red	BG;IDF;PP	Arid and semiarid shrub-grass associations.
Sylvilagus nuttallii	Nuttall's Cottontail	Blue	BG;IDF;PP	<700m, low elevation shrub-steppe grasslands of the southern Okanagan and Similkameen valleys
Taxidea taxus	Badger	Red	BG;ESSF;ICH;IDFmw1;IDFxh1;IMA;MS;PP;SBPS	300-800m up to 2800m, grasslands & dry open forests are common habitat. Eye-witness accounts of Badgers in Black Knight Mountain area.
Ursus arctos	Grizzly Bear	Blue	BAFA;BWBS;CMA;CWH;ESSF;ICH;IDF;IMA;MH;MS;SBPS;SBS;SWB	
Plants, Fungi, Mosses, Lichens				
Astragalus lentiginosus	freckled milk-vetch	Blue	BGxh;BGxw;IDFdk;IDFxh;PPxh	restricted to dry, grassy slopes within the Bunchgrass and Ponderosa Pine Zones in the Southern Interior, where, in general, the habitat is threatened by invasive weed species, development and cattle grazing
Cryptantha ambigua	obscure cryptantha	Blue	BGxh;BGxw;ICHmk;IDFdk;IDFdm;MSdk;MSxk;PPdh	tolerates over-grazed landscapes
Cyperus squarrosus	awned cyperus	Blue	BGxh;CDFmm;CWHxm;IDFmw;IDFxh;PPxh	Moist to wet, often sandy sites in the lowland and steppe zones
Floerkea proserpinacoides	false-mermaid	Blue	ICHdw;ICHmk;IDFmw;MSxk	Seepage slopes in the montane zone
Linanthus septentrionalis	northern linanthus	Blue	BGxh;BGxw;ESSFdk;ICHdw;ICHmk;IDFdm;IDFxh;MSdk;PPdh	Dry slopes, meadows, sagebrush flats and forest openings in the steppe and montane zones
Lindernia dubia var. *anagallidea*	false-pimpernel	Blue	BGxh;CWHdm;CWHxm;IDFxh	Wet, sandy or muddy banks and shores in the lowland and steppe zones
Melica bulbosa var. *bulbosa*	oniongrass	Red	BGxw;ESSFdv;ESSFmw;ESSFxc;IDFdm;IDFxh1;MSxk;PPxh	Mesic to dry meadows, grassy slopes and shrublands in the steppe to subalpine zones

Scientific Name	English Name	BC Status	BGC	Habitat Notes
Melica spectabilis	purple oniongrass	Blue	BAFA;CMA;ESSFdcp;ESSFdk;ESSFdkp;ESSFwc;ESSFwm;ESSFxc;ESSFxv;ICHmk;ICHmw;IDFdk;IDFdw;IMA;MSdc;MSdk;MSxk;SBSdk	
Navarretia intertexta	needle-leaved navarretia	Red	CDFmm;CWHxm;ICHmk;IDFxh	Moist meadows and vernal pools in the lowland and montane zones
Stellaria obtusa	blunt-sepaled starwort	Blue	CWHms;ESSFdk;ESSFwc;ESSFwcp;ESSFwk;ICHdw;ICHwk;IDFdm;IDFww;IDFxh1a	Wet to moist meadows and streambanks in the montane zone
Carex sychnocephala	many-headed sedge	Blue	BGxh;BGxw;IDFdk;IDFdm;IDFmw;IDFxh;IDFxm;MSdk;PPxh;SBPSxc;SBSdk	
Talinum sediforme	Okanogan fameflower	Blue	BGxh;BGxw;ESSFxc;IDFmw1;IDFxh1;MSxk;PPxh	Dry, open slopes of degraded volcanic rock, ridges and grasslands in the steppe and montane zones
Vallonia cyclophorella	Silky Vallonia	Blue	BG;IDF;PP	bunchgrass slopes, in open, dry forests and in rocky areas in southern BC
Reptiles				
Coluber constrictor	Racer	Blue	BG;IDFxh;IDFmw;PP	<900m, forage in shrub-steppe and grasslands, partially restricted to dry grasslands of the Okanagan.
Pituophis catenifer deserticola	Gopher Snake, *deserticola* subspecies	Blue	BG;IDFxh;IDFxm;PP	250-1100m, forage in open grassland habitats but riparian areas within the grassland habitat may also be important. den sites are located within rock outcrops or talus habitat (use rodent holes).
Crotalus oreganus	Western Rattlesnake	Blue	BG;IDF;PP	<800m, Grassland, parkland forest, wetland, and riparian areas provide foraging habitat

Scientific Name	English Name	BC Status	BGC	Habitat Notes
Eumeces skiltonianus	Western Skink	Blue	BG;ICH;IDF;PP	0-1080m, damp habitats, riverbanks, but also drier upland areas. Woodlands, grasslands, forested areas, and dry hillsides. Inhabit sunny rock outcrops & talus slopes, also lacustrine escarpments
			Invertebrates	
Magnipelta mycophaga	Magnum Mantleslug	Blue	ESSF;ICH;IDF;MS	
Hemphillia camelus	Pale Jumping-slug	Blue	CWH;ICH;IDF;MS;PP	
			Amphibians	
Spea intermontana	Great Basin Spadefoot	Blue	BG;IDFmw1;IDFxh1;IDFxh1a;MS;PP	275-1800m, semi-arid habitats such as bunchgrass grasslands, sagebrush steppe, and open Pp forests. Arid grasslands in the valley bottoms of the Okanagan, Similkameen, Kettle, Nicola, and Thompson watersheds. breeds in permanent or temporary aquatic habitats such as lakes, seasonal wetlands, rain pools, flooded areas along streams, and pools in intermittent streams

Appendix 2: Stakeholder Consultation Summary

Stakeholder Comments

Stakeholder	Identified Concerns	How incorporated into plan
Adjacent private land holder Parcel Identifiers: 001-713-736 001-713-795 001-713-744	Expressed concern regarding impacts to ranching activities and trespassing on private land. Requests include: Fence both Site 1 and Site 2 with range fence and cattle guards and gates, where fence crosses roads,	Range fence, cattle guards and gates are proposed for both Site 1 and Site 2 for the purpose of ecological restoration, access management, and adjacent private land protection.
	Install "No Trespassing" signs,	Information signs are proposed (see Site 2 map in the appendices) to inform park users about avoiding private land.
	Limitations for dogs	An "on-leash" policy is proposed in all areas of the proposed park.
	No motorized vehicles	A "no motorized vehicle" policy is proposed in all areas of the proposed park.
	Restrict vehicular access to authorized persons	Vehicular access is proposed to be limited to authorized individuals, companies or groups such as tenure holders, private land owners and communication companies etc.
Adjacent private land holder Parcel Identifiers: 001-713-701 001-716-735 001-714-325 001-715-178 001-714-996 009-526-251	Expressed concern regarding off-road motorized vehicle access.	There is an existing access management gate located approximately 500m from the junction of Pyman Road and Highway 33. This gate is proposed to be moved where the Black Knight FSR road and the Eastern edge of the proposed park boundary intersect. This in combination with the continuous park boundary fence is anticipated to achieve the private land holders desired access management objective.
Black Mountain Irrigation District	Expressed no concerns.	The BMID indicated that use of their adjacent flume right-of-way may be available for public use and connectivity between the proposed Black Knight Mountain Regional Park and the Black Knight subdivision in the City of Kelowna.
Ministry of Forests and Range	The District Manager from the Okanagan-Shuswap Forest District is not in favour of land removal from the timber harvesting landbase. The Engineering Officer from the Okanagan-Shuswap Forest District indicated that the Black Knight FSR is not used as an operational road and prefers that the RDCO acquire and	The District Manager has requested that a rationale be submitted to justify the removal of land from the timber harvesting landbase.

Stakeholder	Identified Concerns	How incorporated into plan
	take over responsibility of the land associated with this road.	
Ministry of Environment	The Planning Section of the MOE supports the creation of Regional Parks in principle.	The Planning Section of the MOE supports restricting proposed facilities to previously disturbed areas, restricting vehicular access to Site 2, restricting trail use to non-motorized use and limiting designated trails to areas with existing roads or previous disturbance.
	Ensure proposed activities are planned and carried out with minimal impacts to the environment and in compliance with all relevant legislation and policy including urban and rural land best management practices.	As a proposed conservation-based park, the proposed management paradigm centers on having the smallest environmental impact to achieve the park goals and objectives. Future operational plans (ie restoration plans) will need to be developed with consideration for the appropriate legislation and policy.
	Indicated that this application should be consistent with the management direction provided within the Okanagan-Shuswap Land and Resource Management Plan (LRMP).	Designating these areas as Regional Park is consistent with the Okanagan-Shuswap LRMP. The management direction outlined by the Okanagan-Shuswap LRMP for ecosystems in the area of interest include: Maintain natural grassland ecosystem processes, minimize loss of naturally occurring grasslands and provide for connectivity between grassland ecosystems.
	Advised that Site 2 is within a Land Act section 15 Order in Council Reserve held by the Ministry of Forests and Range.	An initial query on Site 1 and Site 2 by ILMB indicated that these sites were unencumbered and available for disposition.
Ministry of Transportation and Infrastructure	MOTI indicated that they have a continued gravel interest on Site 1 including the existing gravel pit as well as potential expansion areas and does not consider the establishment of a park to be consistent with gravel extraction activities.	Further discussion with MOTI representatives is required to understand where and over what time period, parkland might coexist with their gravel interests.
Ministry of Energy, Mines and Petroleum Resources	No response	N/A
Ministry of Tourism, Culture and the Arts	No response	N/A
Communication interest – VMR Communications Ltd.	Expressed no concerns	Supports vehicular access management measures for Site 2.
Communication interest – Woods Communications	Expressed the need to access communications infrastructure for maintenance.	All companies that have a communication interest will continue to have vehicular access to their existing and future communication infrastructure.
	Inquired into the ability to modify or further develop communication capacity on this important and strategic	There are a series of land tenures for communications that may need to be excluded from the formal park area

Stakeholder	Identified Concerns	How incorporated into plan
	communications site.	during the land acquisition phase. Additionally, the Ministry of Agriculture and Lands Notation of Interest for communications has been designated as a separate management zone to allow flexibility and foster a continued relationship among the RDCO and communication interests.
Communication interest – Omega Communications	Expressed no concerns	Expressed no concerns since access management measures are proposed to be continued and the proposed new viewpoint (see Site 2 map in the Appendices) may help divert recreationalists from communications infrastructure.
	Inquired into the ability to modify or further develop communication capacity on this important and strategic communications site.	There are a series of land tenures for communications that may need to be excluded from the formal park area during the land acquisition phase. Additionally, the Ministry of Agriculture and Lands Notation of Interest for communications has been designated as a separate management zone to allow flexibility and foster a continued relationship among the RDCO and communication interests.
Communication interest – RCMP	Expressed concern for the park increasing public traffic near communication infrastructure in regards to liability, vandalism and infrastructure damage.	Currently, there is unsanctioned recreational use in the park area of interest. Formally establishing this area in the RDCO's Regional Park System will increase monitoring and stewardship of the land and it's use. Also, information signs are proposed (see Site 2 map in the appendices) to inform park users about avoiding the communication infrastructure.
Communication interest – Kelowna Fire Department	Expressed concern for the park increasing public traffic near communication infrastructure in regards to vandalism and infrastructure damage.	Currently, there is unsanctioned recreational use in the park area of interest. Formally establishing this area in the RDCO's Regional Park System will increase monitoring and stewardship of the land and it's use. Also, information signs are proposed (see Site 2 map in the appendices) to inform park users about avoiding the communication infrastructure.

Stakeholder	Identified Concerns	How incorporated into plan
	Inquired into the ability to modify or further develop communication capacity on this important and strategic communications site.	There are a series of land tenures for communications that may need to be excluded from the formal park area during the land acquisition phase. Additionally, the Ministry of Agriculture and Lands Notation of Interest for communications has been designated as a separate management zone to allow flexibility and foster a continued relationship among the RDCO and communication interests.
Communication interest – Telus	Expressed the need to protect existing communications infrastructure in the form of a "Statutory right-of-way".	There are a series of land tenures for communications that may need to be excluded from the formal park area during the land acquisition phase. Additionally, the Ministry of Agriculture and Lands Notation of Interest for communications has been designated as a separate management zone to allow flexibility and foster a continued relationship among the RDCO and communication interests.
	Expressed the need to access communications infrastructure for maintenance.	All companies that have a communication interest will continue to have vehicular access to their existing and future communication infrastructure.
Communication interest – Ministry of Agriculture and Lands Notation of Interest	Expressed no concerns.	There are a series of land tenures for communications that may need to be excluded from the formal park area during the land acquisition phase. Additionally, the Ministry of Agriculture and Lands Notation of Interest for communications has been designated as a separate management zone to allow flexibility and foster a continued relationship among the RDCO and communication interests.
Communication interest – Industry Canada	Expressed no concerns.	N/A
Tolko Industries Ltd.	Concern over removal of land from the timber harvesting landbase. Requested access to any timber removed from the park.	Further discussion is required between RDCO and Tolko when timber is removed from the site.
Guide outfitter tenure holder	Opposes the establishment of the proposed Black Knight Mountain Park.	The tenure holders were involved in the Okanagan LRMP process that designated new parks that they believe represent the Okanagan very well. The tenure holders do not want to give up any of our operating practices within the proposed park area.
Trapline tenure holder	No response	N/A

Letters of Support

Grasslands Conservation Council of British Columbia

September 8, 2009

Murray Kopp
General Manager of Parks Services
Regional District of Central Okanagan
1450 K.L.O. Road
Kelowna, B.C. V1W 3Z4

Dear Mr. Kopp,

Re: Support for proposed Black Knight Mountain Regional Park

The Grasslands Conservation Council of BC (GCC) would like to express its support for the creation of the Black Knight Mountain Regional Park proposed by the RDCO. The potential for education on grasslands and grassland restoration is significant, and the GCC is keen to work with the park services department on interpretive signage and scientific data and expertise for restoration activities through our networks once the park is acquired.

Grasslands are one of the most threatened ecosystems in the world and are immensely important to British Columbia's natural heritage and species at risk, as well as agriculture. The GCC commends the RDCO on its dedication to conserving a representative grassland area.

Sincerely,

Bruno Delesalle, MSc.
Executive Director

Cc: David Zirnhelt, Chair, GCC Board of Directors
Tasha Sargent, Stewardship Planner, GCC
Wayne Darlington, Parks Planning and Development Technologist, RDCO
Kane Sanders, Division Manager, Integrated ProAction Corporation

954 A Laval Crescent Kamloops, BC V2C 5P5 Tel. (250) 374-5787 Fax. (250) 374-6287
gcc@bcgrasslands.org www.bcgrasslands.org

FORREX
Supporting Sustainable Natural Resource Management Decisions

Box 851
Summerland, BC
Canada V0H 1Z0
Tel: 250 494 1858

Murray Kopp
General Manager - Parks Services
Regional District of Central Okanagan
1450 K.L.O. Road
Kelowna, BC V1W 3Z4

Re: Proposed Black Knight Mountain Regional Park

Dear Murray,

I certainly applaud the Regional District's initiative in doing a feasibility study for a grassland park in the Black Knight Mountain area. As you know, native grasslands are a tiny fraction—less than one percent—of British Columbia's landbase, and large amounts have been permanently converted to human settlements, agriculture, and other uses. Grasslands also play host to a very large number of species at risk—some 30% of all BC's species at risk make use of grasslands at some point in their life cycle.

I have walked the Black Knight area extensively. Although the vegetation has been heavily degraded, by livestock overgrazing, soil disturbance and weed invasion, many of the key native species are still there, and given time and management, I believe this grassland can regain some of its former glory.

I also believe that the heavily degraded area of the former gravel pit can constitute an important and logistically convenient "living laboratory" for ecological restoration, monitoring and public education work. There are many other sites like the gravel pit area up and down the Okanagan valley, and lessons learned at Black Knight will be very useful in future restoration projects.

The private land adjacent to the proposed park is certainly valuable as well, particularly the upper end that contains a pond and an aspen grove.

Some form of coordinated management between the park area and the private holdings—particularly in regards to grazing, access and invasive plant management—would be very beneficial.

As a non-profit science extension society, we are not in a position to contribute financially to securing a park, but we would be happy to provide our expertise and scientific resources.

Sincerely,

Donald V. Gayton, M.Sc, P.Ag.
Ecologist

Kane Sanders

From: Alyson Skinner [ASkinner@conservancy.bc.ca]
Sent: September 30, 2009 9:30 AM
To: Kane Sanders
Subject: RE: Proposed Black Knight Mountain Regional Park

Absolutely on both. After mid-November I should be more available. When do you need this letter by?
Thanks Kane,
Alyson

From: Kane Sanders [mailto:sanders@intpac.ca]
Sent: Wednesday, September 30, 2009 9:28 AM
To: Alyson Skinner
Subject: RE: Proposed Black Knight Mountain Regional Park

Hi Alyson,

A letter indicating that TLC considers conservation of grassland/open forest ecosystems in the Okanagan as a priority would be great! Would you also be able to include that TLC supports the park (or generally, conservation efforts by organizations?) "in principle" based on those priorities?

Additionally, when you are available, the RDCO is interested in discussing the potential for a partnership with TLC for future park expansion involving the adjacent private land. At this point, this is only and invitation to discuss common goals and explore possible relationships between your organizations and not a solicitation for any immediate commitment.

Thanks!

Kane Sanders, RPF
Integrated ProAction Corp
1425 Hugh Allan Drive Kamloops, BC V1S 1J3
☎**(250) 828-7977** 🖷**(250) 828-2183**
✉sanders@intpac.ca URL **www.intpac.ca**

Please consider the environment before printing this e-mail

From: Alyson Skinner [mailto:ASkinner@conservancy.bc.ca]
Sent: September 30, 2009 9:13 AM
To: Kane Sanders
Subject: RE: Proposed Black Knight Mountain Regional Park

Hi Kane,

Yes, I am the contact for TLC in the Okanagan. I have been receiving your emails and think the idea of a conservation-based park at Black Knight Mountain is fantastic. Unfortunately, I am under several deadlines and have not had the capacity to review any of the specifics related to this proposal.

What I could do, however, is write a letter to the tone of conservation of grassland/open forest ecosystems in the Okanagan being a priority. I don't feel comfortable, having not become familiar with the proposal, writing anything too specific. Please let me know if this would be valuable.

Thank you,
Alyson Skinner

Area Manager
TLC The Land Conservancy of BC
Okanagan Region

In the Okanagan-Similkameen, up to 85% of the low elevation wetlands have disappeared since the early 1800's, and up to 70% of the grasslands. You can make a difference...And SOS Stewardship can help.

From: Kane Sanders [mailto:sanders@intpac.ca]
Sent: Monday, September 28, 2009 3:29 PM
To: Alyson Skinner
Subject: Proposed Black Knight Mountain Regional Park

Hi Alyson,

Bryn White from the SOSCP indicated that you were the contact for The Land Conservancy of BC. As you may be aware the Regional District of Central Okanagan (RDCO) is proposing to formally recognize a Conservation-Based regional park in the Black Knight Mountain area approximately 10km East of Kelowna on Highway 33 from Highway 97. The proposed park includes two lands of interest each approximately 64ha of crown land and is intended to protect a portion of the region's available dry grassland/forest ecosystem. More information can be found at the proposed Black Knight Mountain Regional Park website:

http://intpac.ca/business_strategy.html

The RDCO has developed a strategic approach to regional park development and the Black Knight Mountain sites were identified as a result of ecosystem (IDFxh1a) conservation objectives which are found on the crown lands of interest and on the surrounding private land. The identified areas of interest are the only crown land parcels currently available that contain IDFxh1a.

The RDCO is firstly, seeking your support (letter of support) to acquire of the initial crown lands of interest and secondly, to discuss future support for strategically acquiring adjacent private land to sustain the long-term management of the Black Knight Mountain Regional Park. The RDCO understands that economic times are presently not favourable for large capital expenditures and wants to discuss where partnerships can be formed for a future expansion of the park that satisfies common goals between organizations.

Letters of support can be addressed to:

Murray Kopp
General Manager - Parks Services
Regional District of Central Okanagan
1450 K.L.O. Road
Kelowna, BC
V1W 3Z4

Please contact me to discuss the proposed Black Knight Mountain Regional Park.

Kind Regards,

Kane Sanders, RPF
Integrated ProAction Corp
1425 Hugh Allan Drive Kamloops, BC V1S 1J3
☎**(250) 828-7977** 🖷**(250) 828-2183**
✉sanders@intpac.ca URL **www.intpac.ca**

Please consider the environment before printing this e-mail

Central Okanagan Naturalists' Club

Box 21128, RPO Orchard Park, Kelowna, BC V1Y 9N8
www.OkanaganNature.org

Mr. Murray Kopp, Parks & Recreation Director
Regional District of Central Okanagan
1450 KLO Road
Kelowna, BC V1W 3Z4

Regarding: Land Acquisition Proposal for a Park at Black Knight Mountain

Dear Mr. Kopp:

The Central Okanagan Naturalists' Club fully supports the Regional District of Central Okanagan's proposal to create a regional park on 2-64 hectare parcels of Crown Land at Black Knight Mountain. Since the mid elevation grassland and upland Interior Douglas Fir forest on these 2 parcels of public land aren't currently represented in the Regional District's Park system, this is a key area through which to achieve conservation and protection of these valuable ecotypes.

Our club has believed for years that this area would make an excellent park, so we have sought to keep it intact by opposing gravel pit applications and by establishing a bluebird trail, which we had to abandon due to development. We are concerned that nearby extensive development, coupled with a proposal to establish a large water reservoir at the base of Black Knight Mountain, as well as the widening of Highway 33, is radically changing the nature of the area. A regional park would serve to preserve a significant segment of this limited and steadily diminishing grassland ecosystem in the Central Okanagan. Residents and tourists would have a readily accessible area in which to enjoy healthy outdoor recreation and learn about the ecology of grasslands and the hot, dry Interior Douglas Fir forest. Those prepared to take a moderate hike would pass through areas of diverse, changing vegetation and be treated to a beautiful vista of the Okanagan valley from the summit of Black Knight Mountain.

The Central Okanagan Naturalists' Club is willing to partner with the Regional District of Central Okanagan to restore damaged ecosystems (weed pulling, replanting), establish interpretive signage, and provide volunteers for leading interpretive outings. We can also be a source of labour and limited funding to help with establishing the some of the park infrastructure (fencing, trails, etc.).

In closing, we are very enthused about the RDCO park proposal for Black Knight Mountain, so we encourage the Province of British Columbia to support their vision by selling the 2 Crown parcels to them for parkland.

Yours Sincerely,

Don Guild

Don Guild, President
250-768-3334

Central Okanagan Land Trust

Murray Kopp

General Manager – Parks Services
RDCO
1450 KLO Rd
Kelowna, BC
V1W 3Z4

Dear Murray:

Mr Kane Sanders recently sent COLT some information about a possible Conservation-Based regional park in the Black Knight Mountain area. We understand that the lands of interest are currently crown lands and the RDCO would like to acquire them from the Province.

The lands represent quite well-preserved examples of natural grassland/dry forest ecosystems of a type becoming increasingly scarce in the central Okanagan. The areas are probably large enough to sustain these ecosystems in a functioning condition and so would be well-suited to a Conservation-Based park. Several of the COLT directors have walked these lands and are excited about the possibility of their preservation. Among the reasons for our great interest is that we observed the uncommon Lewis' woodpeckers in the near vicinity this past spring and so wonder if the lands serve as habitats for other rare or endangered flora and fauna.

We realize that the properties are surrounded by privately-owned land of the same ecotype. It might be helpful in future discussions with the private owners regarding their eventual intentions to have the ecological importance of these lands emphasized by the establishment of a Conservation-Based regional park.

COLT is fully in agreement with the efforts of the RDCO to acquire the crown parcels. As in our past cooperative ventures, COLT would be eager to participate again in any way you felt might be appropriate. If you are successful, COLT and RDCO could initiate discussions as to the form that our participation might take.

We think that this is a very worthy project and we offer our sincere wishes that you will be successful.

Yours truly,

Barry Jones
President
Central Okanagan Land Trust

#217 - 1889 Springfield Road, Kelowna, BC V1Y 5V5

Kane Sanders.

25th September 2009

IntergratedProActionCorp,

DOREEN WIERENGA
395 MALLACH RD
KELOWNA BC V1X 2W9

1425 Hugh Allen Drive
Kamloops BC.
V1S1J3

To whom it may concern,

I felt I should write a letter as I was so disappointed to have to miss the drop in at Pyman Road for proposed Black Knight Mountain regional park. Unfortunately I was away that week, but I did try to let several people know it was coming up.

I have thought BKM a special place for the last 40 years since we moved here in 1969, it was one of the first places we went when exploring our new area! Right to the top and I have been up on that mountain and its surrounding areas very many times over the last 40 years. I have led several hikes and birding trips in that area over the years for the Naturalists, Also gave a slide show of it and led a trip part way up for an FBCN Meeting here several years ago. I was a member of RDCO Linear parks committee and City of Kelowna Linear parks committee for a few years and one time took a member of RDCO up BKM on back paths by the road to the top. (I believe she was doing a study of the area) Anytime I could put in a plug for that area I did! I could never understand with it being such a dominant part of Kelowna landscape why it seemed of so little importance. I have been hiking years ago on many of the local hills and lovely as they all are BKM remained my all time favourite. I have a scrapbook I started years ago about the area and it includes some bird lists and copies of reports of species either endangered or at risk seen in that area by myself and other observers. (most of these I sent to the Conservation Data Centre in Victoria), several photos and cuttings of the area too, also info on anything happening up there (for example: logging, mining, etc) I have worked with the Central Okanagan Naturalist Club through the years to try and save this area, but often it seemed it was a lost cause!

I enclose some copies of data out of my scrapbook that is maybe in RDCO archives?

Yours sincerely,

D Wierenga

Doreen Wierenga

cc. RDCO

CENTRAL OKANAGAN NATURALIST CLUB
Box 396. Kelowna. B.C. V1Y 7N8

October 9th. 1996

Planning Dept.
Central Okanagan Regional District
1450 KLO Road
Kelowna. B.C. V1W 3Z4

Dear Sirs:

We hope you will consider well all parts of Black Knight Mountain which are in your Highway 33 Rural Land Use Bylaw.

In the last few years Black Knight Mountain has suffered private logging with visual damage to hillsides and to a historical irrigation ditch, plus over-grazing of the grasslands. Current threats are potential future development, a recently proposed mine on the scree slopes and continuation of over-grazing. There are only about 9% of the valley's original grasslands left.

It is one of the well known district landmarks formed from local volcanic activity 50 to 60 million years ago. (See - Geology of the Kelowna Area. Kelowna Geology Committee).

Variety of elevation, drainage and exposure serve to make Black Knight Mountain a very diverse area biologically. There are some species of bird, mammal, reptile and plant that are on the red-blue lists.

Several studies over the years document how important this area is environmentally.

Earlier on in 1983 the mountain was included in the Kelowna Heritage Resource Inventory.

It became an environmentally important site in the Lands for Nature project with the Federation of B.C. Naturalists in 1991.

The mountain and its surrounding area was part of the City of Kelowna and Regional District Natural Features Inventories in 1993.

In 1995 it was submitted to Protected Areas Strategy - Goal 2.

It is hoped that the Regional District, City of Kelowna and private land owners will work together to preserve the beauty of Black Knight Mountain. The mountain and its lower slopes are a unique part of Kelowna's visual landscapes and we should be concerned for its future.

Yours sincerely.

Doreen Wierenga

Doreen Wierenga
Conservation Committee Member
DW/sf

MINERAL APPLICATION
FOLLOW UP.

CENTRAL OKANAGAN NATURALISTS CLUB

BOX 396, KELOWNA, B.C., V1Y 7N8

October 11th, 1996

Premier Glen Clark
Parliament Buildings
Victoria, B.C. V8V 1X4

Dear Sir:

We have great concern for the proposed mining operation on the west flank of Black Knight Mountain by one Michael Eichhorst, 3756 Lakeshore Road, Kelowna, B.C. (Site location: W 1/2 Section 20, Township 27, O.D.Y.D.)

Several studies over the years document how important this area is environmentally.

In December, 1983, Black Knight Mountain was included in the Kelowna Heritage Resource Inventory.

In 1991 the Federation of B.C. Naturalists Lands for Nature project also included this site.

In 1993 it was included in the City of Kelowna and Regional District of Central Okanagan Natural Features Inventory.

In 1995 it was submitted to Protected Areas Strategy - Goal 2.

Our organization has devoted hundreds of hours over the years listing the many species of birds, mammals, plants, etc., in this area. Conservation Data Centre in Victoria has some of the rarer species on record (list enclosed).

On behalf of our club, a geologist has recently toured the site. His opinion is enclosed.

The visible damage to the mountain from a scenic point of view as relates to tourism and the residents will probably upset more people than will environmental concerns. Although the proposed site is in the Regional District, it has a major impact on the City of Kelowna.

Potential clear cut logging on the south slopes of the City became a hot issue a few years ago; this mining operation is conceivably the same.

Current municipal bylaws at this time do not offer enough protection for natural, cultural heritage and historical community features.

Your government's Land Resource Management Plan for our region offers a great opportunity to settle long standing disputes between stakeholders. Perhaps a similar dispute solving method such as the L.R.M.P. could be instituted with changes to municipal law.

In the meantime, could you please do something to stop this ugly scar from appearing on one of Kelowna's most important landscape features.

Yours truly,

Cec Dillabough,
President

Doreen Wierenga,
Conservation Committee

cc:
* Dan Miller, Minister of Energy, Mines & Petroleum Resources
* Eric Beresford, Ministry of Employment & Investment (Minerals & Energy Div.)
* Ministry of Environment, Lands & Parks
* Ministry of Tourism
* Kelowna Chamber of Commerce
* Regional District of Central Okanagan
* City of Kelowna

:ED & BLUE LISTED SPECIES RECORDED ON BLACK KNIGHT MOUNTAIN

BIRD
Lewis's Woodpecker (Melanerpes lewis
Prairie Falcon (Falco mexicanus) raised 5 chicks
White Throated Swift (Aeronautes saxatalis)
Turkey Vulture (Cathartes aura)

MAMMAL
American Badger (Taxidea taxus) (C.D.C.)

REPTILE
Gopher Snake (Pituophis melanoleucus) (C.D.C.)

PLANTS
Scarlet Gilia (Ipomopsis aggregata)
Yellow Bell (Fritillaria pudica)

MEMORANDUM

To: Cecil Dillabough, President
Central Okanagan Naturalists Club

Re: Potential quarry operation, west flank Black Knight Mountain

The west flank of Black Knight Mountain was examined as part of the proposed site of a quarry operation. The proposal by one Michael Eichhorst, operator/agent of said site indicated that the material to be excavated was "consolidated" (see Box 9 of Notice of Work and Reclamation Program, dated May 29, 1996). Moreover, he specified the total surface area to be disturbed (73700 square metres) and the maximum height of the working face (0.3 metres) over a period of one to two years, the estimated life of the pit.

Black Knight Mountain is composed of massive, olive grey volcanic bedrock capping the hills, covered by talus derived from the weathering of this rock higher up, and by fluvial-glacial unconsolidated sediment lower down. All three types of materials are widespread adjacent to the Okanagan Valley and are not unique to Black Knight Mountain. It would appear that the operator intends to quarry the fluvial-glacial material. The volcanic rock is a major component of the Eocene Marama Formation, estimated to be some 40 million years old. The talus, of course, is Recent; and the fluvial-glacial deposits are some 12000 years old.

