

Okanagan Region

**MANAGEMENT DIRECTION
STATEMENT**

March, 2003

for Chopaka East Site
South Okanagan Grasslands
Protected Area



**BRITISH
COLUMBIA**

**Ministry of Water, Land
and Air Protection
Environmental
Stewardship Division**

Chopaka East Site

South Okanagan Grasslands Protected Area

Forward and Approvals Page

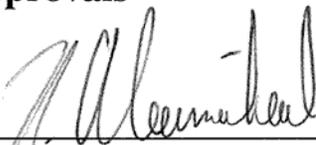
Forward

The Richter Pass area has long been a priority for conservation efforts in the Okanagan. The dry grasslands and open forests in this area represent one of the four most endangered ecosystems in Canada. Partners and programs of the inter-agency-supported South Okanagan - Similkameen Conservation Program and its participating programs and partners have worked to promote the conservation of the natural heritage of this area. Scientific research has complemented these conservation efforts, through universities and Provincial and Federal government sponsorship.

The East Chopaka Site is one of 4 geographically separate but related sites (Chopaka West, Kilpoola, and Mt. Kobau) that form the South Okanagan Grasslands Protected Area. The 1850 hectare Chopaka East Site extends north towards Richter Lake and is bounded by undeveloped private lands on its east and west sides and by the International Boundary to the south. The Site's ecological value is increased by the potential to participate in conservation management practices with the U.S. Bureau of Land Management (BLM), whose lands to the south contribute to a natural corridor from dry forest, through the arid grasslands and down to almost the Similkameen River.

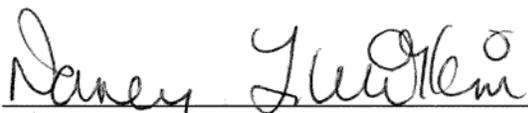
The Site plays an important role in the conservation of many red and blue-listed wildlife, plants and plant communities. The Site contributes significantly to the Protected Areas Strategy target for ecosystem representation and the protection of arid grasslands.

Approvals



Drew Carmichael
Regional Manager
Environmental Stewardship Division

Date: March 12, 2003



Nancy Wilkin
Assistant Deputy Minister
Environmental Stewardship Division

Date: May 31/03

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Introduction

Purpose of the Management Direction Statement

A management direction statement (MDS) provides strategic management direction for a protected area. A MDS also describes protected area values, management issues and concerns, management strategies focused on immediate priority objectives and directional statements from other planning processes. While strategies may be identified in the MDS, the development and implementation of these strategies is subject to funding. In addition, all development associated with these strategies within the protected area is subject to the BC Parks' Impact Assessment Policy.

This MDS was developed through direction received from the Okanagan-Shuswap Land and Resource Management Plan (OSLRMP), as well as comments from stakeholders and interest groups. The MDS is intended to provide direction and guidelines for future management of the Chopaka East Site.

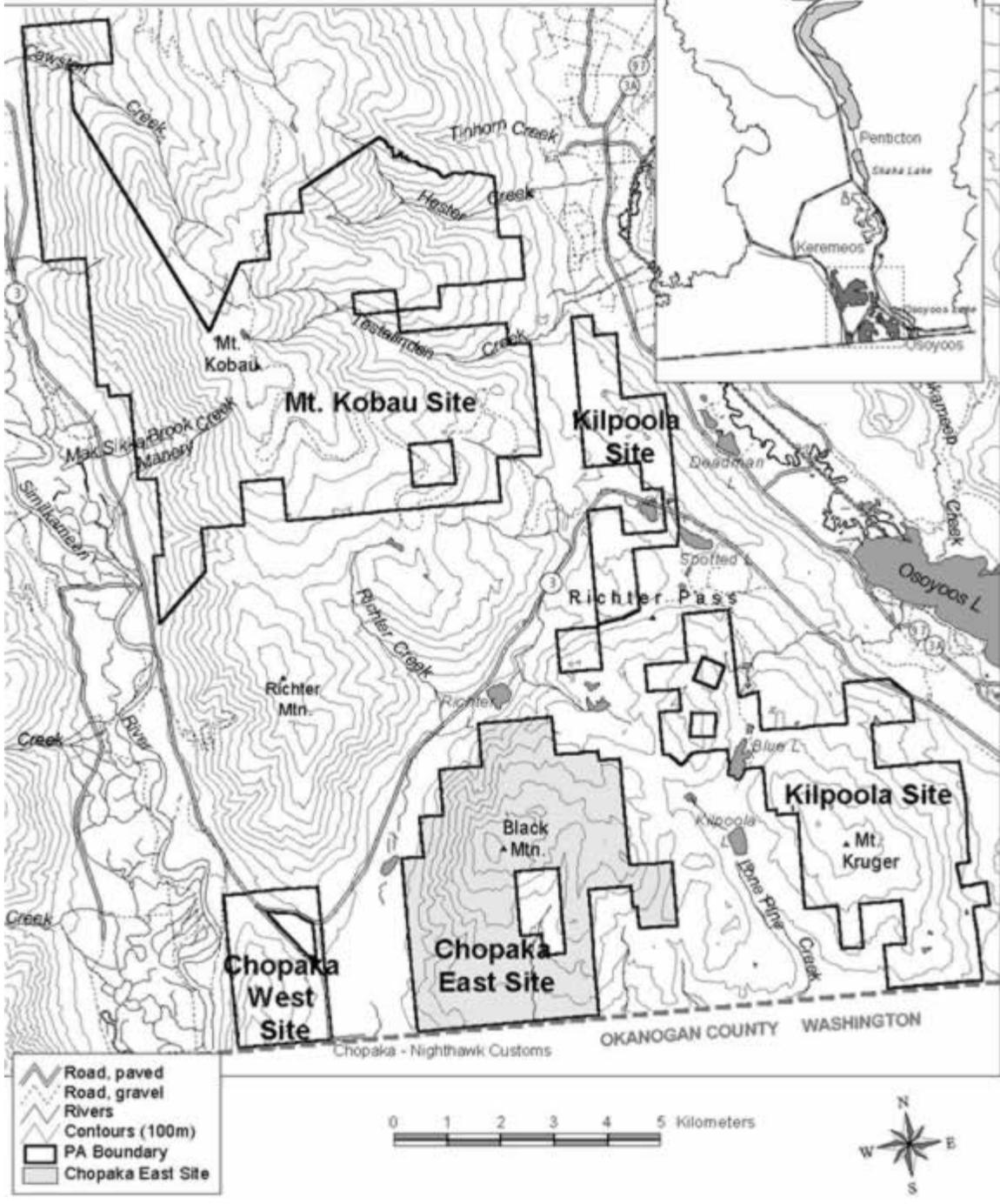
Setting and Context

The provincial Protected Areas Strategy (PAS) provided the framework for identifying areas that would contribute towards ecological representation within the province. As part of that strategy, the provincial government undertook many strategic level regional planning initiatives (Strategic Land Use Plans), throughout the province. The Okanagan-Shuswap Land and Resource Management Plan concluded that a number of protected areas should be established to protect natural, cultural and recreational values. The LRMP Table used the Protected Areas Strategy as a guide in the selection of protected areas and in providing direction for their management. With respect to the South Okanagan Grasslands Protected Area, the OSLRMP plan recognized the primary need for conservation of its red- and blue-listed plants and animals.

The South Okanagan Grasslands Protected Area was recommended for protection by the OSLRMP in 2000. It was formally established as a protected area on April 18, 2001 by Order in Council under the *Environment and Land Use Act*. The *Park Act* and regulations apply as if the protected area is a Class A provincial park. The intent is to transfer the protected area to Class A provincial park status by including it in Schedule D of the *Protected Areas of British Columbia Act*.

The 1850-hectare Chopaka East Site is situated on Black Mountain, between Richter Pass and the International Boundary. The entire Site is within the Southern Okanagan Basin Ecoregion and consists of the very hot, xeric subzones of the Bunchgrass (BGxh1), Ponderosa Pine (PPxh1), and Interior Douglas-fir (IDFxh1) biogeoclimatic zones. Eight of the province's red-listed and six blue-listed plants and animals are known from the protected area.

South Okanagan Grasslands Protected Area Chopaka East Site



Protected Area Attributes

Conservation

- entirely within the South Okanagan Basin Ecosection, comprised of very hot and xeric Bunchgrass (BGxh1), Ponderosa Pine (PPxh1) and Interior Douglas-fir (IDFxh1) biogeoclimatic variants
- over 40% is grassland or shrub steppe, almost 30% is open ponderosa pine forest (Appendix IV); these dry habitats are very fragile

Habitat Type	BGxh1 (% of PA)	PPxh1 (% of PA)	IDFh1 (% of PA)	Total
Grassland	2.9	35.6	0.0	38.6
Sagebrush Shrub-Steppe	1.7	2.3	0.0	4.0
Rocky Habitats	1.0	12.8	1.6	15.4
Wetland	0.0	0.0	0.0	0.0
Riparian	0.1	1.2	0.0	1.3
Forest	0.0	11.5	29.2	40.8
Other	0.0	0.1	0.0	0.1
Total	5.7	63.4	30.9	100.0

Compiled from Terrestrial Ecosystem Mapping (1:20,000).