The proposed quarry will result in the stripping of the topsoil, all vegetation and wildlife habitat, unconsolidated sediments and some bedrock to a minimum depth of one-third of a metre over a large area of Black Knight Mountain facing the Okanagan Valley. It has taken more than 12000 years for natural processes of weathering and erosion to sculpture the landscape of Black Knight Mountain to what we see today but, if the quarrying goes ahead, the removal of these materials has the potential to destroy the landscape permanently in less than two years.

Appendix 3: Public Consultation Summary

Online Survey

Question 1: Where do you live?		
Answer Options	**Response Percent**	**Response Count**
City of Kelowna	54.3%	70
Rural Kelowna	14.7%	19
Other (please specify)	13.2%	17
District of West Kelowna	10.1%	13
District of Lake Country	6.2%	8
Rural West Kelowna	0.8%	1
District of Peachland	0.8%	1
Rural Peachland	0.0%	0
		129

Number	Response Date	Other (please specify)
1	**Aug 27, 2009 10:09 PM**	Kamloops
2	**Aug 28, 2009 3:51 PM**	Vernon Area
3	**Aug 28, 2009 9:51 PM**	Vernon BC
4	**Aug 30, 2009 2:41 AM**	Fraser Valley
5	**Aug 31, 2009 10:29 PM**	Armstsrong
6	**Sep 1, 2009 7:40 PM**	Vernon BC
7	**Sep 2, 2009 11:27 PM**	Kamloops
8	**Sep 3, 2009 5:48 AM**	Vernon
9	**Sep 3, 2009 8:38 PM**	Vernon
10	**Sep 4, 2009 12:59 PM**	Ellison
11	**Sep 4, 2009 10:14 PM**	Central Okanagan East
12	**Sep 16, 2009 7:03 PM**	Smithers
13	**Sep 24, 2009 3:51 AM**	Black Mountain
14	**Sep 24, 2009 6:07 PM**	Penticton
15	**Oct 2, 2009 4:28 PM**	Penticton
16	**Oct 3, 2009 8:07 PM**	Kamloops
17	**Oct 6, 2009 7:19 PM**	Kamloops

Question 2: What is your gender?		
Answer Options	**Response Percent**	**Response Count**
Female	53.4%	71
Male	46.6%	62
		133

Question 3: What is your age?		
Answer Options	**Response Percent**	**Response Count**
60+	33.1%	44
50-59	29.3%	39
40-49	19.5%	26
30-39	10.5%	14
20-29	5.3%	7
0-19	2.3%	3
		133

Question 4: What group best describes who you represent?		
Answer Options	**Response Percent**	**Response Count**
Interested public	57.1%	76
Community Group	30.8%	41
Non-Government Organization	9.8%	13
Government Organization	2.3%	3
		133

Question 5: How important is maintaining local park spaces to you?		
Answer Options	**Response Percent**	**Response Count**
Very important	80.0%	100
Important	12.0%	15
Somewhat important	6.4%	8
Not important	1.6%	2
		125

Question 6: How often do you visit parks in the Central Okanagan?						
Answer Options	**Daily**	**Once a week**	**Once a month**	**6 times per year**	**Never**	**Response Count**
RDCO Parks	14	**37**	27	33	6	117
Municipal Parks	12	**36**	29	24	6	107
Provincial Parks	4	21	32	**52**	7	116
Ministry of Forests Recreation Sites	1	12	23	**52**	17	105
						125

Question 7: What time of year do you visit Central Okanagan parks?

Answer Options	Spring	Summer	Fall	Winter	All year	Never	Response Count
RDCO Parks	2	17	4	1	**89**	6	119
Municipal Parks	5	17	3	0	**80**	6	111
Provincial Parks	2	32	7	0	**70**	8	119
Ministry of Forests Recreation Sites	2	33	3	4	**46**	16	104
							125

Question 8: How important are the following park features to you?

Answer Options	Very important	Important	Somewhat important	Not important	Response Count
Viewpoints	**53**	42	20	5	120
Nature watching opportunities	**62**	33	18	2	115
Walking trails	**79**	27	6	4	116
Biking trails	**28**	24	26	27	105
Benches/sitting areas	25	29	**37**	24	115
Park facility (bathrooms, kiosk etc)	32	**33**	**33**	18	116
					125

Question 9: How important are the following park programs to you?

Answer Options	Very important	Important	Somewhat important	Not important	Response Count
Interpretive signs	**37**	36	**37**	14	124
Educational handouts	7	23	**58**	30	118
Educational tours	11	15	**53**	39	118
Park activities/events	6	21	**48**	43	118
					125

Question 10: What park features would you consider to be important for the proposed Black Knight Mountain Regional Park?

Answer Options	Very important	Important	Somewhat important	Not important	Response Count
Viewpoints	**64**	34	13	7	118
Nature watching	**66**	29	18	3	116
Walking trails	**79**	26	6	6	117
Biking trails	29	20	26	**32**	107
Benches/sitting areas	24	**31**	**31**	26	112
Central park facility	18	25	33	**35**	111
					119

Question 11: What park programs would you consider to be important for the proposed Black Knight Mountain Regional Park?					
Answer Options	**Very important**	**Important**	**Somewhat important**	**Not important**	**Response Count**
Interpretive signs	36	**40**	27	15	118
Educational handouts	9	23	**48**	33	113
Educational tours	11	22	**43**	37	113
Park themed activities/events	6	17	**44**	**44**	111
					119

Question 12: How important are the following management approaches for the proposed Black Knight Mountain Regional Park?					
Answer Options	**Very important**	**Important**	**Somewhat important**	**Not important**	**Response Count**
Ecological conservation	**90**	17	7	5	119
Recreation opportunity	**58**	36	14	11	119
Education opportunity	**39**	33	31	16	119
Park services	20	31	**42**	26	119
					119

Question 13: How often will you visit the proposed Black Knight Mountain Regional Park?		
Answer Options	**Response Percent**	**Response Count**
6 times per year	47.1%	56
Once a month	25.2%	30
Once a week	19.3%	23
Never	5.9%	7
Daily	2.5%	3
		119

Question 14: What time of year will you visit the proposed Black Knight Mountain Regional Park?		
Answer Options	**Response Percent**	**Response Count**
All year	73.1%	87
Spring	7.6%	9
Summer	7.6%	9
Fall	5.9%	7
Never	5.9%	7
Winter	0.0%	0
		119

Question 15: Do you support the efforts of the Regional District of Central Okanagan in creating and maintaining Regional Parks?		
Answer Options	**Response Percent**	**Response Count**
Yes	95.6%	109
No	4.4%	5
		114

Question 16: Do you have any comments about RDCO's role in Regional Park creation and maintenance?	
Answer Options	**Response Count**
	48
	48

Question 16 Responses:

good job on the other parks
Kelowna is a wonderful city because of RDCO's management philosophy. Keep the park development pace up with the population growth.

Very important --much needed if anything for the management and control of public access

great to see the RDCO actively pursuing conservation

What is the matter with our parks department. They hire others to do their work?

I feel they are doing an exemplary job with the parks I visit now.

need equestrian access
The RDCO should do as much as possible to maintain green space and outdoor recreational space for all user groups, including equestrians.

It's going pretty well overall we are glad to have access to RDCO's parks.

Must be accessible for horses
Parks are very, very important to allow all access to nature.

Creation and maintenance of parks is a wise and necessary conservation measure.
I have always enjoyed visiting the parks as they are well cared, relaxing and there is always something to learn. It is so important to have a nature and have a piece of nature into our lives.

Support non motorized vehicle restriction
KEEP UP THE EXCELLENT VARIETY AND HIGH CALIBRE OF REGIONAL PARKS & OFFER MORE INTERPRETIVE PROGRAMS

usually very good park facilities - hope this park can be done as nicely as others

Question 16 Responses:

Make sure there is access for equestrians

The parks RDCO runs are great - our kids have learned a lot about nature and the need to preserve it through these parks.

RDCO is adopting an exclusionist attitude toward existing user groups with these park proposals. RDCO is ignoring demographics and historical uses of these areas in its proposals. This is more about political control than it is about protecting the environment or providing opportunity (opportunity for existing uses will be curtailed!).

Please consider including horseback riding trails.

I believe the Regional District should partner with BC Parks and Trails BC as stewards of the Kelowna area portion of the Trans Canada Trail and connector trails.

Keep up the good work!

Nice to have parks to enjoy the outdoors. Don't make it "too civilized" by cleaning up brush and trees---small trails, please.

keep up the good work!

very much appreciated - essential!

we need more conservation areas to protect fragile ecosystems and not parks for high human traffic.

RDCO is doing a great job

Keep up the great work.

Go for it. No one else is creating parks.

Where appropriate, keep development minimal - preserve habitat and wildspace.

Keep Black Knight simple; minimal signage and trail development. It's the only clean hillside one sees when driving into Kelowna

Asset to the comminity

Keep on buying up the land around the areas that you have up there when available, Eileen

I see the Regional Parks getting lots of use.
I live in the Black Mountain sub-division where

there are no parks and would use the new

Regional Park regularly.

I appreciate RDCO role in park development and maintenance.
maintenance of ecological corridors of utmost importance - human activity to be minimized and

non intrusive

Question 16 Responses:

I think an appoach sililar to provincial parks to include a variety of ecosystems is a must.

filling the gap left by the provincial Protected Areas Strategy is very important, esp. for grasslands
RdCO should obtain suitable land for parks whenever it becomes available if possible and affordable even if it will be some time before they can manage todevelope it!

i think you should maintain the parks we already have and leave the rest to nature

DO it!!

ensure NO motorized vehicles

This will be a very important acquisition because of the very endangered grasslands it will protect. Grasslands vanishing!!!

Important acquisition!!!

We went thru a 4 1/2 year LRMP process and created alot of new park the well repersent the Okanagan

clean drinking water and clean, unlocked bathrooms are a high priority

How will the Black Mountain Park affect the proposed gravel pit?
I am a member of Kelowna Ogopogo Radio Controlers model airplane club.We fly our airplane's on a site owned by B M I D that is planed to be

a water reservoir. We would like to have RDCO support in creating a new model airplane flying park.

We are a 100+ member, all ages club and fly all year. Wilf 250-860-5412

Question 17: Do you support adding the proposed Black Knight Mountain Regional Park to RDCO's Regional Park System?

Answer Options	Response Percent	Response Count
Yes	93.0%	106
No	7.0%	8
		114

Question 17 Responses:

Blk.Mtn. is considered a habitate zone for Mule Deer according to LRMP. There are hundreds of deer on that hill in the fall. There are allso a small heard of Elk that winter on the mountain.As soon as you introduce peaple to this area, wildlife will disappear. How is this park going to affect the rancher.A RANCHERS #1 problem is people. The fellow that has been on that mountain for the past ?? years has kept peaple, mainly motorbikes and 4x4s off the land. There are some areas of the Okanagan that should not be opened up to the public and Blk. Mtn is an area that should be kept as is.

Question 17 Responses:

make it as big as possible.

This is an incredible area of Kelowna and has a lot of interest as well as a very diversified terrain that if preserved should be a huge asset to Kelowna.

I think its a long over due project, the more surrounding property the RDCO can acquire surrounding it the better too its a real shame whats been done to Mine Hill and Hepburn mountain with the subdivision development in the area. So I think its of the utmost importance to protect this beautiful piece of nature while we still can.

Too small needs to be expanded and joined --should plan to expand behind Black mountain east to crown lands and provide a plausible continuous pedestrian access to back country

why choose a site that includes a gravel pit in the centre of it when there are adjacent areas that are intact and "presumably" of better conservation value?

I am keen to have it NON-motorized and Accessible to Equestrian activities

I nice place for walking and horseback riding.

Please consider access trails for horses. We share our trails on the South Slopes (Crawford; Steward Road power station trails) with hikers and bikers and this has worked out very well.

make the park equestrian friendly

The Black Mountain site is a favorite for individual and organized horseback riding activities. Equestrian access should be a priority in the proposed development of the park.

I would like to see equestrian access continue in the area.

Question 17 Responses:

At the last public meeting onsite there were some comments to "just keep it for nature" we disagree and believe that many would want this park available for hiking & biking but do admit that there would be some challenges opening this up to the general public. However the scenery is fantastic there and very close to where we live in Joe Rich so we are looking forward to some access to this area.

Must be accessible for horses and riding.

no motorized traffic!! If possible for bikes to have separated trails from foot traffic. Equestrians are being squeezed out all over the region, please make room for us, as most are very leave no trace in attitude. It is okay to not have every park and trail completely accessible by everyone, leave some challenges in place.

Access to horses and riders

access fir equestrian riding

Please ensure equine access to the park

We need to make this park horseback riding friendly. I don't see this option included??

Would like to see Equestrian access.

Maintain equestrian access
THE 2 CROWN LOTS CURRENTLY PROPOSED WILL NEED TO ADDED TO SO THERE IS A CONTIGUOUS PARK BETWEEN THEM. THIS LARGER AREA IS NEEDED FOR MEANINGFUL ECOLOGICAL PRESERVATION OF THIS MAGNIFICENT GRASSLAND/DRY FOREST COMPLEX. INCLUSION OF THE SEASONAL WETLAND IS A MUST & ACTION IS NEEDED IMMEDIATELY TO REDUCE THE IMPACT CATTLE ARE HAVING ON IT (EXCLOSURE FENCING, WATER TROUGH).

horse access is a must!!!

Question 17 Responses:

equestrian access should be allowed

Would like horseback riding trails

it a nice mountain the way it is if you let people from around here they WILL desoroy it! leave it alone unless you like teens with beer and fires!!!!!

Leave it as natural as possible and try to purchase the land in between eventually
Restoration of grass land in the gravel pit area.

Acquire more land as it becomes available.

Keep park natural.

The grasslands are a fairly rare ecosystem left in the Okanagan. I would really love to see a park dedicated to preserve/reclaim this land, and at the same time allow the public to access it through trails, etc to gain an appreciation of it - it's more than just a bunch of grass.

its great I live in rutland and walk my dogs every day I will love it. we go to mission creek and the new phase. but when we can we drive down 33 to the high rim tail or there abouts. I really wish people would clean up. and the kids would stop smashing glass every where. thanks there is a park going in at the bridge for bikes I think its great but my friend lives across and kids have all ready tried to steal from her yard.
This area should be left in its current state and access should not be limited to those who use the area for hunting, camping, and other recreational activities. The hypocrisy of the RDCO in asking for these Crown land dispositions, when the RDCO itself has opposed Crown land dispositions to existing cabin owners on upland lakes seems to be lost on our bureaucrats. Does the RDCO think they are better stewards of the land than cabin owners who have been protecting our watersheds for close to 100 years?

Keep as natural as possible. Allow dogs and horses. Keep human intervention to a minumum. Provide well trails for walking, biking & horseback riding

Excellent work on bringing this along. The Okanagan has this countries most endangered ecosystem and needs more protected green spaces.

Is there consideration for the equestrian enthusiast? There is no referance in any of you questions. It is a beatiful area to ride in.

Question 17 Responses:

I very much hope it will go ahead, so that this wonderful area will again be accessible,as it used to be

Make it a nature park without a lot of embellishment. Make it accessible all year . No motorized vehicles.

It is a great idea!

Equestrian access would be terrific!

An ecological treasure trove (unfortunately much inareas not included in proposal) - unique geological features - great views - great recreational opportunity close to population centre -could and should be expanded with time.

I think it will be a very interesting addition to the Parks in this area. It has a variety of terrain and ecology

It will require a parking lot off Highway 33

this could be the start of an effort to preserve a much larger area of natural grassland in that region

Support the concept; but am doubtful as to the aesthetic or conservation values associated with reclaiming a gravel pit & calling it a park...

The proposed area seems to exclude some of the more interesting ways up the mountain. The existing road is not an interesting way to go up.

It is a great area to develop more trails in the Okanagan,I have hiked the whole BKM area since

1974 and it will be a great spot to place a park

Question 17 Responses:

Equine access for riding on the trails would be most appreciated.

sHOULD BE BIIGER OF COURSE.

Strongly in favour. Have hiked there several times and find it very pleasant.

Important to establish this park to forstall residential development.

As above.

Why limit the proposal to 2 areas only??? Make the whole mountain a park, not just pieces of it. It is silly to just include a small portion of the whole area. I have hiked around the whole mountain many times, and it would offer a greater opportunity for the public to learn and enjoy what it has to offer. Otherwise, the different land formations, plant life, wildlife, etc. will not be available for the public to learn about.

very valuable park site, try to include the old Pyman Ranch historic site also.

Grassland preservation extremely important.

Invasive weed problems would have to be

addressed.

I love the hike up this mountain and have been saddened since access was cut off.

I would like to see the Black Mountain park connect to the walking trailways at the Black Mountain golf course as part of a linear parkway. This could eventually connect to Mission Creek Greenway.

Question 17 Responses:

A park in the area where I can walk with my dog is extremely important now that development has run amok up here.

sensitivity of the natural environment very important - losing too much too quickly

I have been waiting for a park in this incredible area. This pqrk will amaze most people in Kelowna who have never visited thus area.

Yes, it should be kept as natural as possible and as many birds and creatures use the ground for their nests and dens please have some control over dogs! Will also be sending a letter later.

People in Black Mountain like to walk and bike and they would definately enough and make good use of this park.

Do it.

I have hiked this area many times now from many different routes & approaches, and I have lived here only 3 years. It is an amazing area so close to the city. But I do find the control towers VERY unsighly (ugh!)

I'm very happy to see that moves are underway to save a (small) section of BC's grassland.

Unfortunately, the parks will over look a huge gravel pit, planned in the grasslands area east of Pyman road

Protecting local grasslands are very important.

Question 17 Responses:

1) It's enough to know the wildlife is there!
As a birdwatcher/naturalist/artist/interpreter/and local resident, I have spent countless hours hiking & observing nature as well as recording numerous sitings of wildlife throughout these grasslands. I keep a daily journal of these observations. I've always been impressed with the fact that there has been so little "human" presence in these grasslands. That will change drastically with the introduction of trails as much as I like the idea for my own use. From the wildlife's point of view, our presence will be very disturbing. I suggest strongly that you "minimize" our presence by limiting the amount of trailing you create. "It's enough to know they're there!"

2) Observing from a distance – less invasive
Any grassland, because of the nature of this habitat, has native species that are very vulnerable to damage, both plants and animals as well as natural features. Simply due to the fact that they're at "ground level." Most of the birds nest in the native grasses, some nest in low shrubs, & fewer still in snags & trees, because there are so few. Limited trails & some viewing platforms would help to decrease human presence. Visual aides such as educational signs, kiosks limited tours pamphlets and the use of binoculars will help to bring nature closer. Several geological features are visible from the parks such as Black Knight Mt. itself, Layer Cake Mt., Little White, Big White, Gallaghers Canyon etc, & the lake. These could be featured in paintings on the kiosk, along with some of the inhabitants of the area and minimal text about each. Thanks for the opportunity to express my opinion.

This is a phenomenal idea. With all the development happening in our neighbourhood, this is the best thing I've heard in a long time!!

Protection of environment especially streams and water are the most important priority.

I have hiked in this area for many years. Gopher flats went to the golf course and now the next valley is going to be flooded for the reservoir. To preserve some of this beautiful land is so very important. The blankets of wild flowers in the spring, the native plants, the birch groves, are unique and need to be preserved.

Kept in a natural state as possible with at most some signed trails and access from different points

I support the creation of this park and i also request that, as a park and recreational site, consideration be given to allowing the Kelowna Ogopogo Radio Control Club to establish a model flying field at the most easterly edge of the park.

i would like to horseback riding incorporated into the park and somekind of link from gopher creek to the park so that the highway and trailing could be avoided
Having looked at this site there is a location on the east side and into ajoining property that is of intrest for us as a model flying site. We need a level runway about 500 ft in length with open approach from both ends and a fly over area. We need area for parking and shilter. We will have fencing to control cattle,the surounding area would be low impact and left in a natural state

You can contact me 250-860-5412 Thanks Wilf Past Pres, Kelowna ogopogo radio controlers

Comments from Open House-Conceptual Plan

Signatory	Comments
1	No comment
2	Great! Now let's make it bigger!
3	Dito
4	Good opportunity to see proposal.
5	No comment
6	Thanks.
7	Good opportunity to see proposal.
8	Make the whole mountain a park.
9	Would love to see the park happen.
10	It would be wonderful to have these 2 areas.
11	Wonderful but should be larger.
12	Good start!
13	Good – needs to be larger!
14	Good start – hope it happens some day.
15	Regional director cent ok east.
16	No comment.
17	Lets press on with it!
18	Lets press on with it!
19	No comment.
20	No comment.
21	No comment.
22	Looking forward to it!
23	No comment.
24	Keep up the good work! CONC
25	No comment.
26	No comment.
27	No comment.
28	Larger park = better!
29	Looks great.
30	Awesome. Dog compound?
31	Cool
32	Rutland Residents Assn.

Comments from Open House-Final Plan

Signatory	Comments
1	No comment.
2	No comment.
3	No comment.
4	No comment.
5	No comment.
6	No comment.
7	No comment.
8	No comment.
9	Excellent plan – just what the area needs!
10	No comment.
11	Been waiting many years for something like this!
12	No comment.
13	No comment.
14	No comment.
15	No comment.
16	No comment.
17	Maintain horse access. Consider horse trailer parking allowance.
18	No comment.

Appendix 4: Cost Estimate for Implementation

Phase costs are estimated based on proposed actions at this early planning stage of the proposed Black Knight Mountain Regional Park. Future costs for regular park maintenance activities or additional park planning or improvements are not included in the following implementation cost estimate.

		Site 1		Site 2		
Phase 1	**Unit**	**Estimated # Units**	**Estimated Cost**	**Estimated # Units**	**Estimated Cost**	**Total**
Park Management Plan (in coordination with First Nations)	plan	0	$0.00	1	$10,000.00	$10,000.00
Fire management plan	plan	0	$0.00	1	$15,000.00	$15,000.00
Communication Plan	plan	0	$0.00	1	$10,000.00	$10,000.00
3-Rail Fencing	metre	550	$8,250.00	0	$0.00	$8,250.00
Gates	gate	1	$5,000.00	0	$0.00	$5,000.00
Cattleguards	cattleguard	1	$5,000.00	0	$0.00	$5,000.00
New trail	metre	200	$9,000.00	125	$5,625.00	$14,625.00
Information and Interpretive Signs	sign	2	$1,000.00	6	$3,000.00	$4,000.00
Phase 1 Total			**$28,250.00**		**$43,625.00**	**$71,875.00**
Phase 2						
Range Fencing	metre	0	$0.00	3000	$45,000.00	$45,000.00
Cattleguards	cattleguard	0	$0.00	3	$15,000.00	$15,000.00
Restoration plan	plan	0	$0.00	1	$15,000.00	$15,000.00
Trail clearing	metre	0	$0.00	1500	$45,000.00	$45,000.00
Phase 2 Total			**$0.00**		**$120,000.00**	**$120,000.00**
Phase 3						
Restoration and rehabilitation plan (including invasive species management)	plan	1	$15,000.00	0	$0.00	$15,000.00
Range Fencing	metre	2100	$31,500.00	0	$0.00	$31,500.00
Information and Interpretive Signs	sign	5	$2,500.00	0	$0.00	$2,500.00
Information Kiosk	kiosk	1	$10,000.00	0	$0.00	$10,000.00
Interpretive Garden	garden	1	$0.00	0	$0.00	$0.00
Portable toilet (rent/service)	month	12	$3,600.00	0	$0.00	$3,600.00
Phase 3 Total			**$62,600.00**		**$0.00**	**$62,600.00**
Black Knight FSR						
Grading/road maintenance	hours			30		$3,997.50
Grader Mob/demob	hours			1		$96.90
600mmX10m culvert	culvert (installed)			1		$818.00
Black Knight FSR Total						**$4,912.40**
Total						**$259,387.40**

Appendix 5: Ecological Inventory of Site 1

An Ecological Inventory of an IDFxh1a grassland for the proposed Black Knight Mountain Regional Park

A Preliminary Report

October 28, 2009

Mathew Pocock, B.I.T

Integrated ProAction Corp

1425 Hugh Allan Dr.

Kamloops, BC

V1S 1J3

Introduction:

Black Night Mountain is located about 10 minutes east of central Kelowna on the north side of Hwy 33. Two 64ha parcels of crown land in the area are being considered for a future regional park. The area of interest for this report is the lower grasslands parcel (Site 1). Site 1 and the surrounding lands have traditionally been and are still used for cattle grazing today. Site 1 has also been highly modified by gravel extraction, motorized vehicle use, and other recreational users. The area is classified as IDFxh1a under the BEC classification system and is the grassland variant of the Interior Douglas-Fir zone. Drier IDFxh1a sites should be characterized by the occurrence of pasture sage (*Artemisia frigida*), bluebunch wheatgrass (*Agropyron spicatum*), arrow-leaved balsamroot (*Balsamorhiza sagittata*), and silky lupine (*Lupinus sericeus*). It is expected that due to existing roads, trails, and traditional land uses that the natural flora of the area will be highly disturbed and there will be a larger proportion of introduced and invasive species.

Methods:

The design method was created in a way that would achieve similar results as a report published by Artemis Wildlife Consultants on IDFxh1 grasslands restoration. Twelve plots were randomly distributed on a 200x200m grid and established using UTM coordinates. These plots were then surveyed to create a rough vegetation index of the grasslands in Site 1. Plot size was “eye-balled” using a 3.99m radius circle and percent plant cover of each species was estimated. Other observations were also made regarding soil disturbance and the general state of the grassland. Serving as a preliminary report for Site 1 of the proposed park, this document aims to outline the existing plant species and provide information for developing management goals and procedures.

A manual for Grassland Monitoring published by Grassland Conservation Council (GCC) of BC was used to predict the unaltered state of the study area and compare that to it's current state. This also helped to determine the major restoration and rehabilitation management issues of the area.

Results and Findings:

Reference Condition – *Bluebunch Wheatgrass Grasslands*

- Key bunchgrasses cover more than 50% of the site.
  - Site is dominated by bluebunch wheatgrass.
  - Rough fescue may be mixed with bluebunch wheatgrass

  - Idaho fescue and rough fescue will occasionally co-dominate with bluebunch wheatgrass.
  - Idaho fescue may become the dominant bunchgrass on some sites, particularly in the Similkameen and Okanagan valleys.
- Big Sagebrush and other shrubs, such as threetip sagebrush and common rabbit-brush account for less than 5% cover.
- Structural layers are unaltered from the reference condition and include:
  - infrequent shrubs (less than 5% cover)
  - tall grasses and forbs
  - medium grasses and forbs
  - low grasses and forbs not exceeding 5cm
  - biological crusts
- Biological crusts (mosses, lichens, and algae) are common and make up 10% to 30% of the ground cover. Biological crusts play an important ecological function. When site disturbance intensifies, bunchgrass, other plants and litter cover decrease.
- Litter weight is greater than 1000 kg/ha and litter cover is 75% or more of the ground surface.
- Stable soils show limited bare soil and soil disturbance. Erosion features and/or bare soil account for less than 10% of the ground surface.
- Invasive plants are not present or account for less than 1% cover on the site.

Most of the plants (both native and non-native) found are common in disturbed areas, such as road sides and commonly found in grassland habitats. The majority of the plants present are noxious weeds and introduced plant species. There are some “good news” species, including some native plants present in the area. Although many of the native plant numbers are low and the plants are in bad shape. There are large parts of the study area where bare soil and soil disturbance accounts for 20% or more of the ground surface. There is also a severe lack of biological crusts and litter cover throughout the area.

Grass species were identified and described as best as possible. The identifiable parts of the grasses were mostly gone by this time. Some grasses identified were introduced and/or common in disturbed/grazed sites, although there were a few native grasses still present. Accounts of healthy undisturbed bunchgrass grasslands were reported by local recreational users further up in the hills of Black Knight Mountain.

Native Plants:

Some native grasses were identified in the vegetative survey. Bluebunch wheatgrass was identified in some plots and is no more than 1% of Site 1's vegetative cover. This native grass is excellent forage for both domestic stock and wildlife, but is susceptible to damage or local extinction from overgrazing in spring. Needle-and-thread grass (*Stipa comata*) was present throughout the study area and provides forage for livestock in spring and autumn. The seeds of needle-and-thread grass can burrow through socks or injure the mouths of grazing animals, and therefore only provide forage in the spring, before the "needles" are formed, and in the fall, after they are shed. Sand dropseed (*Sporobolus cryptandrus*) is one other native grass found in the study area.

Both arrow-leaved balsamroot and pasture sage occurred in areas with drier moisture regimes that were exposed to minimal grazing pressure. The arrowleaved balsamroot was documented between plots and occurred primarily in the dry south or west-facing slopes but was not counted in any inventory plots. Arrow-leaved balsamroot is commonly grazed by deer and elk throughout the year. Pasture sage was present throughout the area and counted in almost every plot as a small but constant portion of the flora. In most cases the pasture sage consisted of smaller reduced plants and only occasionally reached heights greater than 20 cm.

Silky lupine and parsnip-flowered buckwheat (*Eriogonum heracleoides*) occurred in several of the plots. Silky lupine is interesting in that although several lupines are known to have caused fatal poisoning in some animals, some experts consider it to be good forage for cattle. Snow buckwheat (*Erigonum niveum*) was present with parsnip-flowered buckwheat in one of the plots. Buckwheats are plants of dry rocky areas and the flowers provide excellent nectar for honey-bees. Yarrow (*Achillewa millefolium*) is a native species although it is typical of a heavily grazed areas because it is unpalatable and resilient to livestock and disturbance.

Other native species found in the study area included: Curly-cup gumweed (*Grindelia squarrosa*), cut-leaved daisy (*Erigeron corymbosus*), rocky mountain juniper (*Juniperus scopulorum*), sagebrush mariposa lily (*Calochortus macrocarpus*), and brittle prickly-pear cactus (*Opuntia fragilis*)

Non-native plants:

Not a single plot was sampled that did not have an invasive species present. Sulphur cinquefoil *(Potentilla recta)* was the most prevalent noxious weed occurring in all of the plots. Flixweed (*Descurainia sophia*) and dalmation toadflax (*Linaria genistifolia ssp. dalmatica*) were also common

noxious weeds in the study area. Common introduced (non-noxious weed) species were cheatgrass (*Bromus tectorum*), great mullein (*Verbascum thapsus*), yellow salsify (*Tragopogon dubius*), crested wheatgrass (*Agropyron cristatum*), bulbous bluegrass (*Poa bulbosa*), and canada bluegrass (*Poa compressa*). Prickly lettuce (*Lactuca serriola*), woolly vetch (*Vicia villosa*), and white cockle (*Silene latifolia ssp. alba*) were also found to a lesser extent.

Sulphur cinqufoil and dalmation toadflax are among the most widespread and numerous weed in the study area. Sulphur cinquefoil is unpalatable to grazing animals and very competitive with native plants, resulting in reduced forage for livestock and wildlife on rangelands and pastures. While seeds may survive only two years, they are effectively dispersed by birds, animals, and livestock, either through digestion or by being picked up on hooves or in hair. They can also spread through their roots. Toadflax, which is toxic to animals, competes with native grasses and wildflowers and reduces forage for cattle and wildlife. Although poisoning is rare as livestock will generally not eat it. Toadflax seed is spread by wind and by birds and animals. A mature plant annually produces up to five hundred thousand seeds, viable for ten years. New plants can also form from horizontal roots.

Crested wheatgrass, although an introduced species from Russia, is a good indicator for grazing activity. It is very palatable to livestock and it's abundance beyond the old water flume is a good indication that grazing pressure has been low long enough for a thick wheatgrass dominated habitat to evolve. Crested wheatgrass is often planted for soil stability and as forage for cattle. Among the wheatgrass was sagebrush mariposa lily (*Calochortus macrocarpus*), which is like “Candy” to livestock and is a very strong indication of low grazing activity. This area provides formidable insight into the successional progression of the grassland if it were to be left untouched. Further investigation into the history of the rangeland management for the Black Knight Mountain area would be helpful in determining the introduction of certain species, specifically crested wheatgrass.