More detailed habitat representation is tabulated in Appendix IV

- many of the red- and blue-listed plant communities identified for the Penticton Forest District potentially occur in the Site, depending on range condition, including grassland/shrub-steppe, dry forest and riparian ecosystems (Appendix III)
- south-facing, dry, rocky slopes also provide critical wildlife habitats; alluvial fans on the west side, with steep, actively eroding gullies and rock faces, provide a wide variety of habitats in a small area
- six red-listed and six blue-listed wildlife species have been recorded in or adjacent to the Site (within 500 metres), and at least four red-listed plants species occur within the Site (Appendix III); additional species are expected to occur
- important mule deer winter range
- best known site for rare dry ground lichens (cryptogams) with several species new to science, due to relatively limited soil disturbance
- an extensive wildfire occurred in 1994, burning through much of the grassland and forested ecosystems on Black Mountain; the site was subsequently salvage-logged

Recreation/Tourism

- nature appreciation and wildlife viewing, especially bird watching, are important recreation activities
- recreational use is moderate and influenced by the extent of roads
- hiking, horseback riding and mountain biking are ongoing activities
- hunting is valued but limited due to access and interspersed private lands
- potential to contribute to wildlife viewing and nature study tours

Cultural Heritage

- lack of systematic archaeological surveys, but sites should be present
- the Site had insufficient information for a cultural heritage rating

- traditional Aboriginal use unknown
- may include early farm settlement

Scientific

- site of a number of previous wildlife surveys (songbirds, small mammals and invertebrates)
- history of range research and vegetation plots (two exclosures and two permanent plots present)

Significance in the Protected Areas System

- contributes ecological significance to the South Okanagan Grasslands Protected Area, in combination with three other Sites (Chopaka West, Kilpoola, Mt. Kobau)
- the Site lies within the South Okanagan Basin (SOB) Ecosection, which is the fourth smallest ecosection in the Province yet hosts the highest number of red- and blue-listed plant and animal species; the South Okanagan Grasslands Protected Area is the largest contributor of protected area in the ecosection accounting for 4,481 hectares (46.1 %); the Site makes an important contribution to that protected in the South Okanagan Grasslands Protected Area
- consists entirely of provincially and regionally significant ecosystems, including the hottest and driest biogeoclimatic subzones in the province

Ecosystem Classification	Province (ha)	% within OSLRMP	% within existing PAs	% within Goal 1	% Protected (existing + Goal 1)	% of Protected within Chopaka East	% of Total within Chopaka East
Ecosection ¹							
SOB	78739	100	NA	13.02	NA	NA	2.3
Biogeoclimatic Unit ²							
BGxh1	61913	100	0.7	4.1	4.8	14.9	0.7
PPxh1	110292	100	2.9	5.8	8.7	2.9	0.2
PPxh1a	4491	100	0.0	21.2	21.2	35.7	7.6
IDFxh1 *	241392	71	2.3	3.7	6.0	5.5	0.3

Sources of areas for area calculations:
¹ Ecoregion mapping (1:250,000), MWLAP
² BEC mapping (1:250,000), MOF
³ Multiple Accounts Analysis, OSLRMP
 * includes only Protected Areas within OSLRMP

- hosts large number of rare wildlife species significant in the province (six red-listed, six blue listed) as well as at least two red-listed plants; almost all Canadian observations of Lyall’s Mariposa Lily occur within the site; also potentially contains red-listed plant communities (e.g. big sagebrush – bluebunch wheatgrass)
- opportunities for nature study/interpretation of rare species/grassland values

Other Land Uses and Interests

Access

Access is from Highway 3 at Kilpoola Estates via Kruger Mountain Road. This public road continues past Blue Lake to the northeast side of the Site. This section of the road, referred to here as Black Mountain road, continues southward and enters the private inholding. East of the Site, a non-status road (“Coulee Road”) branches to the south from the public road, entering the Site from the east and eventually joining Black Mountain road in the private inholding. Both roads provide access

to the private inholding and adjacent private properties. Other non-status roads and trails, some used by tenure-holders and recreationalists, are present in the Site.

Existing Tenures, Alienations and Encumbrances

All existing liens, charges, and encumbrances other than those applying to commercial logging, mining or energy exploration and development will continue to be authorized through issuance of park use permits (PUPs). This policy recognizes all existing *Land Act* tenures, special use permits (SUPs), water rights, trapping licences and other legal tenures and rights. Most tenure holders require motorized access into or through the Site. Tenure holders are included in Appendix II.

There are several types of tenures in the protected area:

- one water license
- two registered traplines areas
- a guide outfitter has a non-transferable sundry permit throughout the Site that is reviewed and issued annually; the license will not be issued to another person when the present tenure holder decides to not actively guide in the area
- two ranch operations have pastures through Range Use Plans; range improvements consists mostly of fencing and livestock water developments

Untenured interests in the Protected Area include:

- Canadian Helicopters has a long history of using the area for mountainous helicopter training

Adjacent Patterns of Land Use

- private rangelands
- to the south, across the International Boundary, is mostly public land administered by the Bureau of Land Management

Aboriginal Interests

- interests of the Okanagan First Nations are not known

Other Agency Interests

- the South Okanagan – Similkameen Conservation Program has a long-standing involvement with conservation and resource management on these lands; this Site should also be managed in close co-ordination with The Land Conservancy of B.C. and the Bureau of Land Management
- Canadian Wildlife Service is undertaking a five year sage thrasher habitat improvement project in the area; the Site provides critical habitat for this species
- Ministry of Forests manages existing grazing licenses, in conjunction with the Environmental Stewardship Division under a protocol agreement
- Ministry of Forests has a range enclosure and has conducted range research on the Site; important vegetation plots are situated within this Site
- Ministry of Forests assists the management of forest health but there are no concerns at this Site
- Ministry of Forest's Fire Protection Branch manages wildfire responses, prevention and assists prescribed burns; this agency has concerns about fire response (require a pre-attack plan) and fire prevention activities
- US Forest Service will respond to fires adjacent to the International Boundary through the Canada-U.S.A. Fire Protection Agreement
- South Okanagan Similkameen Weed Committee provides a venue for cooperative weed control; weed control has traditionally been undertaken through rancher initiatives and the Ministry of Forests on these lands

- Ministry of Transportation has one road (Kruger Mountain road) that enters the Site; Ministry of Transportation may wish to undertake fire abatement and weed control on their rights of way; there are no major road improvements planned for these roads in the near future

Public Stakeholder Interests

The numerous stakeholders are listed in Appendix II. Overall interests include:

- casual outdoor recreation (hiking, horseback riding, and mountain biking)
- nature viewing (casual and club-sponsored)
- recreational hunting
- cultural and heritage values
- nature conservation and ecosystem management (non-government groups and organizations)
- fire management for ecosystem health and protection of adjacent private property
- bluebird trail nest box program conducted by the Southern Interior Bluebird Trail Society
- scientific research by universities and non-government organizations

Role of Chopaka East Site

The primary role of the Chopaka East Site is to protect the very hot and dry grassland, shrub-steppe and open pine forests. Associated rock outcroppings are also very important wildlife habitats. Red- and blue-listed plants and wildlife depend on this area. Feature species are rare grassland birds, including the sage thrasher and grasshopper sparrow, and the rare Lyall's Mariposa Lily. The Site contributes to the ecological integrity of the South Okanagan Grasslands Protected Area, in combination with the Chopaka West, Kilpoola and Mount Kobau sites. These combined holdings provide a unique opportunity for conserving expanses of low-elevation, arid grasslands. Cooperative management practices with the Bureau of Land Management that holds lands south of the border, and private properties adjacent to the Site, would increase the conservation values of the overall area.

The Site may contain regionally significant archaeological sites and be of special value for traditional First Nations uses. Wildlife viewing, natural history interpretation and other limited-access recreation opportunities are ongoing. There are immense opportunities for improving these experiences through interpretation. Commanding views and other aesthetic values add to the visitor's experience.

The importance and sensitivity of this arid Site requires that recreational and other uses of the site are of low intensity and avoid impacting conservation values. Further ecological inventory and monitoring will be required to ensure that conservation objectives are being met.