Discussion:

The grasslands in Site 1 study area are far from their natural habitat as evident from the plant communities present. Plant composition responds to significant disturbances such as continuous heavy grazing, frequent fire, prolonged periods of drought, above-normal precipitation, invasion by non-native species, or excessive recreational use. These changes are most predictable for plant species grazed by cattle. The large, perennial species most palatable to cattle, such as bluebunch wheatgrass, often decline with continuous heavy grazing. The cover of smaller, less palatable species (such as pussytoes, yarrow, Sandberg’s bluegrass, junegrass, and needle-and-thread grass) often increases when environmental

conditions become more favourable. Non-native species, such as common dandelion, diffuse and spotted knapweed, Dalmatian toadflax, and sulphur cinquefoil, can invade heavily disturbed sites where native plant species have been eliminated or their cover reduced. It is evident that these grasslands are moderately to greatly altered and that this state is being sustained by the frequent disturbance caused by grazing and human activities.

Most invasive plants on grasslands are introduced, non-native species. These species are usually most prevalent in early succession communities, but can establish on locally disturbed sites in all grasslands. Any disturbance can create conditions suitable for their establishment.

Invasive plants impact grasslands by:

- limiting soil moisture and nutrients for native plant species, reducing their ability to recover, re-establish, or attain Reference Condition
- resulting in a decline in forage production for livestock and wildlife
- reducing biological diversity
- impairing the aesthetic value and recreational opportunities

Another issue is the lack of litter (dead plant material) and biological crust (mosses and lichens) present in the study area. Heavy snowfalls, rain, and trampling by animals press standing dead plant material against the soil surface, promoting decay. Although too much trampling and disturbance can actually dry up and deteriorate the litter and biological crust. Also of note is the solid presence of a pocket gopher population in the area. Pocket gophers also greatly disturb the soil and litter of grasslands. Interestingly the "freshness" of gopher mounds and activity seemed higher in the site on the other side of the flume which does not appear to be frequented by grazing cattle. The thicker, taller grass perhaps provides more shelter and security from predators and the elements for the gophers.

Litter is the key indicator for nutrient cycling and hydrological function. Both the cover and distribution of living and dead plant material promote nutrient cycling and moisture retention in grasslands. As litter decomposes on the soil surface, it contributes organic matter and mineral nutrients to the soil. Decaying litter releases nutrients for plant growth and provides habitat and food for decomposers. In addition, by insulating the soil surface from the heat of the sun, litter reduces evaporation and retains scarce soil moisture. Litter also slows water movement over the soil surface, and allows the water to infiltrate and penetrate deep into the soil profile. Studies have demonstrated that litter removal can reduce forage yields by about 50% on bluebunch wheatgrass and rough fescue dominated grasslands.

It is clear that the biological crust typical of a bluebunch grassland habitat is not present in the study area and will need to be re-established for this grassland to come back to life.

Along with cattle disturbances, the area is also frequented by recreational users, ranging from hikers to horse-back, to motorized vehicles. There is ample opportunity for introduced plant species to continue spreading over the area. With the majority of noxious weeds having the ability to produce vast amounts of seeds every year, the recovery period for this site will range in the decades. It is likely that the seed banks of these noxious weeds are well established and repeated rehabilitation techniques will need to be implemented over a period of time. Various restorative techniques should be tested and used to eradicate the area of invasive and noxious weeds. Some techniques include: selective prescribed burns, mowing, raking and manual pulling of plants to remove the root systems. Many biological controls are also documented for many of the introduced plants in B.C. Some of these control agents overlap between plant species. Chemical control agents are also documented as effective against various invasive plants, but some may not be suitable in a public area. The “Guide to Weeds in British Columbia” is a great source of many of B.C.'s introduced plants and the many management methods available for each one (http://www.weedsbc.ca/pdf/GuidetoWeeds.pdf).

Conclusion:

Using the GCC's manual as a guide brings us to some evident conclusions about the current state of our study area. Our key bunchgrass cover is far less than 50% while the invasive plant cover is from between 10% to greater than 50% cover in some areas. Although the shrub layer is typical of less than 5%, the structural layers of the grassland are greatly altered from the reference condition. Many of the grasses and forbs have been reduced in size due to grazing and trampling from cattle. Another major concern is the almost complete lack of biological crust in the study area and the greatly reduced litter cover. Litter cover should represent at least 75% of the ground surface and bare soil should account for less than 10%. The condition of Site 1 varies greatly, while the area immediately surrounding the gravel pit is greatly altered and other areas are only moderately altered from the reference state. This grassland is likely on a downward trend and will continue to become altered unless management principles are applied to restore the area to it's reference condition.

Intensive rehabilitation and recovery actions need to occur in order for this grassland habitat to reach it's climax natural state, but for now this can only be applied to the area proposed for parkland. In the surrounding area it would be beneficial to both the ranchers and the ecology of the area if an effective range land management plan was put into place. Native plants would stand more chance if selective

grazing was applied at certain times of the year and for limited amounts of time. In this way native grasses would remain vigorous and have the reserves to continue to grow and proliferate in the next growing season. This would increase highly palatable species for cattle to forage as well as help maintain a more natural grassland habitat not dominated by introduced species. Well thought-out grassland management aims to maintain native plant vigor and cover of both living vegetation and litter to minimize establishment of invasive plants, while still providing nutritious and palatable grasses for livestock.

Pro-active methods combined with conservative and preventative measures will ensure greater success for the future of the grasslands. The introduced plants will need removing whether it be by chemical, mechanical, or biological means. While planting and protection of desirable native plants will ensure successful rehabilitation to a healthier ecosystem.

References

Davis, H. And R. Weir. Restoration of IDFxh1 Grasslands in the Clcahl Traditional Territory of the Splats'in People. Artemis Wildlife Consultants, Armstrong, British Columbia.

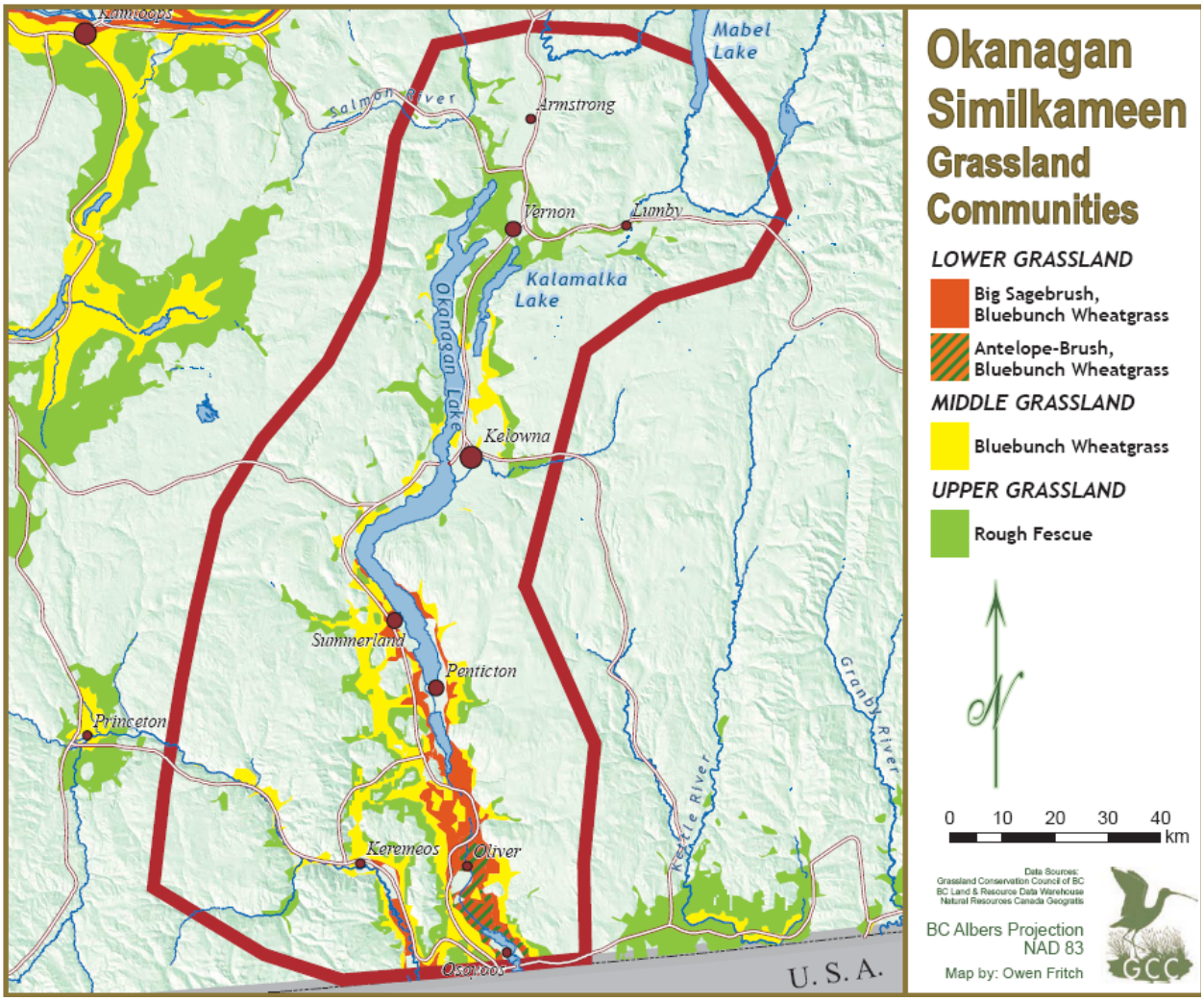
Delesalle, B.P., B.J. Coupe, B.M. Wikeem, S.J. Wikeem. 2009. Grasslands Monitoring Manual for British Columbia: A Tool for Ranchers. Grasslands Conservation Council of British Columbia.

Parchoma, G. and D. Steyn. 2002. Guide to weeds in British Columbia. Ministry of Agriculture, Food and Fisheries. Open Learning Agency, Burnaby, British Columbia.

Parish, R., R. Coupé, and D. Lloyd, editors. 1996. Plants of southern interior British Columbia. Lone Pine Publishing, Vancouver, British Columbia, Canada.

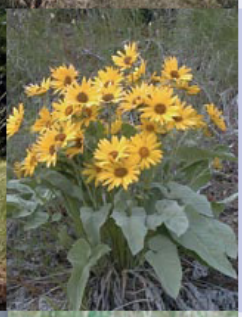
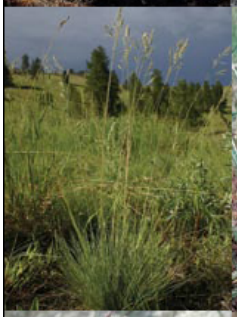
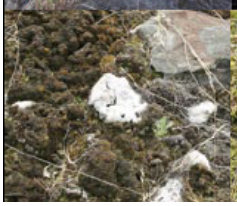
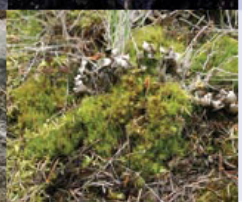
Appendix 1:

Example of the Reference Condition (Excerpts from: Grasslands Monitoring Manual for British Columbia: A Tool for Ranchers. Grasslands Conservation Council of British Columbia)



Commonly Occurring Species

Bluebunch Wheatgrass grassland community

	Plant Layer	*Plant Species*
	**Shrubs** (infrequent)	• big sagebrush* • common rabbit-brush • threetip sagebrush • prickly rose • saskatoon
 	**Tall Grasses and Forbs**	• bluebunch wheatgrass* • arrowleaf balsamroot* • rough fescue • lemonweed • alfalfa (non-native species)
 	**Medium Grasses and Forbs**	• Idaho fescue* • junegrass • needle-and-thread grass • yarrow* • pasture sage • daisies and fleabanes • asters • milkvetches
 	**Low Grasses and Forbs**	• Sandberg's bluegrass* • small-flowered blue-eyed Mary • pussytoes* • cheatgrass (invasive species) • common dandelion (non-native species)
 	**Biological Crusts**	mosses, lichens, and algae* * shown in photos

Reference Condition: Status Value 76–100%
The site surveyed is essentially the same as the Reference Condition.
The composition of the plant community, community structure, soil integrity, nutrient cycling, and hydrological process are effectively stable. Productivity will be relatively stable compared to other altered conditions. Susceptibility to weed invasion is low.

Slightly Altered: Status Value 51–75%
At least two of the five indicators evaluated have been rated below the Reference Condition.
Changes in plant community composition, plant community structure, and litter weight are the most likely reasons for the difference between the present site and the Reference Condition. Total production and site stability, as well as susceptibility to weed invasion, are likely similar to the Reference Condition.

Moderately Altered: Status Value 26–50%
At least three of the five indicators evaluated have been rated below Reference Condition.
Most likely, the cover of the dominant bunchgrasses is much lower than the Reference Condition, and at least two structural layers have been altered. In addition, litter weight and distribution are probably insufficient to adequately protect the soil surface. Bare soil may be increasing, and soil erosion is more likely than in the Reference Condition. These sites are generally more susceptible to weed invasion. Productivity can vary depending upon species composition and annual weather patterns.

Greatly Altered: Status Value 0–25%
At least four of the five indicators evaluated have been rated below the Reference Condition.
Species composition and plant community structure are significantly altered. If the dominant bunchgrasses remain, they contribute very little to ground cover and provide little forage for livestock and wildlife. Generally, the dominant species have been eliminated and replaced by low-growing, shallow-rooted, unpalatable native species; or by invasive plants of low forage value. Deep-rooted shrubs may have been established in dense, persistent stands. Litter weight and distribution are usually insufficient to protect the soil against wind and water erosion, and evaporation losses are high. Active erosion is often evident. These sites are susceptible to weed invasion, and invasive plants may be the dominant species on some sites. Productivity is usually lower than the Reference Condition and, throughout the years, can be highly variable depending on species composition and annual weather patterns.

Reference Condition

Slightly Altered

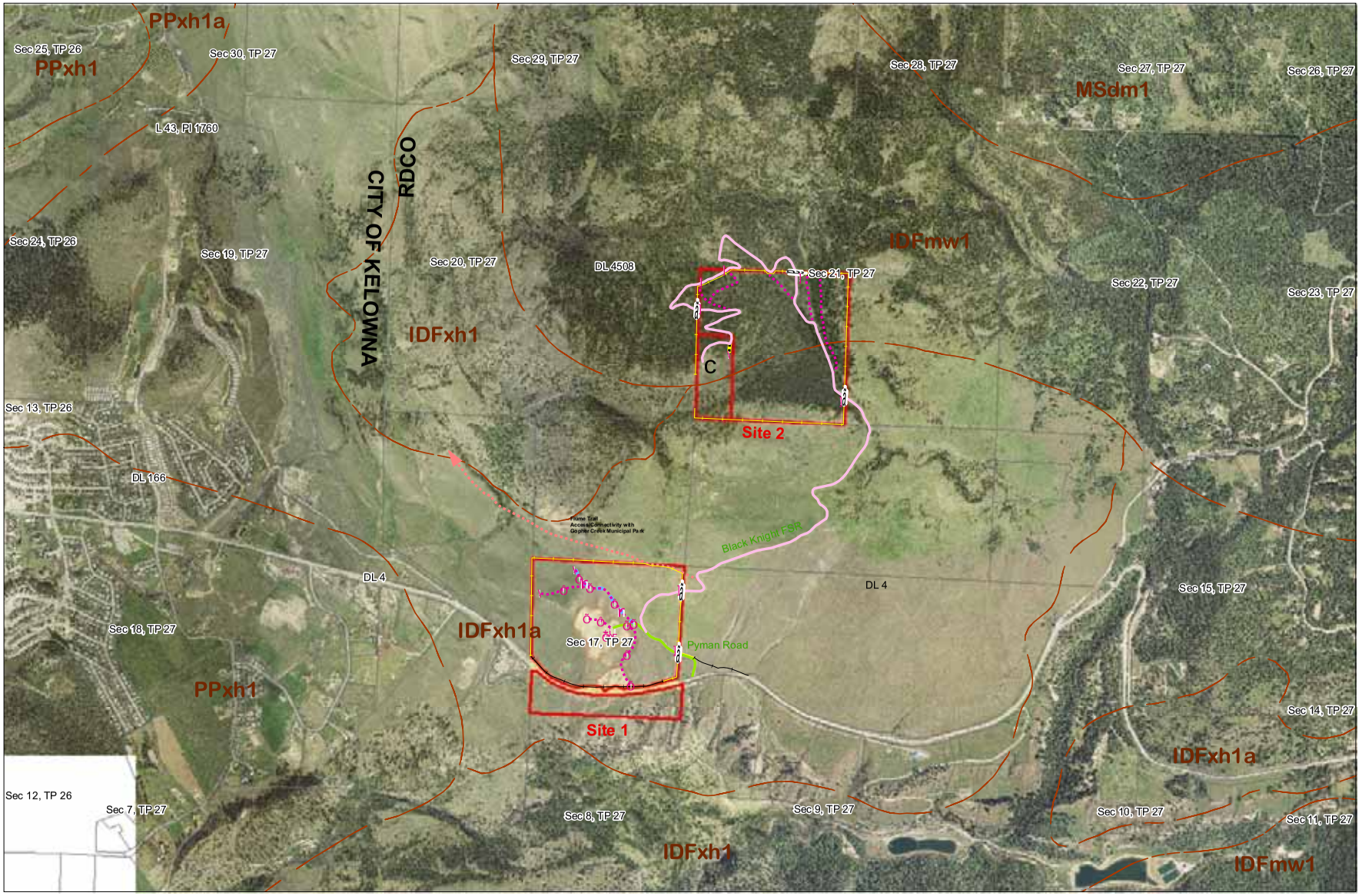
Moderately Altered

Greatly Altered

PHOTOS BRIAN WIKEEM

Appendix 6: Proposed Black Knight Mountain Regional Park Acquisition Plan Maps

Proposed Black Knight Mountain Regional Park Plan Map - Overview



Legend

- Interpretive Garden
- Information Sign
- Interpretive Sign
- Kiosk/Information Centre
- Maintained Trail
- Wheelchair Access
- New Viewpoint (Proposed)
- Picnic Area
- Parking
- Washrooms
- Proposed Cattleguard
- C Communications Tower
- Black Knight Forest Service Road
- Access Road (Pyman Road)
- Access/Connectivity Trail
- Existing Fence
- Proposed Fence
- Existing Trail
- Proposed Trail
- Wheelchair Access
- Park Management Zones
- Surveyed Parcels
- Highway 33 Right of Way
- Gravel Pit
- Biogeoclimatic Zone

Scale: 1:20,000

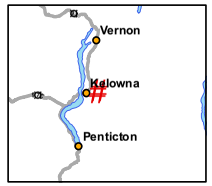
0 210 420 840 Meters

Projection/Datum: UTM Zone 11, NAD83

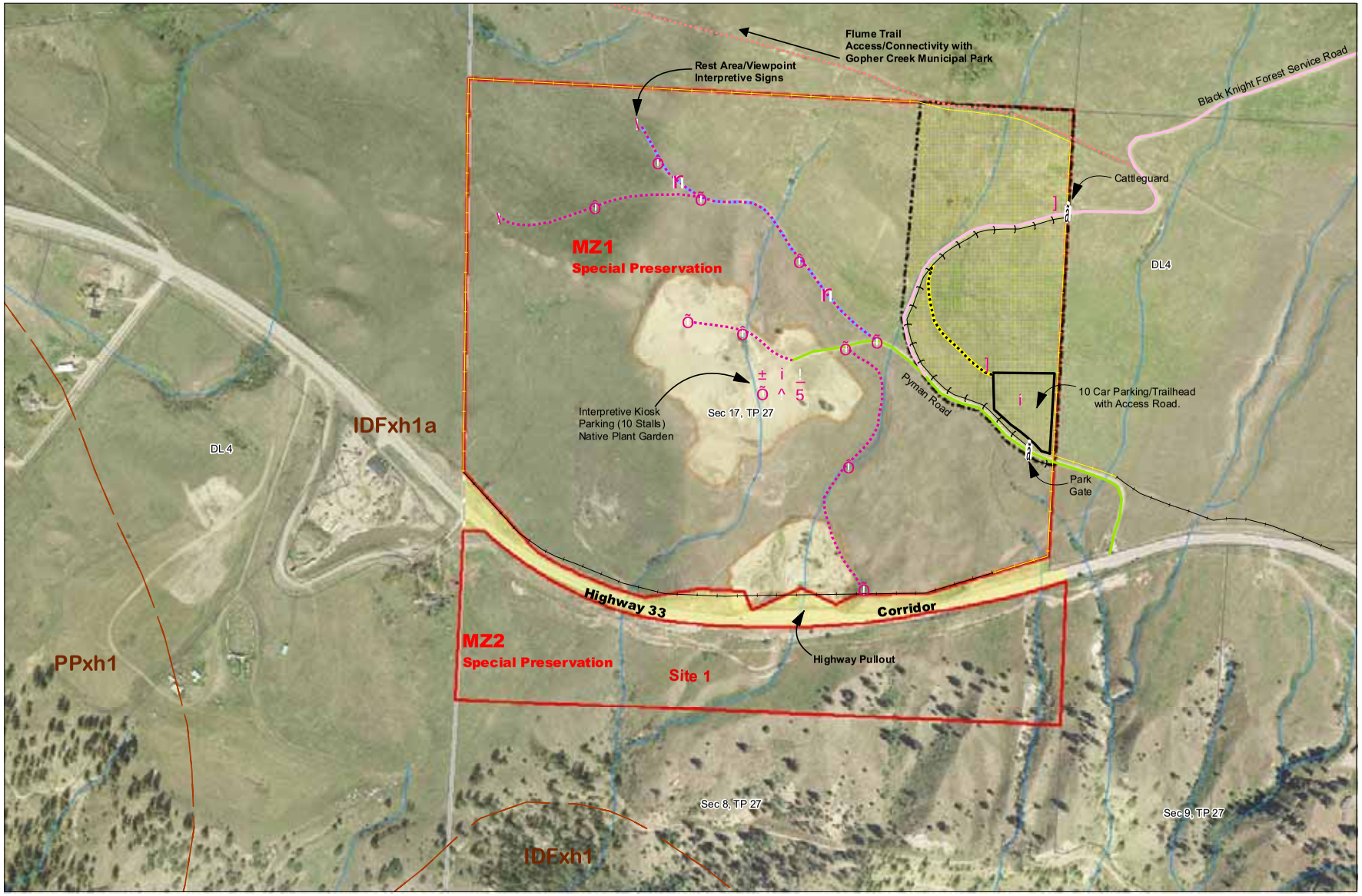
Prepared by: Integrated ProAction Corp.

Author: Chris Long and Wieslaw Kuzio October 29, 2009

Location Map



Proposed Black Knight Mountain Regional Park Plan Map - Site 1



Legend

- Interpretive Garden
- Information Sign
- Interpretive Sign
- Kiosk/Information Centre
- Maintained Trail
- Wheelchair Access
- New Viewpoint (Proposed)
- Picnic Area
- Parking
- Washrooms
- Proposed Gate
- Communications Tower
- Black Knight Forest Service Road
- Access Road (Pyman Road)
- Access/Connectivity Trail
- Proposed 3 Rail Fence
- Existing Fence
- Proposed Fence
- Existing Trail
- Proposed Trail
- Wheelchair Access
- Streams
- Proposed Parking Lot
- Proposed Area of Acquisition
- Gravel Pit
- Highway 33 Right of Way
- Park Management Zones
- Surveyed Parcels
- City of Kelowna
- Biogeoclimatic Zone

Scale: 1:5,000

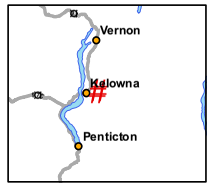
0 50 100 200
Meters

Projection/Datum: UTM Zone 11, NAD83

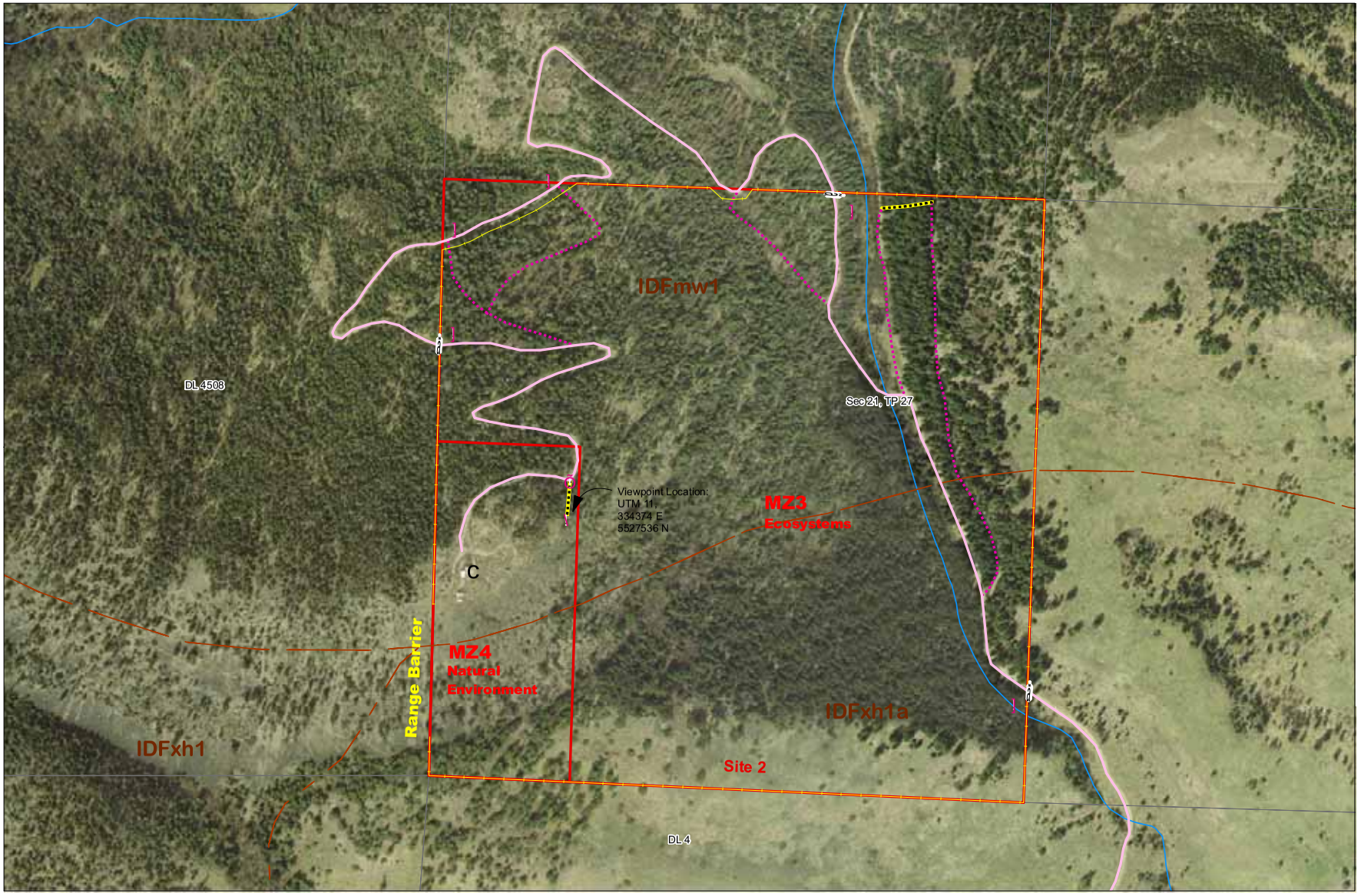
Prepared by: Integrated ProAction Corp.

Author: Chris Long and Wieslaw Kuzio February 4th, 2010

Location Map



Proposed Black Knight Mountain Regional Park Plan Map - Site 2



Legend

- Interpretive Garden
- Information Sign
- Interpretive Sign
- Kiosk/Information Centre
- Maintained Trail
- Wheelchair Access
- New Viewpoint (Proposed)
- Picnic Area
- Parking
- Washrooms
- Proposed Cattleguard
- Communications Tower
- Black Knight Forest Service Road
- Access Road (Pyman Road)
- Access/Connectivity Trail
- Existing Fence
- Proposed Fence
- Existing Trail
- Proposed Trail
- Wheelchair Access
- Streams
- Gravel Pit
- Highway 33 Right of Way
- Park Management Zones
- Surveyed Parcels
- City of Kelowna
- Biogeoclimatic Zone

Scale: 1:5,000

0 50 100 200
Meters

Projection/Datum: UTM Zone 11, NAD83

Prepared by: Integrated ProAction Corp.

Author: Chris Long and Wieslaw Kuzio February 4th, 2010

Location Map

BIOPHYSICAL INVENTORY FOR BLACK MOUNTAIN / SNTSK'IL'NTƏN REGIONAL PARK

REGIONAL DISTRICT OF CENTRAL OKANAGAN
BIOPHYSICAL INVENTORY PROJECT – PHASE V

Prepared For:

REGIONAL DISTRICT OF CENTRAL OKANAGAN
ATTN: Wayne Darlington, Manager, Parks and Facilities
& Cathy MacKenzie, Parks Natural Resource Technician
1450 KLO Road
Kelowna, BC
V1W 3Z4

Prepared By:

ECOSCAPE ENVIRONMENTAL CONSULTANTS LTD.
#102 – 450 Neave Court
Kelowna, BC
V1V 2M2

December, 2014

Ecoscape File No: 13-1146

TABLE OF CONTENTS

REFERENCES

MAPS

APPENDIX

1.0 INTRODUCTION

Ecoscape Environmental Consultants Ltd. (Ecoscape) was retained by the Regional District of Central Okanagan (RDCO) to complete a baseline biophysical inventory and environmental assessment of the recent private and Crown Land acquisitions forming the new Black Mountain/Sntsk'il'ntən Regional Park (the Park). The purpose of the inventory and assessment is to summarize and describe bioterrain and landform information, document and describe existing aquatic and terrestrial habitats, provide an overview of existing and potential wildlife species occurring within the Park, assess the potential for At Risk species, and identify potential Management Zones within the Park. The following report will be used in the development of a Park Management Plan, as per the Official Regional Parks Plan (ORPP 2000).

The approximately 525 hectare Park was announced in September, 2014, making it both the largest and newest of the regional parks. The Park has been designated a Conservation park meaning its purpose is to protect or enhance habitat values for vegetation and wildlife (ORPP 2000). The Park is located along the outside of the eastern boundary of the City of Kelowna, north of Highway 33 within the RDCO. The Park represents a mixture of unique grassland and coniferous woodland communities, with talus and cliff habitats associated with the steep, rugged terrain formed by the historical volcanic activity in the area. Patches of wetland and riparian ecosystems also occur occasionally along Gopher Creek and associated tributary drainages and springs. The riparian communities form corridors extending out from the Park into the City of Kelowna.

Black Mountain itself (aka Black Knight Mountain) provides a striking backdrop for the City of Kelowna and the distinct shape along the eastern horizon is unmistakable. The warm, dry, south-facing grasslands are unique in terms of elevation and biogeoclimatic association. At the top of the namesake peak are a number of radio transmitters and antennae. An unpaved road provides access to the top of the mountain and makes an obvious route for hikers and cyclists to reach the summit viewpoint. Visitors have been hiking up the roadway prior to the establishment of the Park for wildlife viewing, especially birding, for many years. An acquisition plan was developed in 2010 in relation to the two Crown Land parcels. The report identified a number of management

objectives, including ecological conservation, cultural heritage, and recreational opportunities. This report is intended to provide additional and updated biophysical information, including inventory of the private land acquisitions, which will facilitate the development of a Management Plan to direct the future use of the Park.

1.1 Objective and Scope

The objective of the project is to collect baseline information that can be used to aid in the update or development of a Park Management Plan which will guide the long-term, sustainable management of the Park. Existing data, including Sensitive Ecosystem Inventory (SEI) and Terrestrial Ecosystem Mapping (TEM), has been incorporated into the Park mapping and the data updated and refined to a scale appropriate for the Park and inclusive of the information outlined in the project objectives. The specific objectives of the project include:

- Map, identify, and describe the ecological communities within the Park;
- Map, identify, and describe the general landforms within the Park;
- Map, identify, and describe the surficial and parent soil material within the Park;
- Map, identify, and describe vertebrate and invertebrate animal species that exist or have the potential to exist within the Park;
- Map, identify, and describe the species at risk that exist or have the potential to exist within the Park; and
- Map and describe appropriate management zones within the Park, as per the ORPP.

1.2 Study Area

The Park occurs partly within the City of Kelowna boundary (private land acquisitions) and partly within the RDCO (Crown land acquisitions), along the eastern boundary of the City of Kelowna, north of Highway 33. Access to the northern portion of the Park is from Swainson Road. However, this access passes through private land and is currently not available for public use. Access to the southern portion of the Park is from Pyman Road off of Highway 33. This road is used for access to the radio transmitters at the mountain top as well as for the gravel pit but is also used for hikers and wildlife enthusiasts. The Park is generally surrounded by natural lands with some adjacent rural (i.e., grazing and crops), recreational (i.e., golf course), and industrial (i.e., gravel pit) use

The Park occurs within the Interior Douglas-fir (IDF) biogeoclimatic zone. The Park contains two variants of this zone, the Okanagan Very Dry Hot (IDFxh1) and the Shuswap Moist Warm (IDFmw1), as defined by the Biogeoclimatic Ecosystem Classification (BEC) program (Lloyd *et al*. 1990). These variants of the IDF zone generally occur above the Ponderosa Pine (PP) zone and below the Interior Cedar-Hemlock (ICH) zone, with the mw variant occupying the higher, cooler elevation sites. In general, areas of the interior

Douglas-fir (IDF) zone are generally warm and dry, with long growing seasons and periodic droughts.

1.3 Methods

Ecoscape conducted a biophysical inventory and environmental assessment of the Park, during which existing signs of wildlife presence and activity, wildlife habitat, vegetation communities, and aquatic resources were identified and documented. Significant environmental features and potential for occurrences of rare and/or endangered species were also recorded.

The biophysical inventory had two general objectives. First, ecological communities, soils, and landforms identified in the TEM and SEI data were field verified and polygon boundary adjustments and classification changes were made. Second, the inventory focused on identification of potential existing wildlife (vertebrate and invertebrate) and at risk species and other critical habitat features.

Due to time and budget constraints, detailed wildlife sampling was not conducted. The inventory methodology for wildlife was adapted from the BC Resources Inventory Standards Committee (RISC) standards and general presence/not detected surveys were utilized. Mapping of significant features and habitats was conducted using a Trimble Nomad Global Positioning System (GPS) unit with XT Receiver. The updated polygons and features were compiled into a Geographic Information System (GIS). Ecoscape utilized existing resources documenting known biophysical features present within the Park. These include:

- Proposed Black Knight Mountain Regional Park Acquisition Plan (2010);
- 2009 Sensitive Ecosystem Inventory (SEI) data;
- BC Conservation Data Centre (CDC);
- Hectares BC;
- Ecological Reports Catalogue (EcoCat).

The gathered information was reviewed prior to the site visit and incorporated into the assessment results. Vegetation communities were identified prior to the site assessment using air photo interpretation and existing SEI and TEM data. Vegetation communities were classified according to the Biogeoclimatic Ecosystem Classification (BEC) System (Lloyd *et.al.*, 1990). The synthesized data was used to conduct an environmental sensitivity analysis, identify potential management zones, and develop relevant recommendations.

2.0 BIOPHYSICAL INVENTORY

The following section presents the results of the biophysical inventory and environmental assessment conducted by Adam Patterson, R.P.Bio., and Mary Ann Olson-Russello, R.P.Bio. Field investigations were conducted on August 26 and November 3, 2014.

2.1 Landforms and Soils

Surficial soils and parent materials were determined from available TEM data and are shown on Map 1. A number of polygons had no terrain or geomorphological information associated with them. The Park is generally characterized by moderate to steep slopes and vertical cliffs formed by volcanic processes. Bedrock and colluvium characterize the majority of the Park with veneers of rubble and loose rock (i.e., talus) forming the surface amongst patches of shallow soil. Chernozems and brunisols comprise the majority of the soils which occur over glaciofluvial and colluvium materials. Black Mountain itself represents the historical remains of an historic volcano that has undergone significant erosion and modification. The volcanic activity gave rise to steep slopes, cliffs, talus, and other geologic features within the Park. The undulating grasslands to the west are comprised mainly of morainal and eolian deposits.

2.2 Terrestrial Ecosystems

The ecosystem mapping component of this project incorporated previously described TEM polygons from the most recently updated SEI for the central Okanagan (Haney and Iverson 2009). The existing TEM polygon extents were adjusted and classification changes were made to more accurately describe the polygons at a finer spatial scale based upon the field inventory and professional judgment.

2.2.1 Terrestrial Ecosystem Mapping

Ecoscape divided the Park into polygons representing distinct habitat types based on vegetation cover and adapting the nomenclature and site series used by TEM. The Park

was divided into 191 polygons representing 25 different classifications (Map 2). Table 1 presents the ecosystem codes, site series, and provincial status.

Table 1. Ecosystem communities occurring within the Park.

Ecosystem Code	Site Series	Site Series Name	Provincial Status[1]
AS	98	Trembling aspen - Snowberry - Kentucky bluegrass	Red
BN	Fm01	Kentucky bluegrass - Stiff needlegrass	-
CD	00	Black cottonwood/Douglas-fir - Snowberry - Red-osier dogwood	Red
CT	Wm05	Cattail Marsh	Red
DF	01	Douglas-fir/Western redcedar - Falsebox - Prince's pine	-
DP	01	Douglas-fir/Ponderosa pine - Pinegrass	Blue
DS	07	Douglas-fir/Ponderosa pine - Snowberry - Spirea	Red
DW	03	Douglas-fir - Ponderosa pine – Bluebunch wheatgrass – Pinegrass	Blue
FB	00	Rough Fescue - Bluebunch wheatgrass	Red
FO	00	Douglas-fir/Ponderosa pine - Saskatoon - Mock orange	Red
FW	91	Idaho Fescue - Bluebunch wheatgrass	Red
PB	02	Douglas-fir - Ponderosa pine – Bluebunch wheatgrass – Balsamroot	Red
PP	03	Douglas-fir - Penstemon - Pinegrass	Blue
RD	07	Western redcedar/Douglas-fir - Red-osier Dogwood	Blue
RF	97	Prairie rose - Idaho fescue	Red
RO	-	Rock Outcrop	-
RR	05	Western redcedar/Douglas-fir - Red-osier Dogwood	Blue
RS	05	Dogwood - Sedge	-
RW	-	Rural	-
RZ	-	Road Surface	-
SB	00	Selaginella - Bluebunch wheatgrass - Rocky Outcrop	-
SO	00	Trembling Aspen - Mock orange	Red
SP	06	Douglas-fir/Ponderosa pine - Snowberry - Pinegrass	Red
TA	-	Talus	-
WB	93	Bluebunch wheatgrass - Balsamroot	Blue

1 Source: http://www.env.gov.bc.ca/cdc/
Blue: Of special concern. **Red:** Endangered or threatened.

The Park contains numerous Red and Blue listed communities, highlighting the unique ecosystems that characterize the area. The Red-listed communities are generally associated with grassland, shrub-steppe, riparian, and wetland ecosystems, with several rare woodland communities. The Blue-listed communities include forest ecosystems with some grassland types.

Several communities are not recognized by the CDC but are still considered to be highly sensitive to disturbance and regionally rare or significant. These include the talus slopes, rock outcrop, and shallow open water communities. Anthropogenic and disturbed sites (e.g., rural, road surface) are not considered sensitive to disturbance.

2.3 Vegetation

The Park has been divided into several broad community types to simplify reporting. Overall, the Park is characterized by expanses of grassland with patches of mature forest

and occasional pockets of wetland, riparian, and sparsely vegetated communities, including rock outcrops and talus slopes. A complete list of plant species observed during the assessments is provided in Appendix A.

2.3.1 Grassland

The Park contains large expanses of grassland mixed with patches of riparian and coniferous woodland, shrub-steppe, and sparsely vegetated sites, including rock outcrop cliffs and steep slopes. The grassland communities have been historically disturbed from grazing and other agricultural activities. As such, numerous non-native and invasive species occur frequently throughout. Dominant native grasses include Kentucky bluegrass (*Poa pratensis*) and stiff needlegrass (*Achnatherum occidentale*) (BN community) with occasional bluebunch wheatgrass (*Pseudoroegneria spicata*), junegrass (*Koeleria macrantha*), and Sandberg's bluegrass (*Poa secunda*) (WB community). Fescues occur infrequently within undisturbed patches of grassland, generally comprised of rough fescue (*Festuca campestris*) (FB community).

Patches of shrubs are scattered throughout the grassland areas and are generally associated with moisture-receiving sites. Common shrubs observed include woods rose (*Rosa woodsii*), common snowberry (*Symphoricarpos albus*), tall Oregon-grape (*Mahonia aquifolium*), Saskatoon (*Amelanchier alnifolia*), blue elderberry (*Sambucus caerulea*), wax currant (*Ribes cereum*), chokecherry (*Prunus virginiana*), and scattered Rocky Mountain juniper (*Juniperus scopulorum*).

Other common herbaceous vegetation associated with the grassland communities include yarrow (*Achillea millefolium*), arrow-leaved balsamroot (*Balsamhoriza sagittata*), pasture sage (*Artemesia frigida*), and silky lupine (*Lupinus sericeus*), with buckwheat (*Eriogonum* sp.) and lemonweed (*Lithospermum ruderale*) occurring less frequently. Non-native herbs observed include yellow salsify (*Tragopogon dubius*), Dalmatian toadflax (*Linaria genistifolia*), hoary alyssum (*Berteroa incana*), mullein (Verbascum thapsus), and field pepper grass (*Lepidium campestre*).

The grassland communities have significant cover from weedy and noxious species, including cheatgrass (*Bromus tectorum*), diffuse knapweed (*Centaurea diffusa*), sulphur cinquefoil (*Potentilla recta*), tumble-mustard (*Sisymbrium* spp.), common bugloss (*Anchusa officinalis*), and scattered patches of common St. John's-wort (*Hypercium perforatum*). Other non-native and agronomic grasses include orchardgrass (*Dactylis glomerata*) and crested wheatgrass (*Agropyron cristatum*), which generally occur along disturbed areas such as roadways, cutbanks, and in association with cultivated fields (CF community) and other agricultural areas.

2.3.2 Woodland

Coniferous woodland communities generally occur at higher elevations than the grasslands and along various slopes and moisture-receiving areas. Mature tree cover is dominated by interior Douglas-fir (*Pseudotsuga menziesii* var. *glauca*) with some ponderosa pine (*Pinus ponderosa*). Along the upper elevation of the Park, western larch (*Larix occidentalis*) and lodgepole pine (*Pinus contorta*) become the dominant tree species.

The woodland understories are generally well-developed with a diverse mix of shrubs and herbaceous vegetation. Shrubs associated with the drier, warm aspect, and open woodland sites include common juniper (*Juniperus communis*), snowbrush (*Ceanothus velutinus*), mock orange (*Philadelphus lewisii*), soopolallie (*Shepherdia canadensis*),

spreading dogbane (*Apocynum androsaemifolium*), oceanspray (*Holodiscus discolor*), and kinnikinnick (*Arctostaphylos uva-ursi*). Dry site herbs include round-leaved alumroot (*Heuchera cylindrical*), pussytoes (*Antennaria* sp.), rockcress (*Arabis* sp.), tarragon (*Artemisia dracunculus*), and woodsia fern (*Woodsia oregana*).

Cool aspect sites tend to be dominated by Douglas-fir with patches of trembling aspen (*Populus tremuloides*) and water birch (*Betula occidentalis*) within moisture-receiving areas (AS community). Understory shrubs in these cooler, wetter areas include birch-leaved spirea (*Spiraea betulifolia*), Nootka rose (*Rosa nutkana*) Douglas maple (*Acer glabrum*), mountain alder (*Alnus in*cana), Pacific willow (*Salix lucida*), and red raspberry (*Rubus idaeus*). Herbs within the woodland communities include pinegrass (*Calamagrostis rubescens*), aster (*Aster* sp.), daisy (*Erigeron* sp.), hawkweed (*Hieracium* sp.), wild strawberry (*Fragaria virginiana*), and non-native catnip (*Nepeta cataria*).

2.3.3 Wetland and Riparian

Wetland and riparian communities are associated with surface waters associated with various springs originating from the Gopher Creek headwaters. These areas tend to be dominated by aquatic and hydrophilic (water-loving) vegetation that is adapted to saturated soils and periodic inundation. Tree cover in these areas typically includes black cottonwood (*Populus balsamifera* ssp. *trichocarpa*) with occasional water birch and western redcedar (*Thuja plicata*) (CD and RR communities, respectively). Riparian shrubs include red-osier dogwood (*Cornus stolonifera*) and willow (*Salix* spp.).

Shallow open water ponds and associated wetland communities occur in a few pockets. The wetland communities and their associated BC Wetland Classifications include cattail (*Typha latifolia*) marsh (CT/Wm05) and Baltic rush (*Juncus balticus*) marsh (BM/Wm07) which are often surrounded by transitional sedge (*Carex* spp.) meadow communities (Gs03) (Mackenzie and Moran 2004).

2.3.4 Sparsely Vegetated Areas

Sparsely vegetated sites are associated with rock outcrop, cliff, talus and other dry, steep, or warm aspect sites (i.e., south and/or west facing) that receive little moisture and have shallow, well-drained soils. Tree cover is generally absent in these areas and the shrub

community is sparse and scattered with occasional veteran fir and pine. Shrubs are similarly sparse, including shrubby penstemon (*Penstemon fruticosus*), mock orange, pasture sage, and juniper. Herbs are mainly comprised of ground cover mosses and lichens, including cladonia (*Cladonia* spp.) and compact selaginella (*Selaginella densa*) associated with the exposed bedrock and shallow soils, with scattered pussytoes (*Antennaria* sp.), buckwheat, balsamroot, alumroot, lupine, and bunchgrasses.

2.4 Rare and Endangered Plants

The British Columbia Conservation Data Centre (CDC) was queried for potential occurrences of rare plants within the Park. The search distribution was refined using the following criteria: Okanagan Ministry of Environment Region, Regional District of Central Okanagan, interior Douglas-fir Biogeoclimatic Zone, and agriculture, forest, grassland/shrub steppe, riparian, rock/sparsely vegetated, and wetland habitat types. The resulting list includes seventeen (17) potentially occurring rare vascular plant species (Table 2). None of the listed plants were observed during the assessment and the CDC does not list element occurrences of rare plants within the Park.

Table 2. Summary of rare and endangered plants with the potential to occur within the Park.

Common Name	Scientific Name	Provincial Status[1]
awned cyperus	*Cyperus squarrosus*	Blue
blunt-sepaled starwort	*Stellaria obtusa*	Blue
blue vervain	*Verbena hastata var. scabra*	Red
cup clover	*Trifolium cyathiferum*	Red
false-pimpernel	*Lindernia dubia var. anagallidea*	Blue
giant helleborine	*Epipactis gigantea*	Blue
hairy water-clover	*Marsilea vestita*	Red
many-headed sedge	*Carex sychnocephala*	Blue
needle-leaved navarretia	*Navarretia intertexta*	Red
northern linanthus	*Leptosiphon septentrionalis*	Blue
obscure cryptantha	*Cryptantha ambigua*	Blue
oniongrass	*Melica bulbosa*	Blue
peach-leaf willow	*Salix amygdaloides*	Red

purple oniongrass	*Melica spectabilis*	Blue
red-rooted cyperus	*Cyperus erythrorhizos*	Red
short-flowered monkey-flower	*Mimulus breviflorus*	Blue
three-flowered waterwort	*Elatine rubella*	Blue

1 Source: http://www.env.gov.bc.ca/cdc/
Blue: Of special concern. **Red:** Endangered or threatened.

2.5 Wildlife

The following sections describe the wildlife observed or expected to occur within the Park. Detailed surveys for wildlife were not conducted; therefore the species lists may not include all of the potential species that utilize the Park habitats regularly or seasonally. As such, the lack of wildlife detections is not indicative of absence of the species. The late timing of the surveys (i.e., August 26 and November 3) means that many breeding birds and other migrant species may have been missed. A list of potentially occurring wildlife species is provided in Appendix B.

Wildlife occurrence lists were determined using available sources including the BC Conservation Data Centre (CDC), and Hectares BC. The list was refined based on professional judgment and knowledge of the habitat available within the Park and the life history of the individual species (Klinkenberg 2014). Volunteers from the Central Okanagan Naturalists Club (CONC) also provided records of observed species which were incorporated into the species occurrence list. The 'occurrence' of a species means that the species utilizes the Park for important life functions such as breeding, migrating, feeding, resting, or hibernating, among others. Accidental or random occurrences, while possible, were not considered important factors in determining species occurrence potential.

2.5.1 Vertebrate Wildlife

The diverse assemblage of coniferous woodland, grassland, wetland, riparian, and rock outcrop communities provide habitat for a wide variety of wildlife. Passerine bird species observed within the Park during the assessment include: American robin (*Turdus migratorius*), black-billed magpie (*Pica pica*), California quail (*Callipepla californica*), Cassin's vireo (*Vireo cassinii*), Clark's nutcracker (*Nucifraga columbiana*), common raven (*Corvus corax*), house wren (*Troglodytes aedon*), mourning dove (*Zenaida macroura*), northern flicker (*Colaptes auratus*), pileated woodpecker (*Dryocopus pileatus*), pine siskin (*Carduelis pinus*), red-breasted nuthatch (*Sitta canadensis*), spotted towhee (*Pipilo maculatus*), vesper sparrow (*Pooecetes gramineus*), western wood-peewee (*Contopus sordidulus*), yellow-rumped warbler (*Dendroica coronata*). During the fall survey (i.e., November), a migrant rough-legged hawk was observed. During the November survey, a small flock of snow bunting (*Plectrophenax nivalis*) was observed along the access roadway.

Raptors were observed relatively frequently, typically soaring overhead or perched on a wire or snag. Species observed include: American kestrel (*Falco sparverius*), prairie falcon (*Falco mexicanus*), sharp-shinned hawk (*Accipiter striatus*), and Swainson's hawk (*Buteo swainsoni*). During the fall survey (i.e., November), a migrant rough-legged hawk (*Buteo lagopus*) was observed within the grassland area south of the Black Mountain peak. The grassland and open woodland areas provide suitable habitat for a variety of wildlife including small mammals such as shrews, voles and mice, which in turn provide foraging habitat for birds of prey, such as hawks and owls. Numerous mature trees, snags and downed trees were observed and signs of cavity nesting and foraging were noted throughout the Park.

Mammals observed, directly or indirectly through sign (i.e., tracks, scat), include: deer (*Odocoileus* spp.), red squirrel (*Tamiasciurus hudsonicus*), Columbian ground squirrel (*Spermophilus columbianus*), northern pocket gopher (*Thomomys talpoides*). Anecdotal information indicates that badgers (*Taxidea taxus*) are known to reside within the grassland areas south and east of the Black Mountain peak (technically outside of the Park boundary) and may utilize the Park habitats for foraging, migrating, overwintering, or other important life stages. The large size and adjacency to other natural areas means the Park provides high quality movement, cover, and refuge habitat for large mammals such as coyote (*Canis latrans*), black bear (*Ursus americanus*), and cougar (*Felis concolor*), among others.

The warm aspect grassland, rock outcrops, and talus slopes provide suitable habitat for various snakes and other lizards. Cracks and fissures within the rock features may provide suitable overwintering habitat for reptiles and the rock outcrops provide quality basking areas. The moisture-receiving areas provide suitable habitats for terrestrial forms of amphibians, such as frogs and salamanders. The diverse assemblage of grassland and woodland habitats and connectivity to vast natural areas to the north and east combine to provide high-quality habit for a wide variety of species.

2.5.2 Invertebrate Wildlife

Invertebrate wildlife of the central Okanagan is abundant, diverse, and generally poorly understood, particularly at risk species (Heron 2004). To identify and describe each individual species with the potential to occur within the Park would be an enormous undertaking and is not within the scope of this report. Instead, provincially and federally listed species that are of management concern with the potential to occur within the Park were identified and are listed in Appendix B. Other common species or species of management concern (e.g., forest pests, parasites) are described as they pertain to Park management.

The combination of grassland, shrub-steppe, open woodland, and wetland communities provide habitat for a wide variety of invertebrates. Terrestrial invertebrates such as

insects (e.g., ants, beetles) and spiders were observed within the Park, as well as flying insects such as bees, flies, and moths. During the August site visit, abundant grasshoppers were observed, likely attributable to both the nature of the grassland communities and the timing of the visit.

Rare butterflies such as common sootywing (*Pholisora catullus*) and monarch (*Danaus plexippus*) occur within the central Okanagan and are typically associated with ecosystems that include host plants (caterpillar food) or provide nectar sources such as buckwheat and yarrow, which occur within the Park. These represent some of the most rare and sensitive invertebrate species within the Okanagan (Cannings and Cannings 1995).

There is potential for Rocky Mountain wood ticks (*Dermacentor andersoni*) within the warm grassland slopes and Park visitors should be aware of the risk of exposure related to walking off trail. The Douglas-fir tussock moth (*Orgyia pseudotsugata*) is a species of management concern throughout the Central Okanagan because of the impacts infestations have on dense stands of interior Douglas-fir (Maclauchlan et al. 2009). Dense, even-aged stands of Douglas-fir are often vulnerable to outbreaks of tussock moth and result in widespread mortalities, and ultimately greater risk of windthrow and wildfire. Detailed surveys by qualified entomologists may be required to determine the level of impact this species may have on the forest communities within the Park.

2.6 Species at Risk

Species at Risk are identified in the context of provincial and national ranking systems. The provincial ranking system applies to species that have been assessed by the BC Conservation Data Centre (CDC). The national ranking system applies to species that have been assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). The British Columbia Conservation Data Centre (CDC) was queried for potential occurrences of at risk wildlife with the potential to occur within the Park (Table 3). The search distribution was refined using the following criteria: Okanagan Ministry of Environment Region, Regional District of Central Okanagan, interior Douglas-fir Biogeoclimatic Zone, and agriculture, forest, grassland/shrub steppe, riparian, rock/sparsely vegetated, and wetland habitat types.

The Park contains a diverse assemblage of woodland, grassland, shrub-steppe, and rocky communities which provide cover and refuge for a range of wildlife. Mature trees and snags provide nesting, roosting, and foraging habitat for cavity nesting species such as Lewis's woodpecker and western screech-owl (Fenger et al. 2006). The CDC reports an occurrence of Lewis's woodpecker nesting pair and a Great Basin pocket mouse in the vicinity of the Park. The CDC also reports the potential for American badger within the Park boundary which is further corroborated by volunteer naturalists familiar with the Park. Sensitive species that may occur within the Park are summarized in Table 3.

Table 3. Summary of species at risk with the potential to occur within the Park.				
Species Group	**Common Name**	**Scientific Name**	**Provincial Status[1]**	**COSEWIC Listing[2]**
Amphibians	blotched tiger salamander	*Ambystoma mavortium*	Red	Endangered
	Great Basin spadefoot	*Spea intermontana*	Blue	Threatened
	western toad	*Anaxyrus boreas*	Blue	Special Concern
Birds	canyon wren	*Catherpes mexicanus*	Blue	Not At Risk
	barn swallow	*Hirundo rustica*	Blue	Threatened
	bobolink	*Dolichonyx oryzivorus*	Blue	Threatened
	common nighthawk	*Chordeiles minor*	Yellow	Threatened
	flammulated owl	*Otus flammeolus*	Blue	Special Concern
	grasshopper sparrow	*Ammodramus savannarum*	Red	-
	lark sparrow	*Chondestes grammacus*	Red	-
	Lewis's woodpecker*	*Melanerpes lewis*	Red	Threatened
	olive-sided flycatcher	*Contopus cooperi*	Blue	Threatened
	prairie falcon	*Falco mexicanus*	Red	Not at Risk
	rusty blackbird	*Euphagus carolinus*	Blue	Special Concern
	short-eared owl	*Asio flammeus*	Blue	Special Concern
	Swainson's hawk	*Buteo swainsoni*	Red	-
	western screech-owl	*Megascops kennicottii macfarlanei*	Red	Endangered
	Williamson's sapsucker	*Sphyrapicus thyroideus*	Red	Endangered
	yellow-breasted chat	*Icteria virens*	Red	Endangered
Invertebrates	badlands tiger beetle	*Cicindela decemnotata*	Red	-
	California hairstreak	*Satyrium californica*	Blue	-
	common sootywing	*Pholisora catullus*	Blue	-
	immaculate green hairstreak	*Callophrys affinis*	Blue	-
	lilac-bordered copper	*Lycaena nivalis*	Blue	-
	monarch	*Danaus plexippus*	Blue	Special Concern
	Nevada skipper	*Hesperia nevada*	Blue	-
	pale jumping-slug	*Hemphillia camelus*	Blue	-
	silky vallonia	*Vallonia cyclophorella*	Blue	-
Mammals	American badger	*Taxidea taxus*	Red	Endangered
	fringed myotis	*Myotis thysanodes*	Blue	Data Deficient
	Great Basin pocket mouse*	*Perognathus parvus*	Red	-
	Merriam's shrew	*Sorex merriami*	Red	-
	Nuttall's cottontail	*Sylvilagus nuttallii*	Blue	Special Concern
	Preble's shrew	*Sorex preblei*	Red	-
	spotted bat	*Euderma maculatum*	Blue	Special Concern
	Townsend's big-eared bat	*Corynorhinus townsendii*	Blue	-
	western harvest mouse	*Reithrodontomys megalotis*	Blue	Special Concern
	western small-footed myotis	*Myotis ciliolabrum*	Blue	-
Reptiles	Great Basin gopher snake	*Pituophis catenifer deserticola*	Blue	Threatened
	desert nightsnake	*Hypsiglena chlorophaea*	Red	Endangered
	western rattlesnake	*Crotalus oreganus*	Blue	Threatened
	western skink	*Plestiodon skiltonianus*	Blue	Special Concern
	western yellow-bellied racer	*Coluber constrictor mormon*	Blue	Special Concern

1 Source: http://www.env.gov.bc.ca/cdc/
Yellow: Not considered at risk. **Blue:** Of special concern. **Red:** Endangered or threatened.
2 Source: http://www.cosewic.gc.ca/
Threatened: A wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.
Special Concern: A wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats.
Not at Risk: A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.
Endangered: A wildlife species facing imminent extirpation or extinction.

Data Deficient : A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.
***observed or reported to occur within or near the Park**

3.0 ENVIRONMENTAL SENSITIVITY ANALYSIS

Environmentally Sensitive Areas (ESA) were classified based on ecosystem characteristics and wildlife habitat suitability to rank each delineated polygon within the Park. Professional judgment was used to evaluate ecosystem polygons based on criteria including: provincial CDC status (i.e., Red or Blue listed), rare and endangered species occurrence potential, landscape condition (i.e., connectivity, fragmentation), successional status, regional rarity, and relative biodiversity. Each polygon was assigned a value rating based on the above criteria, which reflect the relative habitat condition (i.e., higher scores represent higher value). Ecosystem polygons were ranked using the environmental sensitivity classes described below:

- Very High: These areas represent extremely high ecological value and typically contain rare or critical habitat areas for sensitive or at risk species, undisturbed or pristine ecosystems and habitats, and biodiversity hotspots (e.g., wetlands, old growth forest). They substantially contribute to the regional habitat function and connectivity and are highest priority for conservation.

- High: These areas contribute to the regional biodiversity and connectivity of the surrounding landscape but lack critical habitats for at risk species (e.g., riparian areas, mature forest). Development should generally avoid these areas to conserve the important features or to allow potential progression to the Very High category (e.g., mature forest becoming old growth). Encroachment into these areas should be compensated for by restoration in other areas to work towards achieving a no net loss of High value habitats.

- Moderate: Ecosystems of moderate significance represent disturbed habitats or fragmented features with the potential to return to High value through natural succession (e.g., young or fragmented forest, degraded habitats). Moderate areas contribute to the diversity of the landscape; however their condition and adjacency may limit significant function. These areas will benefit from restoration and enhancement activities which will facilitate succession to higher value habitats.

- Low: These areas contribute little to no value with regard to habitat diversity and have limited potential for supporting significant wildlife (e.g., heavily impacted or disturbed sites). Development is typically focused on these areas based on their limited contribution to regional biodiversity and limited capacity to return to high

value through natural succession. These areas may be restored through intensive remediation and management practices.

The ESA composition of the Park is summarized in Table 5 and depicted on Map 3.

Table 5. Percent composition of ESAs within the Park.

ESA Value	ESA Area (m^2)	Percentage of Park (%)
Very High (ESA 1)	2,386,287.457	45.5
High (ESA 2)	1,759,754.368	33.5
Moderate (ESA 3)	1,100,714.474	21.0
Low (ESA 4)	0	0
Total	5,246,756.299	100

Environmental sensitivity analysis indicates that the majority of the Park (i.e., 45.5%) has a Very High ESA rating. This represents the highly sensitive undisturbed grasslands (i.e., unaffected by invasive plants) and other Red and Blue-listed communities, including woodland, wetland, and sparsely vegetated areas. Approximately 33.5% of the Park is considered to be High value, generally associated with the more common forest and grassland communities or areas that have been encroached upon or disturbed by human activity. The remaining 21% of the Park is considered Moderate value due the impacts of invasive plants on the grassland communities as well as the presence of roads or other rural developments. There are no Low value communities within the Park.

4.0 PROPOSED MANAGEMENT ZONES

Ecoscape recommends implementing park zones based on the ORPP park management zones described below and based on the existing ecosystems and environmental sensitivity analysis. The use of park zones will help focus management within suitable areas and facilitate the preservation of environmentally sensitive areas. The proposed park zones are depicted on Map 4.

4.1 Ecosystem

The Ecosystem zone is associated with the highly sensitive habitats and Red-listed communities, including the intact grasslands, rare or mature forest types, wetland communities, and other delicate ecosystems. These areas are considered regionally significant, fragile, and provide critical habitats for sensitive species. These areas also require conservation efforts to prevent degradation or disturbance and should not be considered candidate areas for intensive recreational development or use. However, these areas are also of great interest to wildlife and nature enthusiasts so road and trail access may provide viewing access and very low impact activities within or near these areas. Invasive plant management, restoration efforts, and measures to control access (e.g., signage, fencing) are examples of mitigation measures that will help prevent encroachment and disturbance and promote conservation of these sensitive ecological

communities. While the Special Preservation classification was not used in the proposed management zoning, there are numerous sensitive Red listed forest and grassland communities, wetlands, and steep slopes that may be considered unsuitable for even passive recreation use and would be suitable candidates for that category.

4.2 Natural Environment

The Natural Environment zones represent communities that have high ecological value and provide valuable habitat for many wildlife species but may also be considered candidate areas for recreational use. These areas should be conserved to protect the important habitat values they provide but may also provide recreational opportunities given certain limitations to prevent disturbance to the ecological communities (i.e., no roads, vehicles, or infrastructure). Recreational activities within these areas should be limited to low impact hiking on existing trails. If possible, disturbed areas, including the area adjacent to the recreation complex immediately north of the Park, should be restored with planting and seeding of native vegetation. Invasive plants such as cheatgrass should be monitored in these areas and controlled where possible.