Management Commitments and Issues

Management Direction from Previous and Ongoing Planning

Management direction was originally provided through the now-defunct Oldtimers Coordinated Resource Management Plan (CRMP). High conservation values were first established through the South Okanagan Critical Areas Program (Erickson and Torrance 1989). Research and management strategies were developed and partly implemented by the South Okanagan Conservation Strategy (Hlady 1990). Subsequently, the former BC Environment's Wildlife Branch established a Notation of Interest for conservation purposes over the Site in 1991. A summary of the area's values, attributes, issues and habitat management recommendations was prepared for the South Okanagan Conservation Strategy (Bryan 1996). All of these initiatives provide guidance for ecological management directions.

The OSLRMP provided statements of management direction for the interim management of the Site; these have been incorporated into the preparation of this MDS.

Management Issues

The following are over-riding management issues that have been identified through previous documentation and preliminary consultation with agencies and stakeholders:

- inadequate resource inventory of natural and cultural values to establish sensitive sites
- inadequate knowledge of how human activities impact conservation values
- fencing in disrepair, or burned in the recent fire, may be hampering good range management
- need for increased public understanding of the conservation values and strategies
- inappropriate access and activities (e.g. type, intensity, location, and timing) that are incompatible with conservation objectives
- impacts to ecological integrity from non-native plants (weeds) and animals
- lack of adequate inventories, strategies, and resources to manage weeds
- lack of detailed information for appropriate fire response and management
- compatibility of activities on adjacent lands with protected area objectives
- ability to monitor and enforce permitted uses
- compatibility issues may exist or arise among uses of the Site
- public desire for ongoing opportunities to participate in Site planning
- consistent, fair, and timely management strategies to resolve new and outstanding issues in the Site
- lack of knowledge of First Nation values and traditional uses to appropriately manage these interests

The following table lists specific issues by theme requiring management action:

Theme	Issue
Protecting ecological values	<ul style="list-style-type: none"> • public appreciation of the Site’s conservation values • sensitive sites are not adequately identified, including adequate inventories of rare fauna and flora • management of public motorized vehicle access • an undetermined effect of access and recreational activities on the protected area’s soils, vegetation, and wildlife • impact of any future facilities on the aesthetic values of the Site • possible impacts of tenured uses • habitats degraded through past uses and management • weeds compromising the vegetative integrity of important habitats • non-native animals and feral cats and dogs impacting conservation values • fire response planning to protect ecological values (stands of sagebrush) • seral stage representation may not reflect natural disturbance regimes • forest encroachment into grasslands, ingress, and fuel loading; all resulting from fire suppression • threat from human-caused fire
Managing recreational opportunities and impacts	<ul style="list-style-type: none"> • access planning; safe, well-marked access routes that do not impact critical wildlife habitat, endangered species or livestock operations; ensure private lands are adequately posted along trails and fence lines • increased fire hazards caused by increased public use • need for self-guided interpretive kiosks explaining the values, sensitivities, and permitted uses of the Site

Theme	Issue
	<ul style="list-style-type: none"> wildlife-human interaction hazard areas along hiking trails safety hazards not adequately identified
Protecting cultural values	<ul style="list-style-type: none"> cultural features not adequately identified (e.g. archaeology sites, pioneer ranch sites)
Recognized Tenures	<ul style="list-style-type: none"> concern about livestock-human conflicts and lack of awareness of tenure-holder rights and requirements (closing gates) lack of knowledge about appropriate grazing prescriptions that complement conservation objectives non-target, red-listed wildlife (i.e. badger) being trapped water consumption potentially impacting wildlife and salmonid habitats
Aboriginal Involvement	<ul style="list-style-type: none"> lack of First Nation involvement
Scientific	<ul style="list-style-type: none"> access for ongoing and future research and inventory compatible with conservation and recreation values upkeep of research facilities (e.g. range exclosures)

Management Direction

Management Objectives and Strategies

The overall intent of this Site is conservation of the ecological and cultural values, while maintaining low-intensity recreation and nature appreciation activities. The following over-riding management strategies are critical to the preservation of the primary values of this Site (red- and blue-listed plants and animals, and ecosystem representation). Furthermore, these strategies are urgently required for delivery of the initial management direction and essential to future planning. Strategies are listed in order of priority.