4.3 Outdoor Recreation

This zone was assigned to the polygon covering the summit of Black Mountain where the radio antennae occur. This area has been previously disturbed for the construction of the radio towers and associated buildings and also provides a viewpoint for visitors. This area may be a candidate for restoration efforts to improve the ecological value but may also provide a suitable location for signage, benches, and other facilities for visitors to the Park.

5.0 RECOMMENDATIONS FOR PARK MANAGEMENT PLANNING

The following sections describe observed issues and sensitivities within the Park and provide recommendations to address the issues and meet the objectives for the management of the Park as a Conservation Area, which are designed to protect or enhance vegetation and wildlife habitat and allowing natural processes to occur while providing passive recreation opportunities (ORPP 2000).

5.1 General

The Park represents a large area of unique, high-value grassland and woodland that are becoming increasingly rare in the Okanagan. The Park is generally surround by other natural areas and provides suitable interior and refuge habitat for wildlife that are sensitive to human activity and anthropogenic disturbance. There are numerous rare and endangered ecosystems within the Park that provide habitat for similarly rare species and

these features should be the focus of Park management and to sustain representative biodiversity and ecological communities of the region (Kittel et al. 2011). Other management considerations are described below:

- Connectivity between the vast areas of the Park should be maintained and enhanced with other adjacent or nearby protected areas, including the City of Kelowna parks (Gopher Creek Linear Park to the southwest and Tower Ranch Mountain Park directly adjacent to the north). There are potential connections to nearby Scenic Canyon Regional Park, Dave's Creek Linear Corridor, and the Okanagan High Rim Trail which would provide a complex of movement corridors throughout the eastern portion of the regional district.

- Maintaining or improving connectivity with nearby Westbank First Nations (WFN) lands, including IR#11 (Medicine Creek) and #12 (Medicine Hill), will provide stepping stone habitats between the Park and other nearby natural and protected areas such as Scenic Canyon Regional Park and Myra-Bellevue and Okanagan Mountain Provincial Parks.

- Expansion of the Park into Crown lands to the north and east should be considered if opportunities and resources exist. In particular, the grassland communities to the south of the Park and potential badger habitats in these areas would greatly enhance the ecological value of the Park, further protect the associated ecosystems, and buffer the existing interior habitats.

- Maintaining the integrity of the Very High and High value ESA zones, including undisturbed grassland and forest communities, cliffs, talus, and rock outcrops, should be a high priority. These areas are highly sensitive to disturbance and provide critical habitat for a number of plant and animal species. In order to protect these areas, access must be restricted and it is important that the existing trails are utilized and additional ad hoc or unsanctioned trails are not allowed. This will help prevent the trampling of sensitive vegetation, disturbance to wildlife, introduction and spread of invasive pants, and ensure protection of landforms and soils.

- There are few well-established trails within the Park and access to the summit is provided by a private road. Future trail planning and construction must be conducted with the intention of conserving the unique habitats identified within the Park and prevent further disturbance and weed dispersal to the grassland and woodland habitats. Park users should be encouraged to remain on the existing roads and trails at all times and dogs should be kept on leashes (if permitted within the Conservation Park). Waste receptacles should be made available at access points and staging areas to encourage the proper disposal of garbage and dog waste.

- There are opportunities to connect trails along the Gopher Creek Linear Park and other nearby parks to create a network between protected areas. Using the old flume right of way through adjacent irrigation district owned lands would also provide historical and heritage interpretive opportunities, as well as provide an obvious route between parks. The trails would also provide protected movement corridors for wildlife between core conservation areas.

- As a Conservation Park, dogs should only be permitted while on a leash. Enforcement of the leashed dog rule should be conducted within the Park to prevent conflicts with wildlife and other disturbances to native vegetation (Sime 1999). In particular, dogs should be restricted from sensitive ecological communities due to potential negative impacts to vegetation, harassment of wildlife, dispersal of invasive plant seeds, and disturbance of soils.

5.2 Conservation

The Park is designated as a Conservation Park area which means conservation of natural habitats is the highest priority. Within the Park, there are a number of conservation opportunities to preserve and protect the natural areas.

5.2.1 Restoration or Enhancement

Several significant veteran trees and snags are scattered throughout the Park (pictured). These trees should be conserved where possible for the important nesting, denning, and perching habitat features they provide (Fenger et al. 2006). Tree topping and snag removal may be undertaken throughout the Park to improve safety. Fallen trees and other coarse woody debris should be retained where possible for the important habitat and nutrients they provide to the forest ecosystems.

5.2.2 Invasive Plant Management

Species of concern, such as St. John's wort, cheatgrass, knapweed, and Dalmatian toadflax, were noted throughout the grassland and shrubland ecosystems. These invasive species require site specific management plans and control strategies. Bio-control agents are available for St. John's wort, knapweed and Dalmatian toadflax which have shown to be successful in the Okanagan. Ecoscape is not aware if these agents have been released within the Park or vicinity. Educating the public and neighbouring residents about invasive plants, their effects on natural communities, and how they can be prevented should be conducted with signage at Park access and staging areas.

Invasive plant management should be of the highest priority of future Park management planning. The disturbed and over grazed grasslands will likely need many years of range

management planning and monitoring to encourage the re-establishment of delicate soils, native bunchgrasses, and other indigenous plants. Impacts from invasive species include the displacement or competitive exclusion of native species (Gayton 2007). Prevention of the further establishment and spread of non-native plants can be achieved by limiting additional disturbances to soils and native vegetation where possible, including restricting future grazing activities. Other infestation control methods may include regular manual removal of weeds (e.g., mowing, pulling).

5.2.3 Wildfire Management

The Park has not been assessed for fire but appears to be highly susceptible to a potential large-scale, stand-replacing fire. Dense stands of young, even-aged tree cover with decadent shrubs and extensive woody debris were observed in the northern portion of the Park. As such, additional wildfire risk reduction may be required within the Park, following specific prescriptive recommendations (Needoba et al. 2010). An assessment and prescription to reduce fire fuels, including thinning, brushing, controlled burning, should be conducted during the development of a park management plan. Any future wildfire treatments should be conducted using low impact methods where possible and using existing roads and trails. Retention of veteran and mature trees, snags, and large woody debris should be a priority to protect these important habitat features (Scott et al. 1977). Tree removal activities should be undertaken with consideration to breeding bird windows and buffer restrictions to raptors and herons (MOE 2005).

5.2.4 Cultural Heritage

All future management decisions should be done in consultation with the First Nations, including Westbank First Nation (WFN), which has been involved in the acquisition of the Park lands. There are known archaeological resources related to historical use of the Park lands and further study may be necessary to document signs of activities, artifacts, and other important heritage sites. There are opportunities to provide known cultural heritage information on interpretive signage throughout the Park or at future parking or staging areas.

5.3 Public Education and Access

Currently, vehicle access is only provided partway along the private road to the summit of the mountain. Beyond the gated road, access is available by foot. Other roads are accessible by foot via Swainson Road and Joe Riche Road but may lead to trespassing on private property. During park management planning, proper access points must be determined and development of signage, parking, and other services (e.g., toilets, waste receptacles) must be planned. Signage and fencing should be used to prevent trespass and potential conflict with other neighbouring property owners. Future access should

make use of existing roads and trails for recreational purposes where possible with mixed use (i.e., radio tower, gravel pit traffic).

If vehicle access is permitted along the road to the summit of the mountain, the bridge crossing of the unnamed stream and cattail marsh may require upgrading for safety. The bridge currently appears old and in need of additional support or replacement.

Park users should be educated on the importance of staying on trails, cleaning up after dogs, keeping dogs on leash and disposing of litter appropriately. Containment bags and garbage receptacles should be provided at designated park access points and staging areas. There are many opportunities to teach the public about the sensitive ecosystems and wildlife present within the Park, as well as the geological history. Interpretive signs should be used to provide historical and heritage information and wildlife viewing tips to help enhance the recreational experience and encourage appreciation for the delicate nature of the Park and the importance of conserving the ecological processes occurring within.

5.4 Park Development and Operation

The Park is a designated Conservation Area and as such, development is not a priority. Limited infrastructure and construction of signage, light use trails, benches, etc., may be considered during the park management planning to improve visitor use. However, the overall principle of the Park conservation policy must be the highest priority. Development of suitable access areas, including parking, toilets, waste receptacles, and other staging area infrastructure should be considered for both of the potential future access points, at Pyman Road and Swainson Road.

5.5 Future Studies

Future studies should address the presence of at risk wildlife with high potential of occurring within the Park, such as reptiles, bats, owls, and other birds. Volunteers have indicated that badgers are known to occur in the vicinity of the Park. However, it is not known if they utilize Park habitats or even if a population continues to exist there. Surveys for badgers and other endangered wildlife should be conducted to determine locations, distributions which should be incorporated into future management plants.

Knowledge of the presence of rare and endangered wildlife may provide further opportunities for public education and interpretation and provide important biological data to RDCO. Identification of specific nest trees, burrows, dens, or caves that provide critical habitats for sensitive species will allow site-specific conservation and may direct future development away from these important areas. Visitor surveys, questionnaires, and other feedback will provide RDCO with user-directed recommendation for Park improvements, modifications, or management decisions.

5.6 Monitoring

Monitoring should focus on the success of invasive plant management planning, restoration efforts, and the status of identified species and ecosystems at risk. Levels of recreational use and associated impacts on the Park may also become components of ongoing monitoring. Regular and consistent monitoring will provide input for adaptive management of the Park and ensure intended standards, policies, and objectives are being met while protecting the natural environment and sensitive features inherent within.

6.0 CONCLUSION

Black Mountain/Sntsk'il'ntən Regional Park is a Conservation park located along the eastern boundary between the City of Kelowna and the Regional District of Central Okanagan, north of Highway 33. The Park was officially announced in September 2014 and represents the largest park within the regional district. The Park is characterized by a complex matrix of grassland, shrub-steppe, and coniferous woodland, with scattered riparian and wetland communities and steep and rugged rock outcrops, cliffs, and talus slopes. The Park is provides excellent hiking and wildlife viewing opportunities with expansive views of the Okanagan valley from the summit of the namesake peak. The Park is generally comprised of regionally rare and sensitive habitats with major disturbance resulting from historic agricultural practices have affected a significant portion of the sensitive grasslands. The massive size of the Park and the adjacency of vast natural areas provide important core wildlife refuge and contiguous migration habitats.

Conservation parks are intended to protect or enhance vegetation and wildlife habitat and allow natural processes to occur while providing passive recreation opportunities. The Park should be managed to meet this mandate, including the limitation of human activity and the prioritization of grassland restoration and wildfire mitigation. Visitor access is currently limited to existing roads and trails, and signs of off-trail impacts were not observed. The maintenance of the natural features within the Park remains a high priority and access and infrastructure should be limited to the periphery of the Park or within areas that have been previously disturbed.

Maintaining and enhancing connectivity with other adjacent or nearby protected areas will be important for functional movement and dispersal corridors for wildlife. Impacts related to non-native and invasive plants, unsanctioned trail use, trespassing, and wildfire, should be addressed during the development of a park management plan. Conservation of at risk wildlife and critical habitats, including grassland, mature forest, wetlands, and riparian areas should the highest priority for the Park and will help ensure the long-term conservation of the Park values for generations to come.

7.0 CLOSURE

This report has been prepared for the RDCO and considers the existing and potential site conditions of Black Mountain Regional Park with respect to terrestrial ecosystems and intrinsic ecological values. Ecoscape has prepared this letter with the understanding that all available information on the past, present, and proposed conditions of the site have been disclosed. RDCO has acknowledged that in order for Ecoscape to properly provide the professional service, Ecoscape is relying upon full disclosure and accuracy of this information.

If you have any questions or comments, please contact the undersigned at your convenience.

Respectfully Submitted
ECOSCAPE ENVIRONMENTAL
CONSULTANTS LTD.

Written By:

Reviewed By:

Adam Patterson, B.Sc., R.P.Bio.
Natural Resource Biologist
Direct Line: (250) 491-7337 ext. 207

Mary Ann Olson-Russello, M. Sc., R.P.Bio.
Natural Resource Biologist
Direct Line: (250) 491-7337 ext. 206

Attachments: References
Maps
Appendices

REFERENCES

Cannings, S. and R. Cannings. 1995. Rare Invertebrates of the South Okanagan. BC Ministry of Environment, Lands, and Parks. Technical Publication.

Chan-McLeod, A.C.A. 2006. A review and synthesis of the effects of unsalvaged mountain-pine-beetle-attacked stands on wildlife and implications for forest management. BC Journal of Ecosystems and Management 7(2):119–132.

Fenger, M., T. Manning, J. Cooper, S. Guy, and P. Bradford. 2006. Wildlife and Trees in British Columbia. Lone Pine Publishing, Edmonton, AB. 336 pp.

Gayton, D. 2007. Major Impacts to Biodiversity in British Columbia (excluding climate change). A report to the conservation planning tools committee. Prepared for: The biodiversity BC Technical subcommittee for the report on the status of biodiversity in BC.

Haney, A. and Iverson, K. 2009. Conservation Analysis and Updated Ecosystem Mapping for the Central Okanagan Valley: Central Okanagan, South Slopes, Kelowna, Ellison and Joe Rich Project Areas. Prepared for: Okanagan Collaborative Conservation Program. Prepared by: Ophiuchus Consulting and Iverson & MacKenzie Biological Consulting Ltd. March 2009.

Heron, J. 2004. A Summary of Terrestrial and Freshwater Invertebrate Conservation in British Columbia. Proceedings of the Species at Risk 2004 Pathways to Recovery Conference. T.D. Hopper, editor. March 2-6, 2004. Victoria, B.C.

Integrated ProAction Corp. (IPAC). 2010. Proposed Black Knight Mountain Regional Park Acquisition Plan. Prepared for: Regional District of Central Okanagan.

Kittel, G.M., C. Cadrin, D. Markovic, and T. Stevens. 2011. Central Interior Ecoregional Assessment: Terrestrial ecological system representation in regional conservation planning. BC Journal of Ecosystems and Management. 12(1):54–71.

Klinkenberg, Brian. (Editor) 2010. E-Fauna BC: Electronic Atlas of the Fauna of British Columbia [www.efauna.bc.ca]. Lab for Advanced Spatial Analysis, Department of Geography, University of British Columbia, Vancouver.

Lehmkuhl, J.F. and L.F. Ruggiero. 1991. Forest Fragmentation in the Pacific Northwest and its Potential Effects on Wildlife. Pages 35-46 in J.F. Lehmkuhl, L.F. Ruggiero, K.B. Aubrey, and M.H. Huff, editors. Wildlife and Vegetation of Un-Managed Douglas-fir Forests. General Technical Report. PNW-GTR-285. US Forest Service, Portland, OR.

Lloyd, D., K.Angove, G. Hope, and C. Thompson. 1990. A guide to site identification and interpretation for the Kamloops Forest Region. Land Management Handbook No. 23. February, 1990. BC Ministry of Forests.

MacKenzie, W.H. and J.R. Moran. 2004. Wetlands of British Columbia: A Guide to Identification. Resource Branch, BC Ministry of Forests. Victoria, BC. Land Management Handbook No. 52.

Maclauchlan, L.E., P.M. Hall, I.S. Otvos, and J.E. Brooks. 2009. An integrated management system for the Douglas-fir tussock moth in southern British Columbia. BC Journal of Ecosystems and Management 10(2):22–36.

Ministry of Environment (MOE). 2005. Best Management Practices for Raptor Conservation during Urban and Rural Land Development in British Columbia. Prepared by: Mike W. Demarchi, MSc, RPBio and Michael D. Bentley LGL Limited environmental research associates. Prepared for: B.C. Ministry of Environment Ecosystem Standards and Planning Biodiversity Branch. March, 2005.

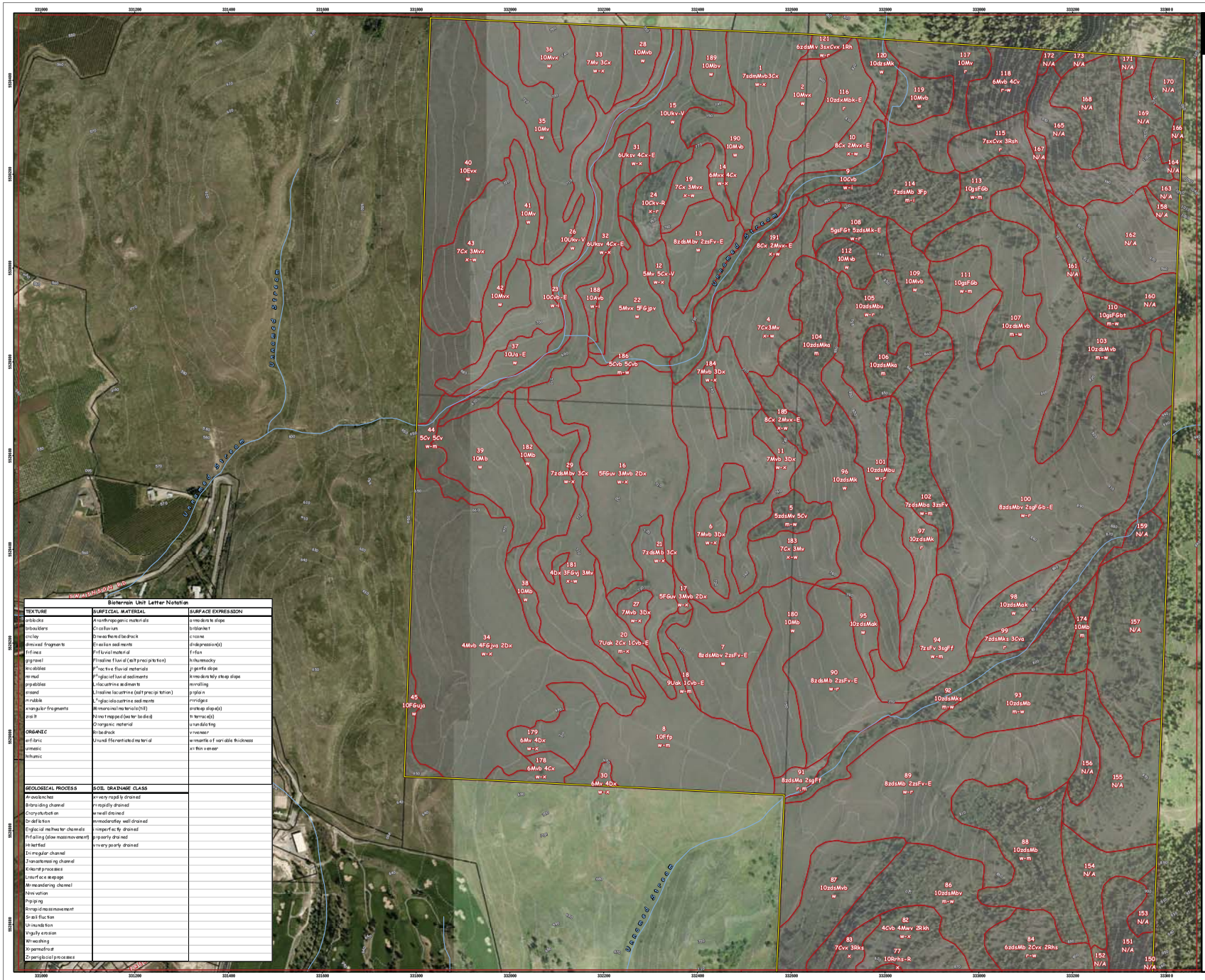
Official Regional Park Plan (ORPP). 2000. Our Regional Parks: The Central Okanagan's Official Plan for the Regional Park System. "Schedule A". Prepared By: Residents and Enthusiastic Park Users of the Central Okanagan with the Assistance of the Parks and Recreation Department, Regional District Central Okanagan. November 2000.

Roed, M. A. and J. D. Greenough. 1995. Okanagan Geology. Published By: The Kelowna Geology Committee.

Sime, C. A. 1999. Domestic Dogs in Wildlife Habitats. Pages 8.1-8.17 in G. Joslin and H. Youmans, coordinators. Effects of recreation on Rocky Mountain wildlife: A Review for Montana. Committee on Effects of Recreation on Wildlife, Montana Chapter of The Wildlife Society. 307pp.

Scott, Virgil E., Keith E. Evans, David R. Patton, and Charles P. Stone. 1977. Cavity-nesting birds of North American forests. U.S. Dep. Agric. Handb. 511, 112 pp.

MAPS



Black Mountain Regional Park Biophysical Inventory

Ecosystem Classification

Map-1 Sheet-1

Legend

- Park Boundary
- Bioterrain Polygon
- Cadastre
- Stream
- Contour

N

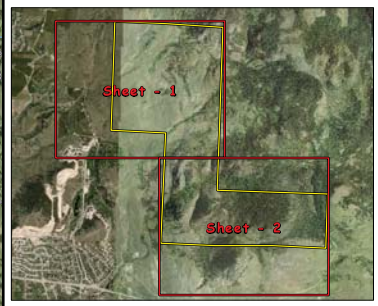
Simplified Bioterrain Polygon Key

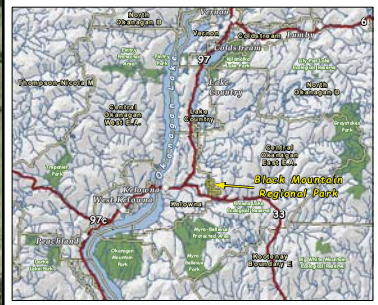
Polygon Number

Surface Exression → 764 ← Geological Process

Decile (70%) → 7zdsMbw 3sxCv– R ← Drainage

Material Texture → w-r ← Material





Bioterrain Unit Letter Notation

TEXTURE	SURFICIAL MATERIAL	SURFACE EXPRESSION
a=blocks	A=anthropogenic materials	a=moderate slope
b=boulders	C=colluvium	b=blanket
c=clay	D=weathered bedrock	c=crone
d=mixed fragments	E=eolian sediments	d=depression(s)
f=fines	F=fluvial material	f=fan
g=gravel	G=saline fluvial (salt precipitation)	h=hummocky
k=cobbles	H=active fluvial materials	i=gentle slope
m=mud	I=glaciofluvial sediments	k=moderately steep slope
p=pebbles	L=lacustrine sediments	r=rolling
s=sand	N=saline lacustrine (salt precipitation)	p=plain
r=rubble	R=glaciolacustrine sediments	r=ridges
x=angular fragments	M=marine materials (till)	s=steep slope(s)
z=silt	N=not mapped (water bodies)	t=terrace(s)
	O=organic material	u=undulating
ORGANIC	R=bedrock	v=veneer
e=fibric	U=undifferentiated material	w=mantle of variable thickness
u=mesic		x=thin veneer
h=humic		

GEOLOGICAL PROCESS	SOIL DRAINAGE CLASS
A=avalanche	x=very rapidly drained
B=braiding channel	r=rapidly drained
C=cryoturbation	w=well drained
D=deflation	m=moderately well drained
E=glacial meltwater channels	i=imperfectly drained
F=falling (slow mass movement)	p=poorly drained
H=herbed	v=very poorly drained
I=irregular channel	
J=anastomosing channel	
K=karst processes	
L=subsurface seepage	
M=meandering channel	
N=nivation	
P=piping	
R=rapid mass movement	
S=soil fluction	
U=inundation	
V=gully erosion	
W=washing	
X=permafrost	
Z=periglacial processes	

REGIONAL DISTRICT of CENTRAL OKANAGAN

ECOSCAPE Environmental Consultants Ltd

100 50 0 100 200 300 400

Meters

1 : 3 , 5 0 0

Black Mountain Regional Park Biophysical Inventory

Ecosystem Classification

Map-1 Sheet-2

Legend

- Park Boundary
- Bioterrain Polygon
- Cadastre
- Stream
- Contour

N

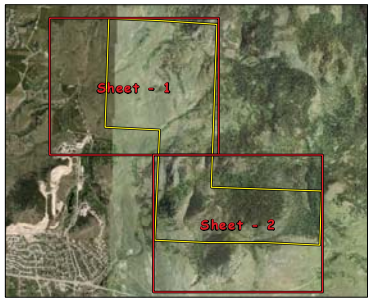
Simplified Bioterrain Polygon Key

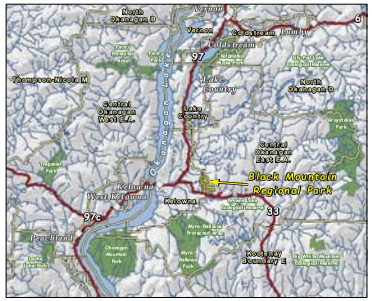
Polygon Number

Surface Expression → 764 ← Geological Process

Decile (70%) → 7zdsMbw 3sxCv– R ← Drainage

Material Texture → Material





Bioterrain Unit Letter Notation

TEXTURE	SURFICIAL MATERIAL	SURFACE EXPRESSION	GEOLOGICAL PROCESS	SOIL DRAINAGE CLASS
a=blocks	A=anthropogenic materials	a=moderate slope	A=avalanches	a=very rapidly drained
b=boulders	C=colluvium	b=blanket	B=braiding channel	r=rapidly drained
c=clay	D=weathered bedrock	c=cone	C=cryoturbation	w=well drained
d=mixed fragments	E=eolian sediments	d=depression(s)	D=deflation	m=moderately well drained
f=fines	F=fluvial material	f=fan	E=glacial meltwater channels	i=imperfectly drained
g=gravel	H=saline fluvial (salt precipitation)	h=hummocky	F=falling (slow mass movement)	p=poorly drained
k=cobbles	K=active fluvial materials	j=gentle slope	H=kettled	v=very poorly drained
m=mud	R=glaciofluvial sediments	k=moderately steep slope	I=irregular channel	
p=pebbles	L=lacustrine sediments	m=rolling	J=anastomosing channel	
s=sand	N=saline lacustrine (salt precipitation)	p=plain	K=karst processes	
r=rubble	O=glaciolacustrine sediments	r=ridges	L=surface seepage	
x=angular fragments	M=morainal materials (till)	s=steep slope(s)	M=meandering channel	
z=silt	W=not mapped (water bodies)	t=terrace(s)	N=nivation	
	O=organic material	u=undulating	P=piping	
ORGANIC	R=bedrock	v=veneer	R=rapid mass movement	
e=fibric	U=undifferentiated material	w=mantle of variable thickness	S=solifluction	
u=mesic		x=thin veneer	U=inundation	
h=humic			V=gully erosion	
			W=washing	
			X=permafrost	
			Z=periglacial processes	

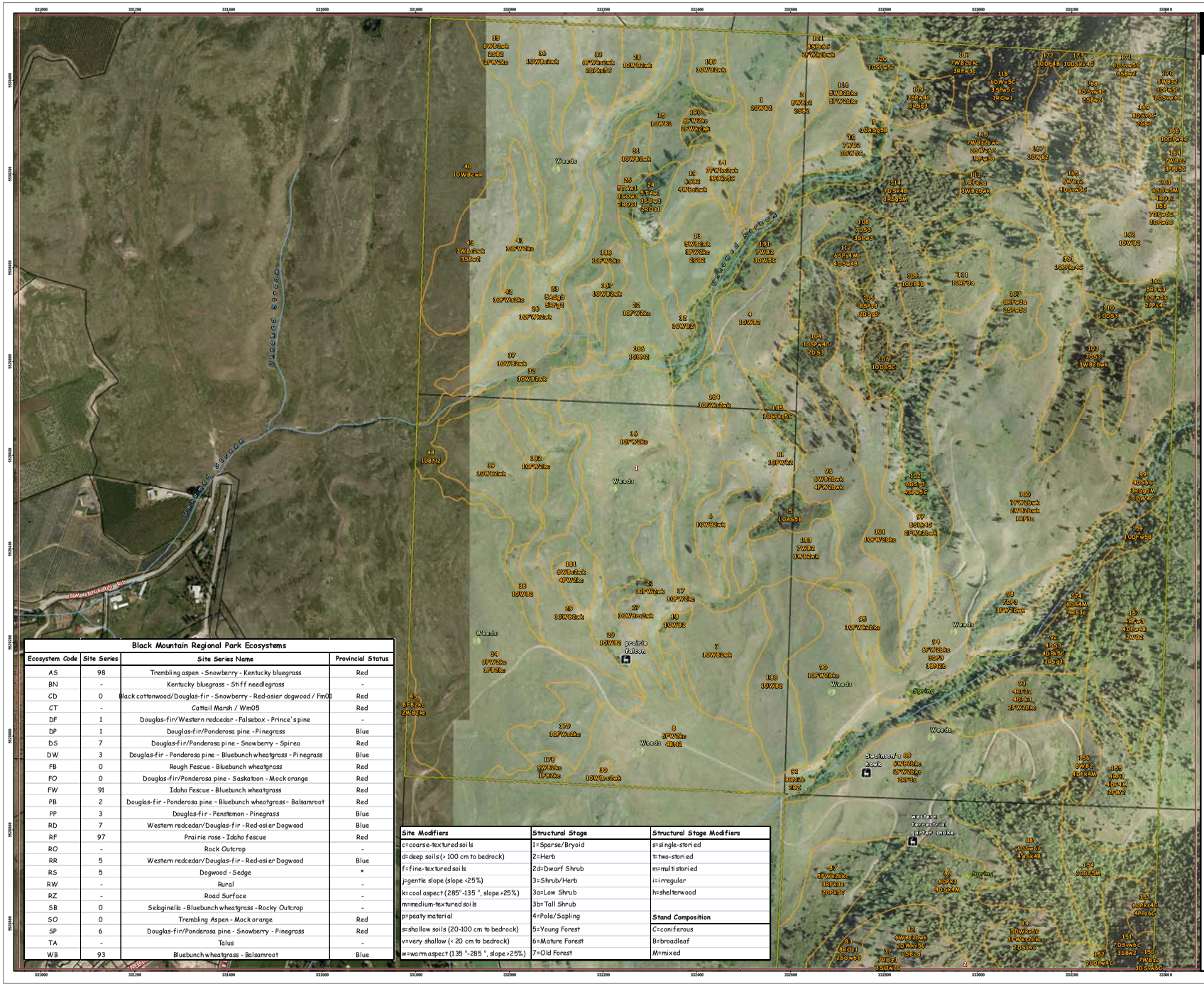
RDCO REGIONAL DISTRICT of CENTRAL OKANAGAN

ECOSCAPE Environmental Consultants Ltd

100 50 0 100 200 300 400

Meters

1 : 3 , 5 0 0



Black Mountain Regional Park Biophysical Inventory

Ecosystem Classification

Map-2 Sheet-1

Legend

- Park Boundary
- Cadastre
- Stream

Environmentally Significant Features

- Erosion
- Weeds
- Wildlife
- Wildlife Tree
- Other

N

Ecosystem Polygon Key

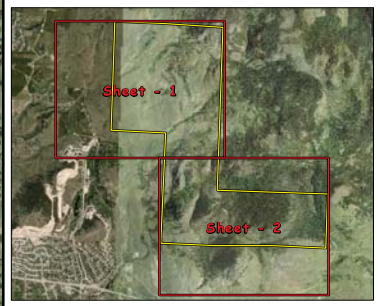
Polygon Number: 2402

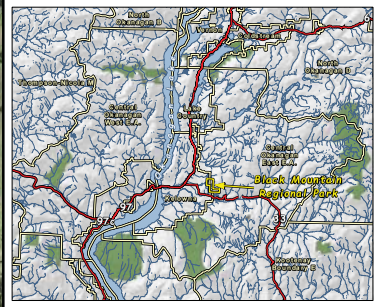
Decile (60%) → 6PFks6C ← Stand Composition Modifier

Ecosystem Unit ← 2PFks3 ← Structural Stage

2PTkv6C

Site Modifiers





REGIONAL DISTRICT of CENTRAL OKANAGAN

ECOSCAPE Environmental Consultants Ltd

100 50 0 100 200 300 400

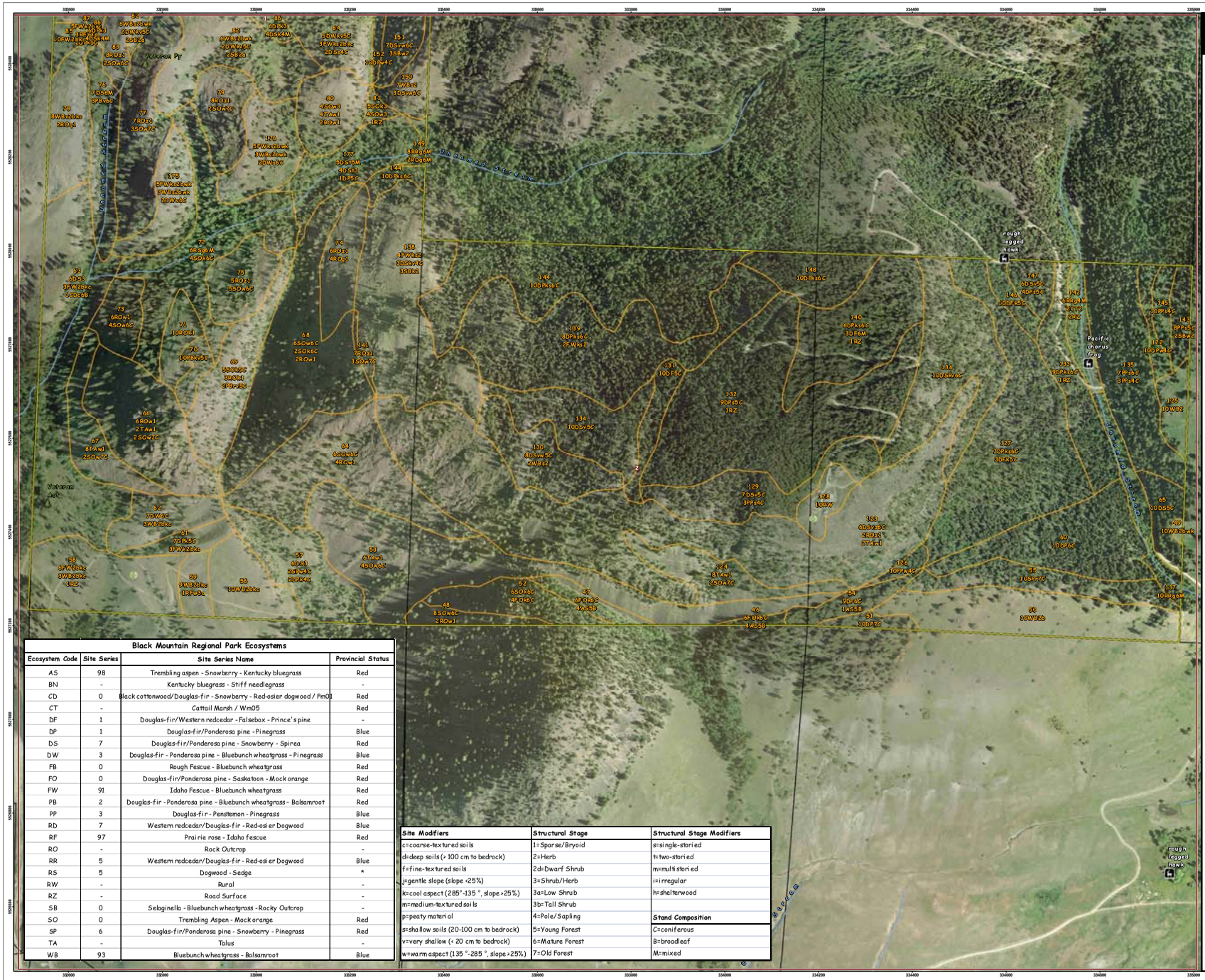
Meters

1 : 3 , 5 0 0

Black Mountain Regional Park Ecosystems

Ecosystem Code	Site Series	Site Series Name	Provincial Status
AS	98	Trembling aspen - Snowberry - Kentucky bluegrass	Red
BN	-	Kentucky bluegrass - Stiff needlegrass	-
CD	0	Black cottonwood/Douglas-fir - Snowberry - Red-osier dogwood / FmO1	Red
CT	-	Cattail Marsh / Wm05	Red
DF	1	Douglas-fir/Western redcedar - Falsebox - Prince's pine	-
DP	1	Douglas-fir/Ponderosa pine - Pinegrass	Blue
DS	7	Douglas-fir/Ponderosa pine - Snowberry - Spirea	Red
DW	3	Douglas-fir - Ponderosa pine - Bluebunch wheatgrass - Pinegrass	Blue
FB	0	Rough Fescue - Bluebunch wheatgrass	Red
FO	0	Douglas-fir/Ponderosa pine - Saskatoon - Mock orange	Red
FW	91	Idaho Fescue - Bluebunch wheatgrass	Red
PB	2	Douglas-fir - Ponderosa pine - Bluebunch wheatgrass - Balsamroot	Red
PP	3	Douglas-fir - Penstemon - Pinegrass	Blue
RD	7	Western redcedar/Douglas-fir - Red-osier Dogwood	Blue
RF	97	Prairie rose - Idaho fescue	Red
RO	-	Rock Outcrop	-
RR	5	Western redcedar/Douglas-fir - Red-osier Dogwood	Blue
RS	5	Dogwood - Sedge	*
RW	-	Rural	-
RZ	-	Road Surface	-
SB	0	Selaginella - Bluebunch wheatgrass - Rocky Outcrop	-
SO	0	Trembling Aspen - Mock orange	Red
SP	6	Douglas-fir/Ponderosa pine - Snowberry - Pinegrass	Red
TA	-	Talus	-
WB	93	Bluebunch wheatgrass - Balsamroot	Blue

Site Modifiers	Structural Stage	Structural Stage Modifiers
c=coarse-textured soils	1=Sparse/Bryoid	s=single-storied
d=deep soils (> 100 cm to bedrock)	2=Herb	t=two-storied
f=fine-textured soils	2d=Dwarf Shrub	m=multistoried
j=gentle slope (slope <25%)	3=Shrub/Herb	i=irregular
k=cool aspect (285°-135 °, slope >25%)	3a=Low Shrub	h=shelterwood
m=medium-textured soils	3b=Tall Shrub	
p=peaty material	4=Pole/Sapling	**Stand Composition**
s=shallow soils (20-100 cm to bedrock)	5=Young Forest	C=coniferous
v=very shallow (< 20 cm to bedrock)	6=Mature Forest	B=broadleaf
w=warm aspect (135 °-285 °, slope >25%)	7=Old Forest	M=mixed



Black Mountain Regional Park Biophysical Inventory

Ecosystem Classification

Map-2 Sheet-2

Legend

- Park Boundary
- Cadastre
- Stream

Environmentally Significant Features

- Erosion
- Weeds
- Wildlife
- Wildlife Tree
- Other

N

Ecosystem Polygon Key

Polygon Number

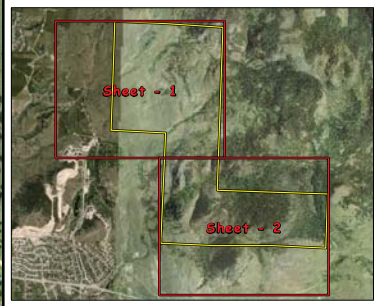
2402

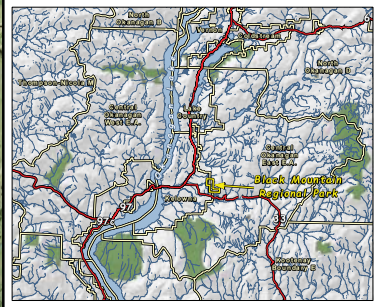
Decile (60%) → 6PFks6C ← Stand Composition Modifier

Ecosystem Unit → 2PFks3 ← Structural Stage

2PTkv6C

Site Modifiers





Black Mountain Regional Park Ecosystems

Ecosystem Code	Site Series	Site Series Name	Provincial Status
AS	98	Trembling aspen - Snowberry - Kentucky bluegrass	Red
BN	-	Kentucky bluegrass - Stiff needlegrass	-
CD	0	Black cottonwood/Douglas-fir - Snowberry - Red-osier dogwood / FmO1	Red
CT	-	Cattail Marsh / Wm05	Red
DF	1	Douglas-fir/Western redcedar - Falsebox - Prince's pine	-
DP	1	Douglas-fir/Ponderosa pine - Pinegrass	Blue
DS	7	Douglas-fir/Ponderosa pine - Snowberry - Spirea	Red
DW	3	Douglas-fir - Ponderosa pine - Bluebunch wheatgrass - Pinegrass	Blue
FB	0	Rough Fescue - Bluebunch wheatgrass	Red
FO	0	Douglas-fir/Ponderosa pine - Saskatoon - Mock orange	Red
FW	91	Idaho Fescue - Bluebunch wheatgrass	Red
PB	2	Douglas-fir - Ponderosa pine - Bluebunch wheatgrass - Balsamroot	Red
PP	3	Douglas-fir - Penstemon - Pinegrass	Blue
RD	7	Western redcedar/Douglas-fir - Red-osier Dogwood	Blue
RF	97	Prairie rose - Idaho fescue	Red
RO	-	Rock Outcrop	-
RR	5	Western redcedar/Douglas-fir - Red-osier Dogwood	Blue
RS	5	Dogwood - Sedge	*
RW	-	Rural	-
RZ	-	Road Surface	-
SB	0	Selaginella - Bluebunch wheatgrass - Rocky Outcrop	-
SO	0	Trembling Aspen - Mock orange	Red
SP	6	Douglas-fir/Ponderosa pine - Snowberry - Pinegrass	Red
TA	-	Talus	-
WB	93	Bluebunch wheatgrass - Balsamroot	Blue

Site Modifiers	Structural Stage	Structural Stage Modifiers
c=coarse-textured soils	1=Sparse/Bryoid	s=single-storied
d=deep soils (> 100 cm to bedrock)	2=Herb	t=two-storied
f=fine-textured soils	2d=Dwarf Shrub	m=multistoried
j=gentle slope (slope <25%)	3=Shrub/Herb	i=irregular
k=cool aspect (285°-135 °, slope >25%)	3a=Low Shrub	h=shelterwood
m=medium-textured soils	3b=Tall Shrub	
p=peaty material	4=Pole/Sapling	**Stand Composition**
s=shallow soils (20-100 cm to bedrock)	5=Young Forest	C=coniferous
v=very shallow (< 20 cm to bedrock)	6=Mature Forest	B=broadleaf
w=warm aspect (135 °-285 °, slope >25%)	7=Old Forest	M=mixed

REGIONAL DISTRICT of CENTRAL OKANAGAN

ECOSCAPE Environmental Consultants Ltd

100 50 0 100 200 300 400

Meters

1 : 3 , 5 0 0

Black Mountain Regional Park Biophysical Inventory

Ecosystem Classification

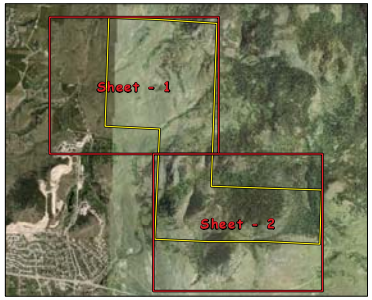
Map-3 Sheet-1

Legend

- Park Boundary
- Cadastre
- Stream

Environmental Sensitivity

- Very High
- High
- Moderate
- Low



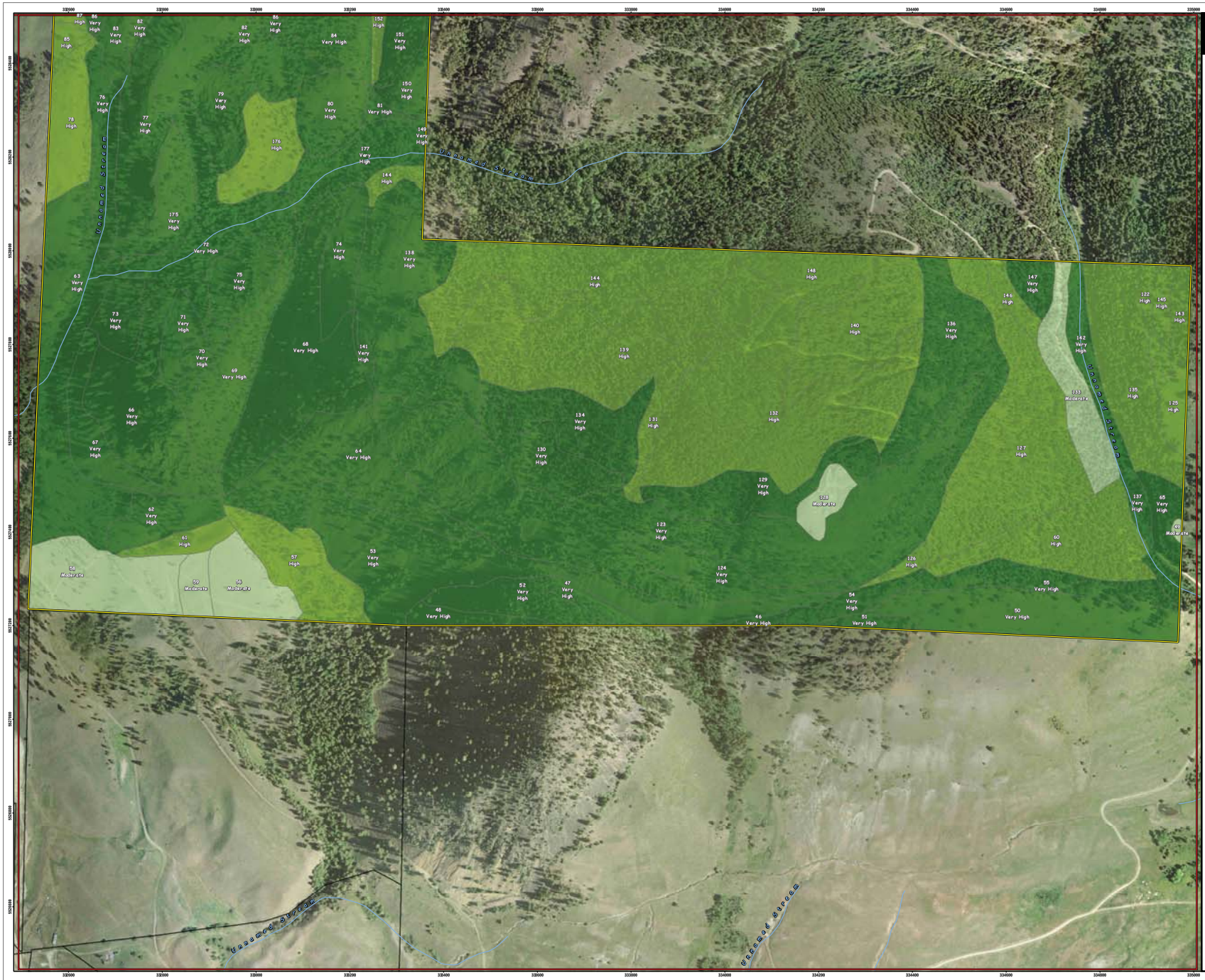
REGIONAL DISTRICT of CENTRAL OKANAGAN

ECOSCAPE Environmental Consultants Ltd

100 50 0 100 200 300 400

Meters

1 : 3 , 5 0 0



Black Mountain Regional Park Biophysical Inventory

Ecosystem Classification

Map-3 Sheet-2

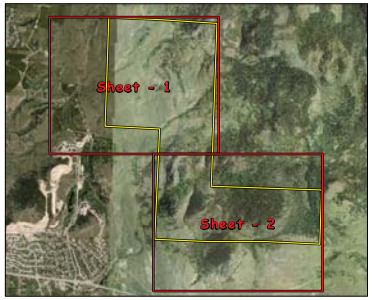
Legend

- Park Boundary
- Cadastre
- Stream

Environmental Sensitivity

- Very High
- High
- Moderate
- Low

N



REGIONAL DISTRICT of CENTRAL OKANAGAN

ECOSCAPE Environmental Consultants Ltd

100 50 0 100 200 300 400

Meters

1 : 3,500

Black Mountain Regional Park Biophysical Inventory

Ecosystem Classification

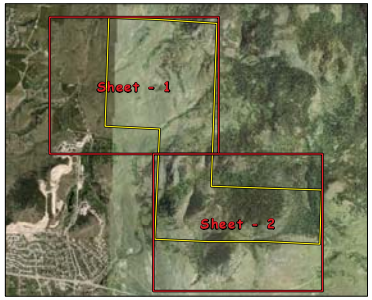
Map-4 Sheet-1

Legend

- Park Boundary
- Cadastre
- Stream

Management Zone

- Special Preservation (SP)
- Ecosystem (E)
- Natural Environment (NE)
- Outdoor Recreation (OR)
- Park Services (PS)



REGIONAL DISTRICT of CENTRAL OKANAGAN

ECOSCAPE Environmental Consultants Ltd

100 50 0 100 200 300 400

Meters

1 : 3 , 5 0 0

Black Mountain Regional Park Biophysical Inventory

Ecosystem Classification

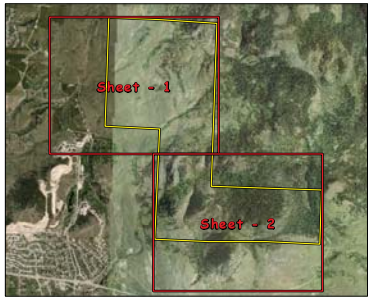
Map-4 Sheet-2

Legend

- Park Boundary
- Cadastre
- Stream

Management Zone

- Special Preservation (SP)
- Ecosystem (E)
- Natural Environment (NE)
- Outdoor Recreation (OR)
- Park Services (PS)



REGIONAL DISTRICT of CENTRAL OKANAGAN

ECOSCAPE Environmental Consultants Ltd

100 50 0 100 200 300 400

Meters

1 : 3 , 5 0 0

APPENDIX A

Plant Occurrences

Common Name	Latin Name	Class
black cottonwood	*Populus balsamifera ssp. trichocarpa*	Tree
interior Douglas-fir	*Pseudotsuga menziesii var. glauca*	Tree
lodgepole pine	*Pinus contorta var. latifolia*	Tree
paper birch	*Betula papyrifera*	Tree
ponderosa pine	*Pinus ponderosa*	Tree
trembling aspen	*Populus tremuloides*	Tree
water birch	*Betula occidentalis*	Tree
western larch	*Larix occidentalis*	Tree
western redcedar	*Thuja plicata*	Tree
white spruce	*Picea glauca*	Tree
birch-leaved spirea	*Spiraea betulifolia*	Shrub
blue elderberry	*Sambucus caerulea*	Shrub
chokecherry	*Prunus virginiana*	Shrub
common juniper	*Juniperus communis*	Shrub
common snowberry	*Symphoricarpos albus*	Shrub
Douglas maple	*Acer glabrum*	Shrub
kinnikinnick	*Arctostaphylos uva-ursi*	Shrub
mock orange	*Philadelphus lewisii*	Shrub
mountain alder	*Alnus incana*	Shrub
Nootka rose	*Rosa nutkana*	Shrub
ocean spray	*Holodiscus discolor*	Shrub
Pacific willow	*Salix lucida ssp. lasiandra*	Shrub
prairie rose	*Rosa woodsii*	Shrub
red raspberry	*Rubus idaeus*	Shrub
red-osier dogwood	*Cornus stolonifera*	Shrub
Rocky mountain juniper	*Juniperus scopulorum*	Shrub
Saskatoon	*Amelanchier alnifolia*	Shrub
shrubby penstemon	*Penstemon fruticosus*	Shrub
snowbrush	*Ceanothus velutinus*	Shrub
soopolallie	*Shepherdia canadensis*	Shrub
spreading dogbane	*Apocynum androsaemifolium*	Shrub
tall Oregon-grape	*Mahonia aquifolium*	Shrub
twinflower	*Linnaea borealis*	Shrub
wax currant	*Ribes cereum*	Shrub
willow	*Salix sp.*	Shrub
alfalfa	***Medicago sativa***	Herb
arrow-leaved balsamroot	*Balsamhoriza sagittata*	Herb
buckwheat	*Eriogonum sp.*	Herb
burdock	***Arctium lappa***	Herb
Canada thistle	***Cirsium arvense***	Herb
catnip	***Nepeta cataria***	Herb
clover	***Trifolium sp.***	Herb
common bugloss	***Anchusa officinalis***	Herb
common dandelion	***Taraxacum officinale***	Herb
curled dock	***Rumex crispus***	Herb
cut-leaved daisy	*Erigeron compositus*	Herb

Common Name	Latin Name	Class
Dalmatian toadflax	***Linaria genistifolia***	Herb
diffuse knapweed	***Centaurea diffusa***	Herb
fern-leaved desert-parsley	*Lomatium dissectum*	Herb
few-flowered shooting star	*Dodecatheon pulchellum*	Herb
field pepper grass	***Lepidium campestre***	Herb
hawkweed	*Hieracium sp.*	Herb
hoary alyssum	***Berteroa incana***	Herb
lemonweed	*Lithospermum ruderale*	Herb
mullein	***Verbascum thapsus***	Herb
oxeye daisy	***Chrysanthemum leucanthemum***	Herb
parsnip-flowered buckwheat	*Eriogonum heracleoides*	Herb
pasture sage	*Artemesia frigida*	Herb
pearly everlating	*Anaphalis margaritacea*	Herb
perennial sow-thistle	***Sonchus arvensis***	Herb
prairie pepper-grass	*Lepidium densiflorum*	Herb
purple peavine	*Lathyrus nevadensis*	Herb
pussytoes	*Antennaria sp.*	Herb
rockcress	*Arabis sp.*	Herb
round-leaved alumroot	*Heuchera cylindrica*	Herb
sagebrush buttercup	*Ranunculus glaberrimus*	Herb
sagebrush mariposa lily	*Calochortus macrocarpus*	Herb
showy milkweed	*Asclepias speciosa*	Herb
silky lupine	*Lupinus sericeus*	Herb
spotted knapweed	***Centaurea maculosa***	Herb

APPENDIX B

Wildlife Species Occurrences

Common Name	Latin Name	Category	Class	COSEWIC	CDC	SARA
pale jumping-slug	*Hemphillia camelus*	invertebrate	gastropods		Blue	
silky vallonia	*Vallonia cyclophorella*	invertebrate	gastropods		Blue	
badlands tiger beetle	*Cicindela decemnotata*	invertebrate	insects		Red	
common sootywing	*Pholisora catullus*	invertebrate	insects		Blue	
immaculate green hairstreak	*Callophrys affinis*	invertebrate	insects		Blue	
lilac-bordered copper	*Lycaena nivalis*	invertebrate	insects		Blue	
monarch	*Danaus plexippus*	invertebrate	insects	SC (Apr 2010)	Blue	1
Nevada skipper	*Hesperia nevada*	invertebrate	insects		Blue	
blotched tiger salamander	*Ambystoma mavortium melanostictum*	vertebrate	amphibian			
Columbia spotted frog	*Rana luteiventris*	vertebrate	amphibian	NAR (May 2000)	Yellow	
Great Basin spadefoot	*Spea intermontana*	vertebrate	amphibian	T (Apr 2007)	Blue	1
long-toed salamander	*Ambystoma macrodactylum*	vertebrate	amphibian			
Pacific chorus frog	*Pseudacris regilla*	vertebrate	amphibian			
western toad	*Anaxyrus boreas*	vertebrate	amphibian	SC (Nov 2002)	Blue	1
wood frog	*Lithobates sylvaticus*	vertebrate	amphibian			
American crow	*Corvus brachyrhynchos*	vertebrate	bird			
American goldfinch	*Carduelis tristis*	vertebrate	bird			
American kestrel	*Falco sparverius*	vertebrate	bird			
American pipit	*Anthus rubescens*	vertebrate	bird			
American redstart	*Setophaga ruticilla*	vertebrate	bird			
American robin	*Turdus migratorius*	vertebrate	bird			
Anna's hummingbird	*Calypte anna*	vertebrate	bird			
bald eagle	*Haliaeetus leucocephalus*	vertebrate	bird	NAR (May 1984)	Yellow	
band-tailed pigeon	*Patagioenas fasciata*	vertebrate	bird			
bank swallow	*Riparia riparia*	vertebrate	bird			
barn owl	*Tyto alba*	vertebrate	bird			
barn swallow	*Hirundo rustica*	vertebrate	bird		Blue	
barred owl	*Strix varia*	vertebrate	bird			
belted kingfisher	*Ceryle alcyon*	vertebrate	bird			
black-backed woodpecker	*Picoides arcticus*	vertebrate	bird			
black-billed magpie	*Pica pica*	vertebrate	bird			
black-capped chickadee	*Poecile atricapillus*	vertebrate	bird			
black-headed grosbeak	*Pheucticus melanocephalus*	vertebrate	bird			
blue grouse	*Dendragapus obscurus*	vertebrate	bird			
bobolink	*Dolichonyx oryzivorus*	vertebrate	bird	T (2010)	Blue	
bohemian waxwing	*Bombycilla garrulus*	vertebrate	bird			

Common Name	Latin Name	Category	Class	COSEWIC	CDC	SARA
Brewer's blackbird	*Euphagus cyanocephalus*	vertebrate	bird			
Brewer's sparrow	*Spizella breweri*	vertebrate	bird		Red	
broad-winged hawk	*Buteo platypterus*	vertebrate	bird			
brown creeper	*Certhia americana*	vertebrate	bird			
brown thrasher	*Toxostoma rufum*	vertebrate	bird			
brown-headed cowbird	*Molothrus ater*	vertebrate	bird			
Bullock's oriole	*Ictercus bullockii*	vertebrate	bird			
California gull	*Larus californicus*	vertebrate	bird		Blue	
California quail	*Callipepla californica*	vertebrate	bird			
calliope hummingbird	*Stellula calliope*	vertebrate	bird			
Canada goose	*Branta canadensis*	vertebrate	bird			
canyon wren	*Catherpes mexicanus*	vertebrate	bird	NAR (May 1992)	Blue	
Cassin's finch	*Carpodacus cassinii*	vertebrate	bird			
Cassin's vireo	*Vireo cassinii*	vertebrate	bird			
cedar waxwing	*Bombycilla cedrorum*	vertebrate	bird			
chipping sparrow	*Spizella passerina*	vertebrate	bird			
Clark's nutcracker	*Nucifraga columbiana*	vertebrate	bird			
clay-colored sparrow	*Spizella pallida*	vertebrate	bird			
cliff swallow	*Hirundo pyrrhonota*	vertebrate	bird			
common nighthawk	*Chordeiles minor*	vertebrate	bird	T (Apr 2007)	Yellow	1
common poorwill	*Phalaenoptilus nuttallii*	vertebrate	bird			
common raven	*Corvus corax*	vertebrate	bird			
common redpoll	*Carduelis flammea*	vertebrate	bird			
common yellowthroat	*Geothlypis trichas*	vertebrate	bird			
Cooper's hawk	*Accipiter cooperii*	vertebrate	bird			
dark-eyed junco	*Junco hyemalis*	vertebrate	bird			
downy woodpecker	*Picoides pubescens*	vertebrate	bird			
dusky flycatcher	*Empidonax oberholseri*	vertebrate	bird		Yellow	
eastern kingbird	*Tyrannus tyrannus*	vertebrate	bird			
eastern phoebe	*Sayornis phoebe*	vertebrate	bird			
European starling	*Sturnus vulgaris*	vertebrate	bird			
evening grosbeak	*Coccothraustes vespertinus*	vertebrate	bird			
ferruginous hawk	*Buteo regalis*	vertebrate	bird			
flammulated owl	*Otus flammeolus*	vertebrate	bird	SC (Apr 2010)	Blue	1
fox sparrow	*Passerella iliaca*	vertebrate	bird			
golden eagle	*Aquila chrysaetos*	vertebrate	bird			

Common Name	Latin Name	Category	Class	COSEWIC	CDC	SARA
golden-crowned kinglet	*Regulus satrapa*	vertebrate	bird			
golden-crowned sparrow	*Zonotrichia atricapilla*	vertebrate	bird			
grasshopper sparrow	*Ammodramus savannarum*	vertebrate	bird		Red	
gray catbird	*Dumetella carolinensis*	vertebrate	bird			
gray flycatcher	*Empidonax wrightii*	vertebrate	bird	NAR (1992)	Blue	
gray jay	*Perisoreus canadensis*	vertebrate	bird			
great blue heron	*Ardea herodias*	vertebrate	bird		Blue	
great gray owl	*Strix nebulosa*	vertebrate	bird			
great horned owl	*Bubo virginianus*	vertebrate	bird			
greater yellowlegs	*Tringa melanoleuca*	vertebrate	bird			
hairy woodpecker	*Picoides villosus*	vertebrate	bird			
Hammond's flycatcher	*Empidonax hammondii*	vertebrate	bird		Yellow	
Harris's sparrow	*Zonotrichia querula*	vertebrate	bird			
hermit thrush	*Catharus guttatus*	vertebrate	bird			
hoary redpoll	*Carduelis hornemanni*	vertebrate	bird			
horned lark	*Eremophila alpestris*	vertebrate	bird			
house finch	*Carpodacus mexicanus*	vertebrate	bird			
house sparrow	*Passer domesticus*	vertebrate	bird			
house wren	*Troglodytes aedon*	vertebrate	bird			
killdeer	*Charadrius vociferus*	vertebrate	bird			
lark sparrow	*Chondestes grammacus*	vertebrate	bird		Red	
lazuli bunting	*Passerina amoena*	vertebrate	bird			
least flycatcher	*Empidonax minimus*	vertebrate	bird		Yellow	
LeConte's sparrow	*Ammodramus leconteii*	vertebrate	bird			
lesser yellowlegs	*Tringa flavipes*	vertebrate	bird			
Lewis's woodpecker	*Melanerpes lewis*	vertebrate	bird	T (Apr 2010)	Red	1
Lincoln's sparrow	*Melospiza lincolnii*	vertebrate	bird			
long-billed curlew	*Numenius americanus*	vertebrate	bird	SC (2005)	Blue	1
MacGillivray's warbler	*Oporornis tolmiei*	vertebrate	bird			
mallard	*Anas platyrhynchos*	vertebrate	bird			
merlin	*Falco columbarius*	vertebrate	bird			
mountain bluebird	*Sialia currucoides*	vertebrate	bird			
mountain chickadee	*Poecile gambeli*	vertebrate	bird			
mourning dove	*Zenaida macroura*	vertebrate	bird			
Nashville warbler	*Vermivora ruficapilla*	vertebrate	bird			
northern flicker	*Colaptes auratus*	vertebrate	bird			

Common Name	Latin Name	Category	Class	COSEWIC	CDC	SARA
northern goshawk	*Accipiter gentilis laingi*	vertebrate	bird			
northern harrier	*Circus cyaneus*	vertebrate	bird	NAR (May 1993)	Yellow	
northern pygmy-owl	*Glaucidium gnoma*	vertebrate	bird			
northern rough-winged swallow	*Stelgidopteryx serripennis*	vertebrate	bird			
northern saw-whet owl	*Aegolius acadicus*	vertebrate	bird			
northern shrike	*Lanius excubitor*	vertebrate	bird			
northern waterthrush	*Seiurus noveboracensis*	vertebrate	bird			
olive-sided flycatcher	*Contopus borealis*	vertebrate	bird	T (Nov 2007)	Blue	1
orange-crowned warbler	*Vermivora celata*	vertebrate	bird			
Pacific-slope flycatcher	*Empidonax difficilis*	vertebrate	bird		Yellow	
peregrine falcon	*Falco peregrinus anatum*	vertebrate	bird			
pileated woodpecker	*Dryocopus pileatus*	vertebrate	bird			
pine grosbeak	*Pinicola enucleator*	vertebrate	bird			
pine siskin	*Carduelis pinus*	vertebrate	bird			
prairie falcon	*Falco mexicanus*	vertebrate	bird	NAR (1996)	Red	
purple finch	*Carpodacus purpureus*	vertebrate	bird			
pygmy nuthatch	*Sitta pygmaea*	vertebrate	bird			
red crossbill	*Loxia curvirostra*	vertebrate	bird			
red-breasted nuthatch	*Sitta canadensis*	vertebrate	bird			
red-breasted sapsucker	*Sphyrapicus ruber*	vertebrate	bird			
red-eyed vireo	*Vireo olivaceus*	vertebrate	bird			
red-naped sapsucker	*Sphyrapicus nuchalis*	vertebrate	bird			
red-tailed hawk	*Buteo jamaicensis*	vertebrate	bird			
red-winged blackbird	*Agelaius phoeniceus*	vertebrate	bird			
ring-billed gull	*Larus delawarensis*	vertebrate	bird			
ring-necked pheasant	*Phasianus colchicus*	vertebrate	bird			
rock pigeon	*Columba livia*	vertebrate	bird			
rock wren	*Salpinctes obsoletus*	vertebrate	bird			
rough-legged hawk	*Buteo lagopus*	vertebrate	bird			
ruby-crowned kinglet	*Regulus calendula*	vertebrate	bird			
ruffed grouse	*Bonasa umbellus*	vertebrate	bird			
rufous hummingbird	*Selasphorus rufus*	vertebrate	bird			
rusty blackbird	*Euphagus carolinus*	vertebrate	bird	SC (Apr 2006)	Blue	1
savannah sparrow	*Passerculus sandwichensis*	vertebrate	bird			
Say's phoebe	*Sayornis saya*	vertebrate	bird			
sharp-shinned hawk	*Accipiter striatus*	vertebrate	bird			

Common Name	Latin Name	Category	Class	COSEWIC	CDC	SARA
short-eared owl	*Asio flammeus*	vertebrate	bird	SC (Mar 2008)	Blue	3
snow bunting	*Plectrophenax nivalis*	vertebrate	bird			
snowy owl	*Nyctea scandiaca*	vertebrate	bird			
song sparrow	*Melospiza melodia*	vertebrate	bird			
sora	*Porzana carolina*	vertebrate	bird			
spotted sandpiper	*Actitis macularia*	vertebrate	bird			
spotted towhee	*Pipilo maculatus*	vertebrate	bird			
spruce grouse	*Dendragapus canadensis*	vertebrate	bird			
Steller's jay	*Cyanocitta stelleri*	vertebrate	bird			
Swainson's hawk	*Buteo swainsoni*	vertebrate	bird		Red	
Swainson's thrush	*Catharus ustulatus*	vertebrate	bird			
Tennessee warbler	*Vermivora peregrina*	vertebrate	bird			
three-toed woodpecker	*Picoides tridactylus*	vertebrate	bird			
Townsend's solitaire	*Myadestes townsendi*	vertebrate	bird			
Townsend's warbler	*Dendroica townsendi*	vertebrate	bird			
tree swallow	*Tachycineta bicolor*	vertebrate	bird			
turkey vulture	*Cathartes aura*	vertebrate	bird			
varied thrush	*Ixoreus naevius*	vertebrate	bird			
Vaux's swift	*Chaetura vauxi*	vertebrate	bird			
veery	*Catharus fuscescens*	vertebrate	bird			
vesper sparrow	*Pooecetes gramineus*	vertebrate	bird			
violet-green swallow	*Tachycineta thalassina*	vertebrate	bird			
Virginia rail	*Rallus limicola*	vertebrate	bird			
warbling vireo	*Vireo gilvus*	vertebrate	bird			
western bluebird	*Sialia mexicanus*	vertebrate	bird			
western kingbird	*Tyrannus verticalis*	vertebrate	bird			
western meadowlark	*Sturnella neglecta*	vertebrate	bird			
western screech-owl	*Otus kennicottii*	vertebrate	bird	E (May 2002)	Red	1
western tanager	*Piranga ludoviciana*	vertebrate	bird			
western wood-pewee	*Contopus sordidulus*	vertebrate	bird			
white-breasted nuthatch	*Sitta carolinensis*	vertebrate	bird			
white-crowned sparrow	*Zonotrichia leucophrys*	vertebrate	bird			
white-throated sparrow	*Zonotrichia albicollis*	vertebrate	bird			
white-throated swift	*Aeronautes saxatalis*	vertebrate	bird			
white-winged crossbill	*Loxia leucoptera*	vertebrate	bird			
Williamson's sapsucker	*Sphyrapicus thyroideus thyroideus*	vertebrate	bird	E (May 2005)	Red	1

Common Name	Latin Name	Category	Class	COSEWIC	CDC	SARA
willow flycatcher	*Empidonax traillii*	vertebrate	bird			
Wilson's snipe	*Gallinago delicata*	vertebrate	bird			
Wilson's warbler	*Wilsonia pusilla*	vertebrate	bird			
winter wren	*Troglodytes troglodytes*	vertebrate	bird			
yellow warbler	*Dendroica petechia*	vertebrate	bird			
yellow-breasted chat	*Icteria virens*	vertebrate	bird	E (Nov 2000)	Red	1
yellow-rumped warbler	*Dendroica coronata*	vertebrate	bird			
American badger	*Taxidea taxus*	vertebrate	mammal	E (May 2000)	Red	1
American black bear	*Ursus americanus*	vertebrate	mammal			
American marten	*Martes americana*	vertebrate	mammal			
American mink	*Neovison vison*	vertebrate	mammal			
big brown bat	*Eptesicus fuscus*	vertebrate	mammal			
black rat	*Rattus rattus*	vertebrate	mammal			
bobcat	*Lynx rufus*	vertebrate	mammal			
bushy-tailed woodrat	*Neotoma cinerea*	vertebrate	mammal			
California bighorn sheep	*Ovis canadensis californiana*	vertebrate	mammal		Blue	
Californian myotis	*Myotis californicus*	vertebrate	mammal			
Canada lynx	*Lynx canadensis*	vertebrate	mammal			
Columbian ground squirrel	*Spermophilus columbianus*	vertebrate	mammal			
common muskrat	*Ondatra zibethicus*	vertebrate	mammal			
common pika	*Ochotona princeps*	vertebrate	mammal			
common shrew	*Sorex cinereus*	vertebrate	mammal			
cougar	*Felis concolor*	vertebrate	mammal			
coyote	*Canis latrans*	vertebrate	mammal			
deer mouse	*Peromyscus maniculatus*	vertebrate	mammal			
dusky shrew	*Sorex monticolus*	vertebrate	mammal			
elk	*Cervus elaphus*	vertebrate	mammal			
ermine	*Mustela erminea*	vertebrate	mammal			
fisher	*Martes pennanti*	vertebrate	mammal		Blue	
fringed myotis	*Myotis thysanodes*	vertebrate	mammal	DD (May 2004)	Blue	3
golden-mantled ground squirrel	*Spermophilus lateralis*	vertebrate	mammal			
Great Basin pocket mouse	*Perognathus parvus*	vertebrate	mammal		Red	
grey wolf	*Canis lupus*	vertebrate	mammal	NAR (May 1999)	Yellow	
grizzly bear	*Ursus arctos*	vertebrate	mammal	SC (May 2002)	Blue	
hoary bat	*Lasiurus cinereus*	vertebrate	mammal			
house mouse	*Mus musculus*	vertebrate	mammal			

Common Name	Latin Name	Category	Class	COSEWIC	CDC	SARA
Keen's mouse	*Peromyscus keeni*	vertebrate	mammal			
least chipmunk	*Neotamias minimus*	vertebrate	mammal			
least weasel	*Mustela nivalis*	vertebrate	mammal			
little brown myotis	*Myotis lucifugus*	vertebrate	mammal			
long-legged myotis	*Myotis volans*	vertebrate	mammal			
long-tailed vole	*Microtus longicaudus*	vertebrate	mammal			
long-tailed weasel	*Mustela frenata*	vertebrate	mammal			
meadow jumping mouse	*Zapus hudsonius*	vertebrate	mammal			
meadow vole	*Microtus pennsylvanicus*	vertebrate	mammal			
Merriam's shrew	*Sorex merriami*	vertebrate	mammal		Red	
moose	*Alces alces*	vertebrate	mammal			
mule deer	*Odocoileus hemionus*	vertebrate	mammal			
northern flying squirrel	*Glaucomys sabrinus*	vertebrate	mammal			
northern pocket gopher	*Thomomys talpoides*	vertebrate	mammal			
Norway rat	*Rattus norvegicus*	vertebrate	mammal			
Nuttall's cottontail	*Sylvilagus nuttalli*	vertebrate	mammal	SC (Apr 2006)	Blue	1
pallid bat	*Antrozous pallidus*	vertebrate	mammal	T (2010)	Red	
porcupine	*Erethizon dorsatum*	vertebrate	mammal			
Preble's shrew	*Sorex preblei*	vertebrate	mammal		Red	
raccoon	*Procyon lotor*	vertebrate	mammal			
red fox	*Vulpes vulpes*	vertebrate	mammal			
red squirrel	*Tamiasciurus hudsonicus*	vertebrate	mammal			
red-tailed chipmunk	*Tamias ruficaudus*	vertebrate	mammal			
Richardson's ground squirrel	*Spermophilus richardsonii*	vertebrate	mammal			
silver-haired bat	*Lasionycteris noctivagans*	vertebrate	mammal			
snowshoe hare	*Lepus americanus*	vertebrate	mammal			
southern red-backed vole	*Myodes gapperi*	vertebrate	mammal			
spotted bat	*Euderma maculatum*	vertebrate	mammal	SC (May 2004)	Blue	1
striped skunk	*Mephitis mephitis*	vertebrate	mammal			
Townsend's big-eared bat	*Corynorhinus townsendii*	vertebrate	mammal		Blue	
Townsend's chipmunk	*Neotamias townsendii*	vertebrate	mammal			
Townsend's vole	*Microtus townsendii*	vertebrate	mammal			
Trowbridge's shrew	*Sorex trowbridgii*	vertebrate	mammal			
vagrant shrew	*Sorex vagrans*	vertebrate	mammal			
water shrew	*Sorex palustris*	vertebrate	mammal			
water vole	*Microtus richardsoni*	vertebrate	mammal			

Common Name	Latin Name	Category	Class	COSEWIC	CDC	SARA
western harvest mouse	*Reithrodontomys megalotis*	vertebrate	mammal	SC (Apr 2007)	Blue	1
western jumping mouse	*Zapus princeps*	vertebrate	mammal			
western long-eared myotis	*Myotis evotis*	vertebrate	mammal			
western red bat	*Lasiurus blossevillii*	vertebrate	mammal			
western small-footed myotis	*Myotis ciliolabrum*	vertebrate	mammal		Blue	
white-tailed deer	*Odocoileus viginianus*	vertebrate	mammal			
yellow pine chipmunk	*Neotamias amoenus*	vertebrate	mammal			
yellow-bellied marmot	*Marmota flaviventris*	vertebrate	mammal			
yuma myotis	*Myotis yumanensis*	vertebrate	mammal			
common gartersnake	*Thamnophis sirtalis*	vertebrate	reptiles			
desert nightsnake	*Hypsiglena chlorophaea deserticola*	vertebrate	reptiles			
Great Basin gopher snake	*Pituophis catenifer deserticola*	vertebrate	reptiles	T (May 2002)	Blue	1
northern alligator lizard	*Elgaria coerulea*	vertebrate	reptiles	NAR (May 2002)	Yellow	
rubber boa	*Charina bottae*	vertebrate	reptiles	SC (May 2003)	Yellow	1
western rattlesnake	*Crotalus oreganus*	vertebrate	reptiles	T (May 2004)	Blue	1
western skink	*Plestiodon skiltonianus*	vertebrate	reptiles	SC (May 2002)	Blue	1
western terrestrial gartersnake	*Thamnophis elegans vagrans*	vertebrate	reptiles			
western yellow-bellied racer	*Coluber constrictor mormon*	vertebrate	reptiles	SC (Nov 2004)	Blue	1

*Invertebrate species only include those that are red and blue listed as per the Conservation Data Centre.
Species with bold fonts were documented during the site visit or are reported to occur within the Park.

Appendix B:
Stakeholder Workshop Summary

BLACK MOUNTAIN / SNTSK'IL'NTƏN REGIONAL PARK MANAGEMENT PLAN

Summary of Input from Stakeholder Workshop

On July 8, 2015, a workshop was held regarding the Black Mountain / Sntsk'il'ntən Regional Park Management Plan. The purpose of this preliminary focus group workshop was to inform participants about the project, and to request their perceptions about the strengths and challenges, and potential objectives and recommendations for the park management plan.

The following is the input from the workshop, with each bullet representing an idea put forth during brainstorming for the topics on the left. The numbered sections are listed in order of priority, as determined by "voting" using audience response technology. The lists for the Vision, Objectives and Park Development were prepared by the group by synthesizing the brainstorming input, and participants selected their top five choices in order of priority. The final order is a compilation of the priorities of all group members. Items below the numbered lists are additional suggestions or elaborations from the brainstorming process.

The unnumbered bullets are in the general order of importance based on the number of times a topic was mentioned.

Stakeholder Workshop, 4:00pm, July 8, 2015

- 18 participants

Opportunities for new park	• Grasslands and grassland preservation • Great views in all directions-outstanding Okanagan vistas • Large enough to provide significant refuge for species at risk • Variety of birds and plants (wildflowers) • Protected from urban sprawl • First Nations partnerships and cultural opportunities • Accessibility-close to City of Kelowna • Diverse hiking • Kelowna's backdrop- when approaching from bridge • Heritage features-irrigation ditches and early settlement • Old fire watch tower history • Ski hill history • Arrowheads • Creating new rail access routes • Geology • Nature education opportunities • Running trails • Area for farming-food supply

	• Ranching/agricultural history • Iconic view • Prairie falcon nesting site • Variety of ecosystems • Range of elevations • Biodiversity • Diversity of landscapes • Wildlife corridor • BEC zones protected • Wonderful for walks or exploring • Protect the flow for remaining wetlands • Long-term restoration
Challenges of new park	• Removing cattle that threaten the grasslands • Access and parking • Removing ATVs and dirt bikes • Abusive recreational activities • Climate change • Creating access will increase fire risks • Lack of utilities • Sensitivity of land to human impacts • Access and coordinated use • Easements and rights of way • High risk recreational terrain- cliffs • Disturbances from past use-invasive species, user-created trails • Invasive species management • Not all high value zones are in the park • Balancing conservation with park access • Connecting to other parks • Hunting • Stewardship of a large area can be difficult • Protection of key ecological sites • Long-term restoration • Lack of fencing • Funding for development and management • Forest Service road tenure

Vison for park	1. Conservation of ecosystems/biodiversity 2. Connecting people to nature 3. Peace, beauty, tranquillity 4. Spectacular Okanagan community-defining views 5. Wildlife sanctuary close to city 6. Balanced access and protection 7. Natural and heritage education 8. Habitat restoration-100 year vision 9. Cultural and natural heritage 10. Lake to mountain top connection • Large natural area with low trail density • Sustainability • Multi-generational approach • Place for learning traditional First Nation values • Regionally significant • Passive recreation opportunities • Leave as is
Objectives to include in the Park Management Plan	1. Protect habitat (species, cliffs grasslands, wetlands) 2. Well defined and managed trail network 3. Education-heritage, environmental, outreach 4. Grassland restoration 5. Manage for species diversity 6. Provide respectful passive recreation opportunities 7. Manage for fire risks 8. Respect neighbouring properties 9. Manage for a densifying community • Map location of specific endangered species • Watercourses protected and enhanced • Restoration of ecosystems
Park Development-Activities	1. Hiking/ snowshoeing 2. Outdoor education and interpretation 3. Wildlife/bird watching 4. Scenic viewing 5. Radio controlled flying field 6. Mountain biking 7. Horseback riding 8. Tobogganing/sledding • Hiking(easy-hard) • North-south cycle route Hwy 33-Tower Ranch • Aerospace education- rocketry

Park Development-Amenities	1. Parking and washrooms, potable water 2. Fencing 3. Signs, maps 4. Multi-use trails 5. Summit viewpoint 6. Education centre 7. Fire tower replica 8. Radio controlled flying field 9. Caretaker house 10. "Grind" trail • Brochures • Guided trails • Kiosks and wayfinding • Board for species sightings • Helicopter pad on top • Fencing-threatened areas • Accessible trail loop
Park Development-other options to consider	• Old irrigation easements-could they be used as trails? • City park to the North- could it be included in the regional park management area? • Connection to other linear and upland parks • Encourage dogs to be leashed if they are permitted in the park to protect wildlife • Extension of park boundary to include south summit • Consideration for displaced motorized users

Appendix C:
Comment Form Summary

BLACK MOUNTAIN / SNTSK'IL'NTƏN REGIONAL PARK MANAGEMENT PLAN

Summary of Survey - DRAFT Oct. 19, 2015

From September 15 through October 7th, 2015, an online survey provided the public an opportunity to give feedback on the draft park development options for the Black Mountain / sntsk'il'ntən Regional Park Management Plan. The forms were available in hard copy at the open house, held on September 17th, 2015, as well from the RDCO's office. Panels describing the project and the options were available for viewing on the RDCO's website, as well as at the open house. There was a total of 42 responses to the survey, of tem, 15 were complete, for a completion rate of 36.84%.

Vision, Goals and Objectives

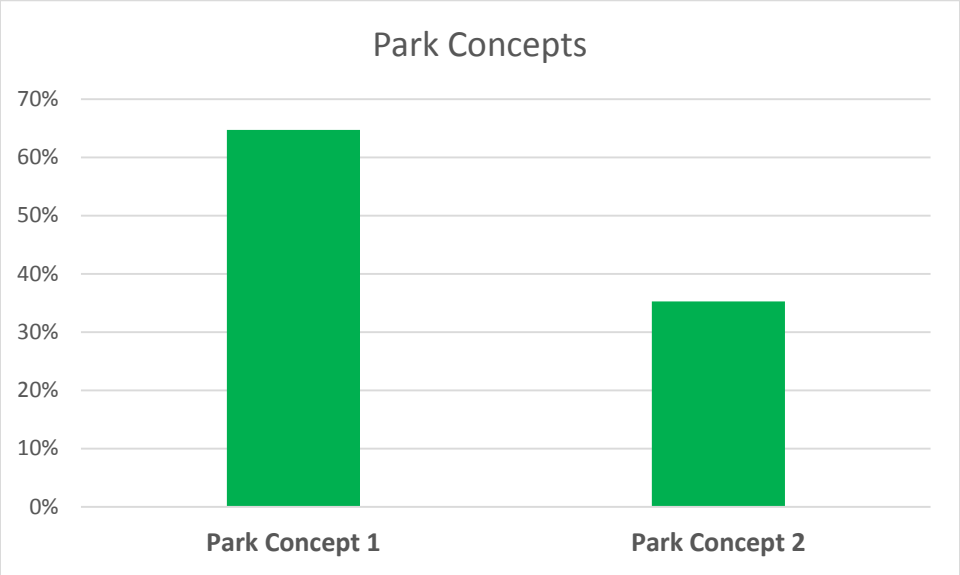
The guiding statements establish the overall direction for planning and design of the park. Responses to the draft vision, goals and objectives indicated an overall acceptance of the statements. Of the 29 responses to this question, 12 indicated it needed no revisions, 12 indicated that minor revisions were needed, and 5 indicated that major revisions were needed.

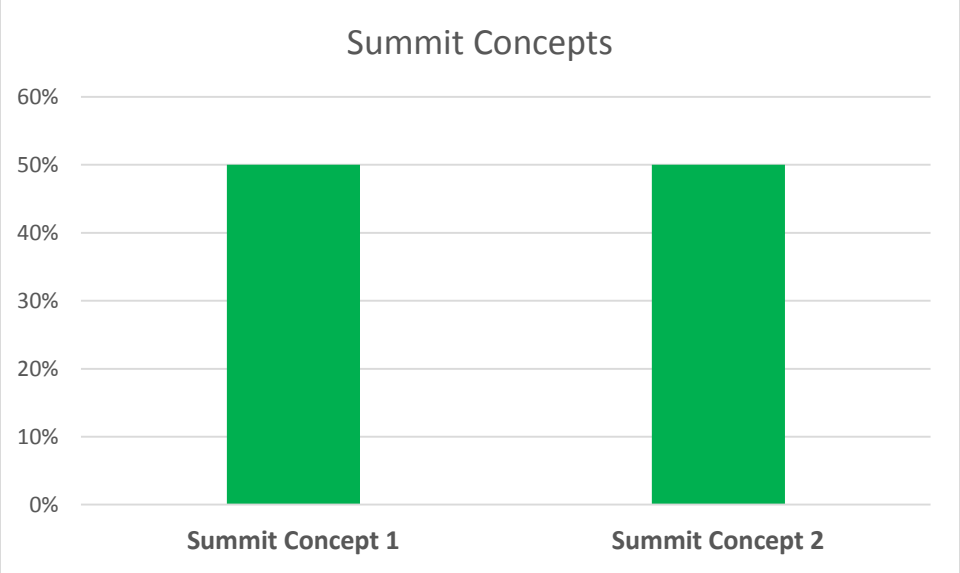
Comments pertaining to the guiding statements:

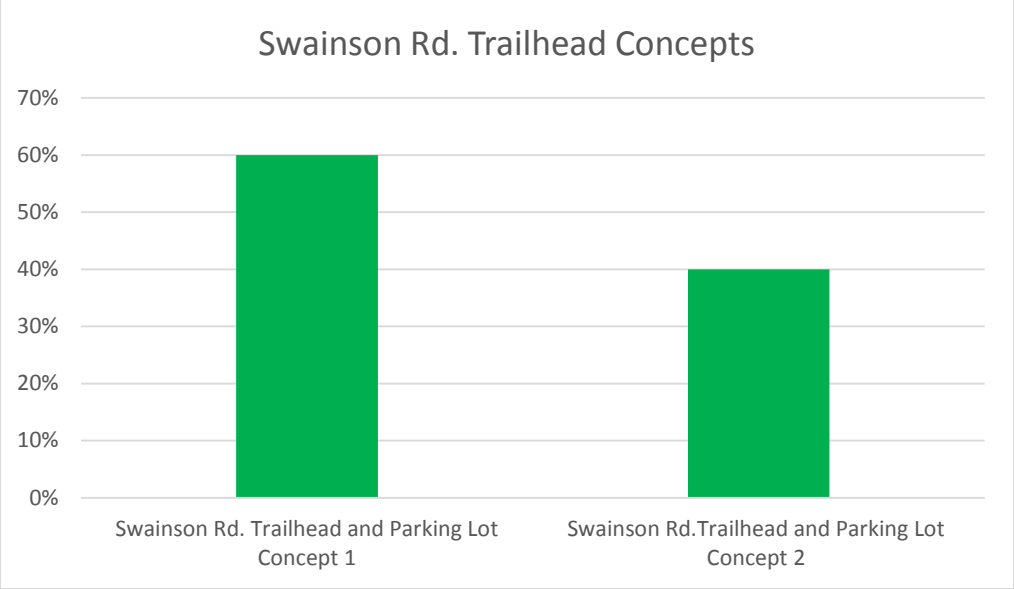
1. Better than anticipated. Allow for recreation but minimizes human footprint in the park.
2. Draft vison hits highlights in the park.
3. This park has some of the very little remaining grasslands in the Central Okanagan. I would like to see this specifically emphasised in the vision/goals statements.

Concept Options

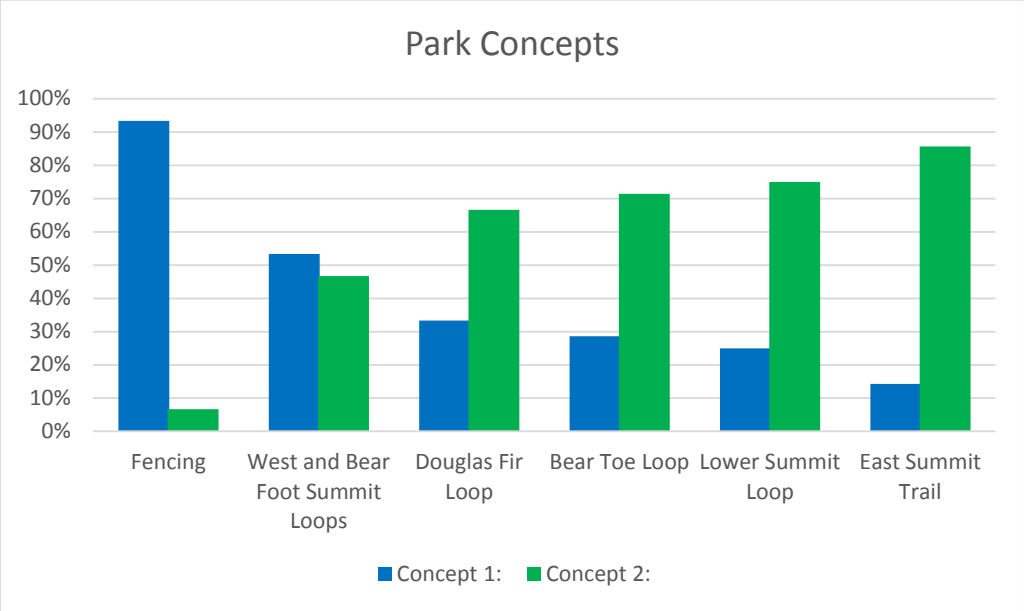
For the concept options presented, participants were asked to indicate their overall preference for one of the two. Of the 17 responses to this question, 11 preferred Concept 1 for the overall park concept. This option showed minimal interventions, a more simplified trail system, and the most trail closures. Between the two summit concepts, responses were split 50% for each option. Of the 15 responses regarding the Swainson parking lot, 60% indicated a preference for the more compact Concept 1.







Respondents were also asked to indicate a preference for features specific to each concept. These results appear to conflict somewhat with the responses regarding the overall preference. Regarding fencing and the West and Bear Foot Summit Loops, the configuration shown in Concept 1 was preferred by the highest percentage of respondents; however, the inclusion of a Douglas-fir Loop, Bear Toe Loop, Lower Summit Loop, and an East Summit Trail appeared to be preferred as shown in Concept 2. Requests were made for more inclusion of horses, minimal fencing, and dog-friendly trails.



Comments pertaining to features in overall concepts:

Fencing

1. Prefer no fencing, just a wooden walkway with a sign do not step off of walk way, be eco-friendly. Fencing for cow safety only. Please leave 6 inches at the bottom of the fence for turtles and coyote friendly.
2. Fencing along rancher's property and at Fortis sub-station road and along the south side a ways.

East Summit Trail

1. For all the trails please allow for horse access
2. make this trail for horse and dog friendly

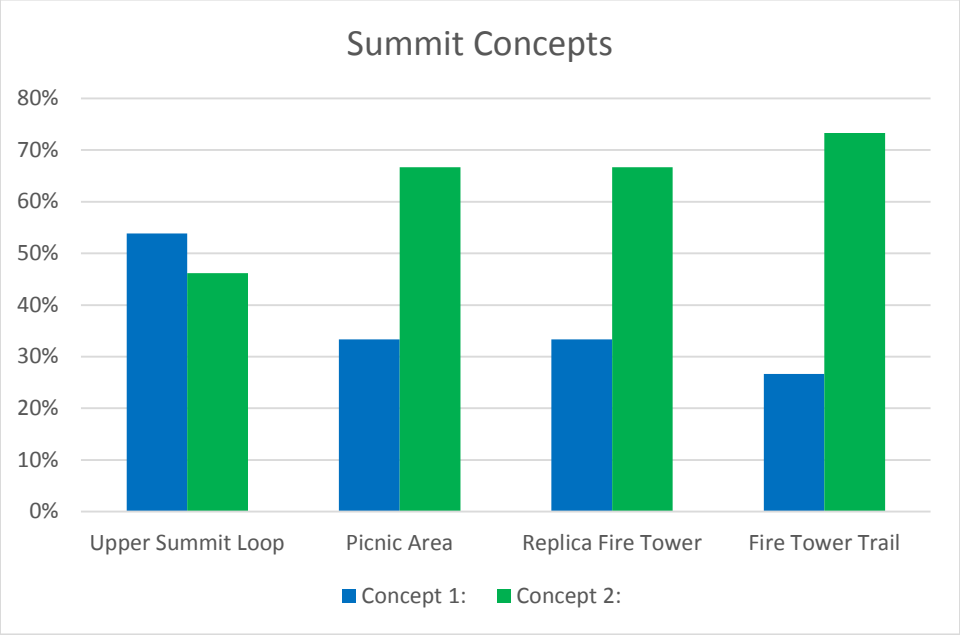
West and Bear Foot Summit Loops

1. No new trails off the main trail.

Douglas Fir Loop

1. Note that Douglas-fir is hyphenated.

For the Summit Concepts, a clear preference for the inclusion of the Fire Tower, Fire Tower Trail, and picnic facilities emerged; however, the responses were very close on the configuration of the Upper Summit Loop, with the highest percentage of responses being in favor of Concept 1. Comments regarding the Summit concepts expressed concerns about vandalism, and attracting bears at a picnic area.



Comments pertaining to features in Summit concepts:

Replica Fire Tower

1. Would promote vandalism.

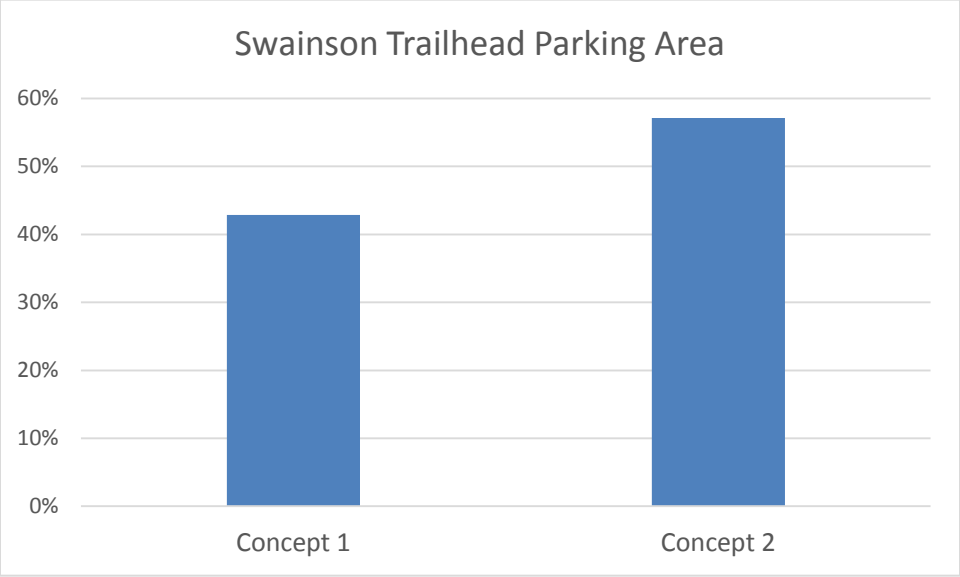
Picnic Area

1. Vandalism/Fire risk and bears attractant.
2. Have at summit view interpretive lookout point.

Upper Summit Loop

1. Either would be acceptable.

Additional conflicting information emerged in the responses regarding the Swainson Parking lot options, with 57% of respondents indicating a preference for the features of Concept 2. Suggestions included a request for space for horse trailers at this site, concerns about the ownership and safety of Swainson Road in general, displacement of wildlife in the area, suggestion that McCurdy/Day Road provides a better access option, and one assertion that neither option is viable and that the area should not be used by the public at all.



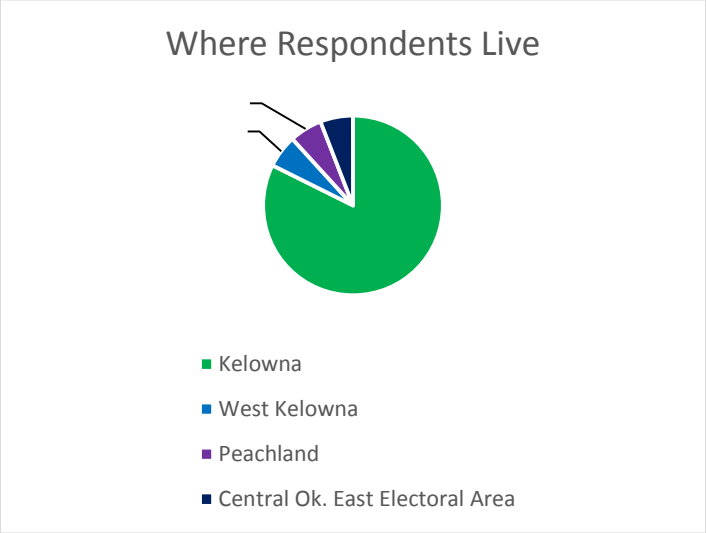
Comments pertaining to features in Swainson Trailhead Parking concepts:

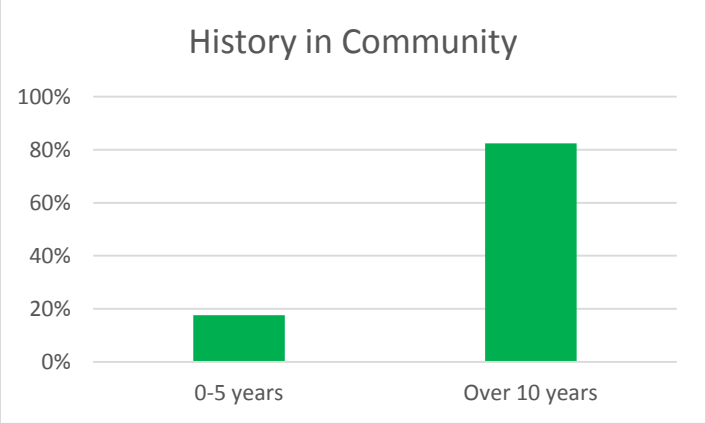
1. I would like to see enough space made available to accommodate horse trailers - i.e. parking and turning circle.

2. Swainson road up to the proposed trailhead is on private land and is substandard and not useful for traffic purposes. Furthermore, the drainage has been severely damaged at proposed parking area so the muskrat and other wildlife are being displaced by construction there.
3. Access to park would be more reasonably from McCurdy/Day Rd with a new road going south from Day road and within the park boundary itself to accommodate parking and natural areas positioned between them. Swainson road is largely on privately owned land. It is very 'crooked', narrow, and would require extensive upgrading whereas Day road is already upgraded with sidewalks and all.
4. This road should be used by maintenance and park wardens only...very few parking spaces…neither of your parking visions works.

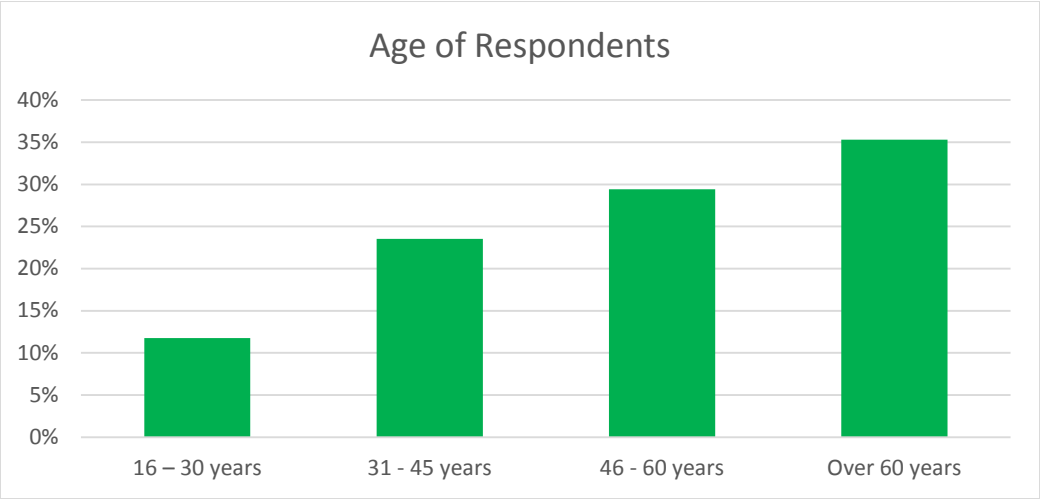
Demographics

Of the 17 respondents who responded to the question about where they resided, 14 were from Kelowna, with one from West Kelowna, one from Peachland, and one from the East electoral Area of the RDCO. In total, 14 respondents have lived in their community for over 10 years, and the remaining three less than 5 years.

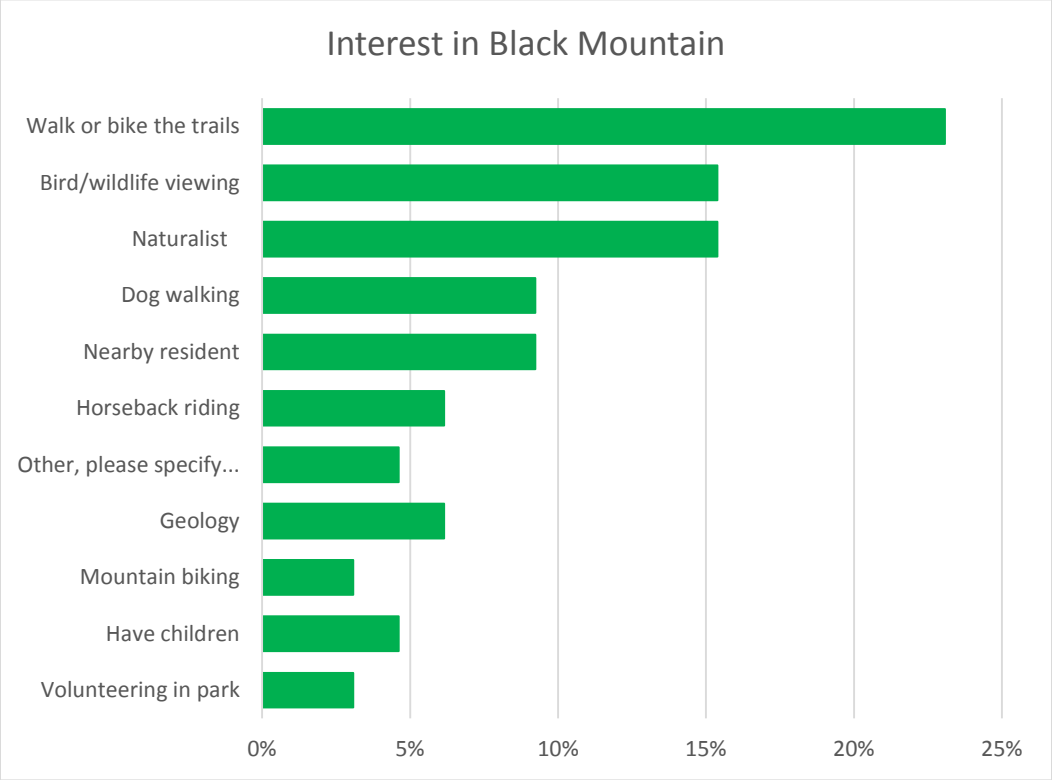




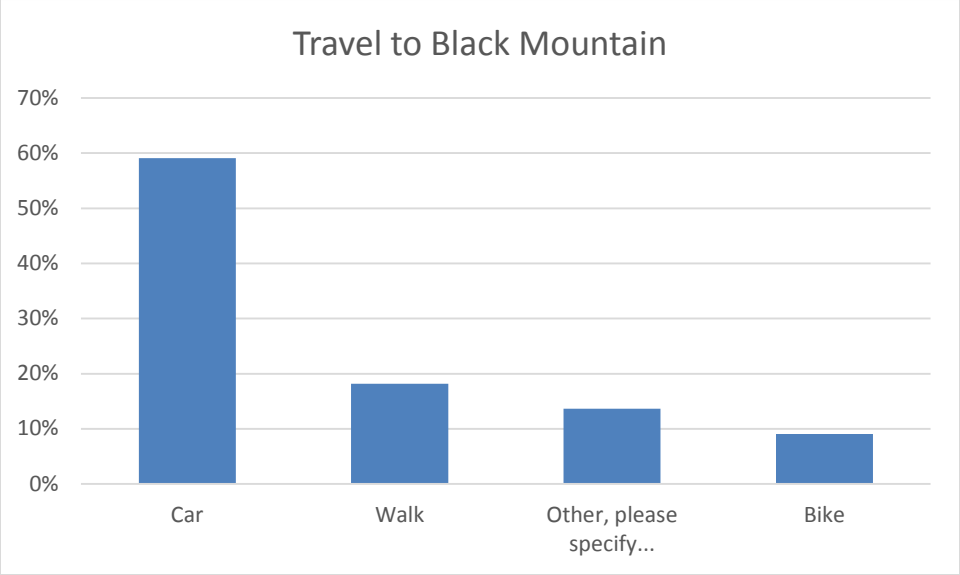
The largest number of responses were over the age of 60 (35%); 25% between 46-60; 24% between 31-45; and the remaining 12% between 16 and 30 years old.



Each activity presented received at least one mark indicating a user has interest in that, with the exception of archaeology. Most interest was indicated for walking and biking on the trails, naturalist activities, and wildlife viewing. Activities identified in the "other" category included commercial radio equipment; and a property owner on Swainson Road.



There were 22 respondents to the question of how they would arrive at the park with 59% indicating that they would arrive by car, 18% by foot, 9% by bike, and others by horseback or 4-wheel-drive truck.



All Comments:

1. As you can tell from my responses, I'd prefer a combination of the options put forward.
2. Nice to see lots of trails into this area - especially horse - I have had the pleasure of horseback riding in this area for close to 20 years and would hate to see it closed off to that use.... thank you.
3. Please provide information on how to pronounce the native name!
4. There has been a significant amount of work to realize this project, and I am thankful that the area is now a park. I do know that there was not nearly enough work done on researching the feasibility of Swainson road as a park access, and that it puts the visitors and farmers at significant risk of accident on the existing roadway. Furthermore, all of the upper portion of Swainson road from the second switchback on is on private land, and the landowners there are already struggling with water diverted from the golf course and from additional traffic to the area; closer to McKenzie road, Swainson is built on a steep slope on the edge of private property and then goes to a blind corner that again is on privately owned land. Cars often end up over the embankment on Swainson road in the winter, and near collisions are regular occurrences with farm vehicles throughout the growing season.
5. Warnings for ticks and cacti can keep people from going off trail and ruing the habitat.
6. Looks great, thanks!
7. In general I am in favor of the options that minimize the human footprint in the park, creating larger refuges for wildlife & minimizing human-assisted dispersal of invasive plants into the protected lands.

8. I am torn between having few trails (thus encouraging conservation) and having more trails (thus encouraging recreation.) I am concerned that some of the trails are multi-use; will all trails become de facto multi-use?
9. Formal consultation with equine horse users Back Country Horseman/ Horse Council etc.
10. As a stakeholder with sensitive equipment on the top of the mountain, I was lead to believe that recreational traffic (foot and vehicle) would not be allowed at the top of the mountain. The two options that I can see from your information site call for hiking trails, horse trails and vehicles.
11. Stakeholders on Swainson road have had no direct contact from RDCO or Kelowna and proper survey of road or property lines would have made it clear that McCurdy Road and Joe Rick Road are only SAFE access points for people arriving at the park by vehicle. As it is, the majority of Swainson road is on private land, NOT city owned land, and the road is treacherous as there is heavy farming activity here with trucks, tractors, and buses up and down to the various farms, and severely narrow roads in the winter when snow and ice are present. Add the liability concerns for those properties of Swainson road where 100 percent of the asphalt surface is on private land and there is real risk for us as stakeholders. Swainson Road is a narrow farm road, barely a car and a half wide. Swainson Rd was built on private property on several parts of the road…Swainson road is 100 percent not ready for recreation vehicles to be driving on it. The road planning dept. needs to rebuild Swainson road so it is not on private property and build it two car widths safe. The water from Francis creek was diverted with the creation of the black mountain golf course. Francis Creek now goes down the ditch alongside Swainson read instead of the natural watercourse, which fed three ponds (red flagged) by the city because the ponds hold endangered species such as spade foot toad, golden salamander, painted turtle, and gopher snakes. The ponds also are a wild life corridor for the black bears, white tail and mule deer, coyotes, and are a nesting area for red wing and yellow headed black birds, hummingbirds, sparrows, and a whole ecosystem of insects. The parking for the park trails is right at the head of the water courses, Francis creek needs to be put back to its previous natural course which is shown on the maps. Once the draft vision includes the changes noted above, Then the entrance to the park thru Swainson road should be a secondary choice, as this is a farming community, and tractors, sprayers, pickers, are often on this road. Swainson road is also a dead end road, which is quiet and used only by local residence. Towers ranch should be the main entrance, as it is already citified with the golf course and housing developments.
12. The park itself is a wonderful idea, but the access to it is of major concern to not only me but to the rest of homeowners here. Using Swainson road as access has concerns because:

    -It is a very windy road with a steep slope behind my house and is not suitable for the kind of traffic generated by this.

    -The road is already slopping and I had reported my concerns regarding this to city hall and they had an engineering firm investigate this. I was never advised of the result however shortly after this, signs went up saying no truck traffic. This road could easily slide down the hill into my yard and home.

-The road is very narrow barely allowing cars to pass each other.

-One very big concern that I have is water flowing down the hill through my yard and the neighbor's yard. Prior to the development above Treetop rd. we had a bit of water flowing in the early spring but it did not affect us very much. The water now flows year round and has made it necessary for me to install pumps to keep the water away from my house and garage, including during the winter. There has in the last few years been a problem with the ditch water collecting and freezing causing it to run into the yard at 1995 Swainson and also down the hill towards my house. Having the ditch paved has also helped to eliminate some of the problem.

Swainson road is a road that in several places is built on private property and as such I believe permission is required before this kind of venture is undertaken. This is a road designed only for the use of the residents in the area.

Please review these concerns before taking action.

Thank you.

13. Three major revisions are needed in the draft vision

1. Swainson road has been built on many private properties by the city. Swainson road is only a car and half wide. Swainson road has to be moved onto city property and widened to a safe two car width .This is a city of Kelowna road works major project that must be completed before any access to the park is considered via Swainson road.

2. Francis brook/ or Dilworth creek which was diverted by the black mountain golf course development needs to be put back to its natural water course shown on your park concept maps. Francis creek used to feed 3 plus natural pond habitats on our property alone, not counting the neighbours ponds it used to feed. The black mountain golf course development diverted Francis creek, the creek now flows down the ditch of Swainson road. Francis creek natural water course feeds three ponds on its downhill flow .The habitat for endangered species such as spade foot toad, painted turtle, bull snake, and salamanders. the ponds are used by white tail, mule deer, black bear, coyote, musk rat, red winged, yellow headed black birds, humming birds, sparrows, ducks, and a whole ecosystem of insects.

The city of Kelowna has this pond red flagged as a wet land. Three ponds are now one pond because of Francis Creek going down the ditch and feeding zero, nothing since the development of black mountain golf course.

Francis Creek must be restored back to its natural flow, so the ponds can be rehabilitated to what they once were. The park parking area on Swainson road is right at the head waters for all the drainage, so a perfect opportunity to correct the current situation of the

water flowing the wrong way, being diverted by the golf course development. The golf course development also promised to be eco-friendly at city hall.

3. Major access to the park should be Pyman road, Joe rich road, and towers ranch road. Towers ranch is already citified with housing developments, and golf course. Swainson road is used by local farmers, tractors, sprayers, and pickers. Only 12 home owners live on Swainson, and we the locals have difficulty with navigating Swainson and we drive it every day. Making Swainson one of the closest access to the park would cause serious hardship for locals because of visitors who have never driven on this road being extra wary of driving the road with steep drop offs, zero edges, zero sidewalks , zero bicycle lane, zero lighting, and old paving. The infrastructure of making Swainson road safe for a major parking area is in the millions for the regional district and the city.

My suggestion is to use Swainson road for maintenance vehicles, and park wardens only. Put a sign at the beginning of Swainson road that states the very message: maintenance and park warden vehicles only.

14. Good with horse and dog use and bicycle. Maybe a separate trail head for animal use.

Appendix D:
Overall Park Concept Plan Options

TOWER RANCH PARK - CONNECT TO TRAILS

TOWER RANCH TRAIL

GRASSLANDS LOOKOUT

GLACIER ERRATIC LOOP

DOUGLAS FIR LOOKOUT

SETTLERS LOOP

SETTLERS LOOKOUT

TO MARSHALL LANDS

GRASSLANDS LOOP

MARSHALL RANCH ROAD

City of Kelowna

SNOW BOWL LOOP

SNOW BOWL LOOKOUT

SWANSON ROAD PARKING AREA

CONNECT TO BMID TRAIL IN FUTURE

BEAR FOOT LOOKOUT LOOP

TO MARSHALL LANDS

WEST SUMMIT TRAIL

RIDGELINE SUMMIT TRAIL

HISTORIC FLUME TRAIL

WEST SUMMIT LOOKOUT

SNTSK'IL'NTƏN TRAIL

SUMMIT VIEWPOINT INTERPRETIVE LOOKOUT LOOP

SUMMIT JEEP ROAD

TO JOE RICHE ROAD PARKING AREA + CONNECT TO CITY OF KELOWNA TRAILS

LOCATIONS TBD

TO PYMAN ROAD PARKING AREA LOCATION TBD

REGIONAL DISTRICT of CENTRAL OKANAGAN

WESTBANK FIRST NATION

Black Mountain / Sntsk`il´ntən
Regional Park Management Plan

PARK CONCEPT 1

Legend

- Park Boundary
- City of Kelowna Boundary
- Transmission Conductor
- Communications Tower
- WATERCOURSE
- CRITICAL FENCING
- OPTIONAL/PHASED FENCING
- DESTINATION NODE / LOOKOUT
- PARK ENTRY
- CATTLE GUARD/GATED ACCESS
- INTERPRETIVE/WAYFINDING POINT
- WASHROOM FACILITY
- POTABLE WATER SOURCE
- RESTRICTED VEHICLES+MULTI-USE TRAIL
- MULTI-USE TRAIL
- NEW MULTI-USE TRAIL
- HIKING TRAIL
- NEW HIKING TRAIL
- BIKES PERMITTED
- DECOMMISSIONED TRAIL

PARK MANAGEMENT ZONES

- ECOSYSTEM
- NATURAL ENVIRONMENT
- OUTDOOR RECREATION

130 65 0 130 260
Metres

N

Coordinate System: NAD 1983 UTM Zone 11N

Scale: 1:8,000

Data Sources: RDCO, City of Kelowna Digital Road Atlas

Black Mountain / Sntsk'il'ntən Regional Park Management Plan

Project #:	1179.0087.01
Author:	BP
Checked:	CB
Status:	~ DRAFT ~
Revision:	A
Date:	2015 / 7 / 7

URBAN systems

FIGURE 1

TOWER RANCH PARK - CONNECT TO TRAILS

TOWER RANCH TRAIL

GRASSLANDS LOOKOUT

GLACIER ERRATIC LOOP

DOUGLAS FIR LOOKOUT

DOUGLAS FIR LOOP

SETTLERS LOOP

SETTLERS LOOKOUT

TO MARSHALL LANDS

GRASSLANDS LOOP

MARSHALL RANCH ROAD

City of Kelowna

SWAINSON ROAD PARKING AREA

CONNECT TO BMID TRAIL IN FUTURE

SNOW BOWL LOOP

SNOW BOWL LOOKOUT

BEAR TOE LOOP

BEAR FOOT LOOKOUT LOOP

TO MARSHALL LANDS

WEST SUMMIT TRAIL

RIDGELINE SUMMIT TRAIL

HISTORIC FLUME TRAIL

WEST SUMMIT LOOKOUT

SNTSK'IL'NTƏN TRAIL

EAST SUMMIT TRAIL

SUMMIT JEEP ROAD

SUMMIT VIEWPOINT INTERPRETIVE LOOKOUT LOOP

TO JOE RICHE ROAD PARKING AREA + CONNECT TO CITY OF KELOWNA TRAILS

LOCATIONS TBD

TO PYMAN ROAD PARKING AREA LOCATION TBD

REGIONAL DISTRICT of CENTRAL OKANAGAN

WESTBANK FIRST NATION

Black Mountain / Sntsk`il´ntən
Regional Park Management Plan

PARK CONCEPT 2

Legend

- Park Boundary
- City of Kelowna Boundary
- WATERCOURSE
- Transmission Conductor
- Communications Tower
- CRITICAL FENCING
- DESTINATION NODE / LOOKOUT
- PARK ENTRY
- CATTLE GUARD / GATED ACCESS
- INTERPRETIVE / WAYFINDING POINT
- WASHROOM FACILITY
- POTABLE WATER SOURCE
- RESTRICTED VEHICLES + MULTI-USE TRAIL
- MULTI-USE TRAIL
- NEW MULTI-USE TRAIL
- HIKING TRAIL
- NEW HIKING TRAIL
- BIKES PERMITTED
- DECOMMISSIONED TRAIL

PARK MANAGEMENT ZONES

- ECOSYSTEM
- NATURAL ENVIRONMENT
- OUTDOOR RECREATION

130 65 0 130 260
Metres

Coordinate System: NAD 1983 UTM Zone 11N

Scale: 1:8,000

Data Sources:
RDCO
City of Kelowna
Digital Road Atlas

Black Mountain / Sntsk'il'ntən
Regional Park Management Plan

Project #:	1179.0087.01
Author:	BP
Checked:	CB
Status:	~ DRAFT ~
Revision:	A
Date:	2015 / 7 / 7

URBAN systems

FIGURE 1

Appendix E:
Black Mountain Summit Concept Plan Options

EXISTING ACCESS ROAD

SUMMIT RIDGE TRAIL

UPPER SUMMIT LOOP

PROPOSED NEW COMMUNICATIONS TOWER SITE
HISTORIC BCFS TOWER FOUNDATIONS

COMPOSTING OR PIT TOILET

INTERPRETIVE LOOKOUT

SCREENING + RESTORED VEGETATION TYPICAL

UTILITY RIGHT OF WAY

REGIONAL DISTRICT of CENTRAL OKANAGAN

WESTBANK FIRST NATION

Black Mountain / Sntsk`il´ntən
Regional Park Management Plan

SUMMIT CONCEPT 1

- x — x EXISTING CHAINLINK FENCE
- GUYWIRE ANCHOR POINT
- Easements
- Communicati... Tower
- Telcom Structure
- License of Occupation for Com Towers
- Tenure Boundaries
- Park Boundary
- PROPOSED HIKING TRAIL
- RESTRICTED VEHICLE + PROPOSED MULTI-USE TRAIL
- INTERPRETIVE / WAYFINDING SIGNAGE

10 5 0 10 20
Metres

Coordinate System: NAD 1983 UTM Zone 11N

Scale: 1:1,000

Data Sources:
RDCO
City of Kelowna
Digital Road Atlas
Environmental data provided by Ecoscs

Black Mountain / Sntsk'il'nten
Regional Park Management Plan

Project #:	1179.0087.01
Author:	BP
Checked:	NA
Status:	~ DRAFT ~
Revision:	A
Date:	2015 / 7 / 31

URBAN systems

FIGURE 5

EAST SUMMIT TRAIL

EXISTING ACCESS ROAD

EAST SUMMIT TRAIL

LOWER SUMMIT LOOP

UPPER SUMMIT LOOP

SUMMIT RIDGE TRAIL

FIRE TOWER TRAIL

REPLICA FIRE TOWER INTERPRETIVE SITE

PROPOSED NEW COMMUNICATIONS TOWER SITE

HISTORIC BCFS TOWER FOUNDATIONS

COMPOSTING OR PIT TOILET

INTERPRETIVE LOOKOUT

SCREENING + RESTORED VEGETATION TYPICAL

PICNIC AREA

UTILITY RIGHT OF WAY

RDCO REGIONAL DISTRICT of CENTRAL OKANAGAN

WESTBANK FIRST NATION

Black Mountain / Sntsk`il´ntən Regional Park Management Plan

SUMMIT CONCEPT 2

- x— x EXISTING CHAINLINK FENCE
- GUYWIRE ANCHOR POINT
- Easements
- Communicati... Tower
- Telcom Structure
- License of Occupation for Com Towers
- Tenure Boundaries
- Park Boundary
- PROPOSED HIKING TRAIL
- RESTRICTED VEHICLE + PROPOSED MULTI-USE TRAIL
- INTERPRETIVE / WAYFINDING SIGNAGE

The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.

10 5 0 10 20
Metres

Coordinate System: NAD 1983 UTM Zone 11N

Scale: 1:1,000

Data Sources:
RDCO
City of Kelowna
Digital Road Atlas
Environmental data provided by Ecoscape

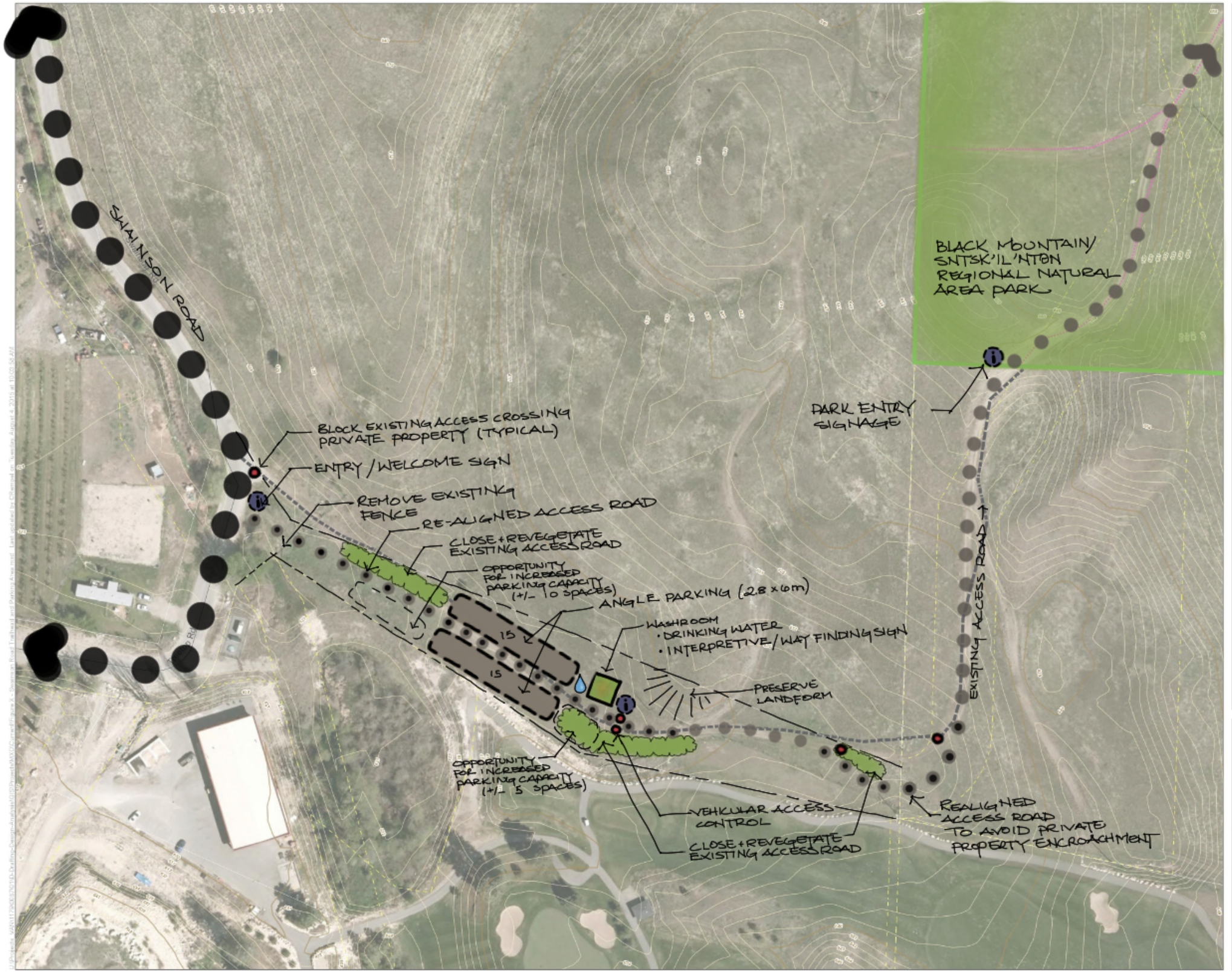
Black Mountain / Sntsk'il'ntən Regional Park Management Plan

Project #:	1179.0087.01
Author:	BP
Checked:	NA
Status:	~ DRAFT ~
Revision:	A
Date:	2015 / 7 / 31

URBAN systems

FIGURE 5

Appendix F:
Swainson Road
Concept Plan Options



REGIONAL DISTRICT of CENTRAL OKANAGAN

WESTBANK FIRST NATION

Black Mountain / Sntsk'il'ntən Regional Park Management Plan

Swainson Road Trailhead and Parking Area

CONCEPT 1

Legend

- Trails
- Easements
- Park Access Road
- Park Boundary

10 5 0 10 20
Metres

N

Coordinate System: NAD 1983 UTM Zone 11N

Scale: 1:600

Data Sources:
RDCO
City of Kelowna
Digital Road Atlas
Environmental data provided by Ecoscape

Black Mountain / Sntsk'il'nten Regional Park Management Plan

Project #:	1179.0087.01
Author:	BP
Checked:	NA
Status:	- DRAFT -
Revision:	A
Date:	2015 / 8 / 4

URBAN systems

FIGURE 5

SWAINSON ROAD

BLOCK EXISTING ACCESS CROSSING PRIVATE PROPERTY (TYPICAL)

ENTRY / WELCOME SIGN

REMOVE EXISTING FENCE

RE-ALIGNED ACCESS ROAD

CLOSE + REVEGETATE EXISTING ACCESS ROAD

OPPORTUNITY FOR INCREASED PARKING CAPACITY (+/- 5 SPACES)

ANGLE PARKING (28x6m)

12

12

OPPORTUNITY FOR INCREASED PARKING CAPACITY (+/- 7 SPACES)

8

PRESERVE LANDFORM

VEHICULAR ACCESS CONTROL

CLOSE + REVEGETATE EXISTING ACCESS ROAD

VEHICULAR ACCESS CONTROL

EXISTING ACCESS ROAD

REALIGNED ACCESS ROAD TO AVOID PRIVATE PROPERTY ENCROACHMENT

WASHROOM
- DRINKING WATER
- INTERPRETIVE / WAYFINDING SIGNAGE

PARK ENTRY SIGNAGE

BLACK MOUNTAIN / SNTSK'IL'NTƏN REGIONAL NATURAL AREA PARK

REGIONAL DISTRICT of CENTRAL OKANAGAN

WESTBANK FIRST NATION

Black Mountain / Sntsk'il'ntən Regional Park Management Plan

Swainson Road Trailhead and Parking Area

CONCEPT 2

Legend

- Trails
- Easements
- Park Access Road
- Park Boundary

10 5 0 10 20
Metres

Coordinate System: NAD 1983 UTM Zone 11N

Scale: 1:600

Data Sources:
RDCO
City of Kelowna
Digital Road Atlas
Environmental data provided by Ecoscape

Black Mountain / Sntsk'il'nten Regional Park Management Plan

Project #:	1179.0087.01
Author:	BP
Checked:	NA
Status:	- DRAFT -
Revision:	A
Date:	2015 / 8 / 4

URBAN systems

FIGURE 5