- Implement priority access management improvements (e.g. gates, signage) intended to protect conservation and cultural values, while allowing acceptable uses and activities.
- Work with the agencies and non-government organizations having interests in the area to develop complementary land management strategies.
- Develop interim pre-attack fire plan which reflects the conservation objectives.
- Encourage awareness and support of the conservation objectives of the Site (e.g. workshops, interpretative signage and material and press releases).
- Document existing ecological information and identify gaps. Where ecological risks are greatest, conduct ecological inventories and habitat assessments that will guide the development of management strategies. Special consideration may be required to protect extremely rare plants (e.g. Lyall's Mariposa Lily).
- Conduct inventory of noxious weeds as required. Develop and implement a weed management plan, in cooperation with South Okanagan – Similkameen Weed Committee
- Collate existing knowledge of cultural features and values, and identify information sources as well as any information gaps and inconsistencies. Consult with the Okanagan First Nations to identify cultural sites and traditional values and activities. Identify existing and potential risks to these resources. Prepare management objectives to protect these interests.
- Pursue opportunities to collaborate with appropriate conservation projects and research being conducted in the Site.
- Develop interim plans for the management of non-tenured protected area uses (e.g. recreational activities). Interim plans are required to ensure, among other things, the protection of ecological and cultural values. These plans will include guidelines to address any potential conflicts with

the various uses and between uses, and involve stakeholder consultation. Furthermore, the plans must recognize the need for adaptive management in the event of broad disturbance (e.g. wildfire).

- Conduct monitoring that can evaluate the effectiveness of management activities. Revise interim plans to reflect changes required to meet management objectives.

The following table lists specific strategies, by theme, to achieve management objectives:

Management Objectives	Strategies
Protect natural values	<ul style="list-style-type: none"> • Increase public awareness of the purpose of the Site through information and signage • Monitor and enforce permitted and tenured uses of the Site; develop a volunteer warden program for the area • Encourage stewardship of the Site (i.e. monitoring) • As directed by the 2002 Conservation Risk Assessment, complete an inventory of rare fauna and flora • Identify areas of particular ecological importance that require special management or protection • Direct potentially harmful activity away from sensitive areas (e.g. fencing, trail management) • Minimize visitor impacts on the Site’s red- and blue-listed plants and animals and sensitive areas; ensure recreation activities are maintained at low levels to minimize impacts on conservation values • Complete impact assessments before improving or promoting recreational opportunities • Aggressively control noxious weeds that impact the natural vegetation communities • Control non-native animals and feral cats and dogs • Assess forest encroachment, ingress and fuel loading; develop and implement a strategy to recover habitats to a fire-maintained condition • Prepare a fire response and fire readiness plan • Work with other agencies (e.g. Bureau of Land Management) and non-government interests to manage the conservation values in a cooperative manner • Encourage conservation on adjacent private holdings
Manage recreational values	<ul style="list-style-type: none"> • Prohibit public motorized vehicle access within the Site except on public roadways; close/gate non-status roads not required; determine if Coulee Road or Kruger (Black Mountain) Road will provide public access to the Site • Provide low-intensity day use recreation opportunities such as hiking, nature study and hunting in areas where there is no threat to high ecological values • Establish a trailhead, signage and trail(s) which do not adversely impact conservation objectives; determine best location in consultation with affected users and stakeholders • Monitor use and impacts of recreational activities on conservation values; management of use may require seasonal or other restrictions to minimize disturbance to conservation values, erosion on trails, public safety or fire hazards • Reduce the potential for human/wildlife interactions; identify wildlife safety hazards
Protect cultural heritage values	<ul style="list-style-type: none"> • Investigate and collate existing information on cultural heritage values; prepare Cultural Features Information Summary • Conduct further assessment of heritage values

Management Objectives	Strategies
Manage tenures	<ul style="list-style-type: none"> • Determine access requirements for tenure holders • Ensure tenured users of Site resources use best management practices to minimize impacts on red- and blue-listed plants and animals • Encourage trappers to use selective techniques to avoid trapping red- or blue-listed wildlife (e.g. badger, white-tailed jackrabbit) • Encourage tenured users and visitors to work cooperatively to promote harmonious co-existence; signage for public awareness of tenure rights and requirements • Concern about livestock-human conflicts and lack of awareness of tenure-holder rights and requirements (closing gates) • Encourage the relinquishment of unused water licences
Aboriginal values	<ul style="list-style-type: none"> • Consult with the appropriate Okanagan First Nations
Scientific	<ul style="list-style-type: none"> • Encourage scientific research that benefits Site management objectives • Facilities for research (e.g. range exclosures) must be maintained

Integration with Other Land Use Planning Processes

This management direction statement, future management direction statements, and all resulting management actions will follow the intent and criteria set out by the Okanagan-Shuswap LRMP for the Chopaka East Site. Management of the Site should be coordinated with land management of other levels of government, including First Nations and other compatible stakeholders in the area. This would be done within the confines of the *Park Act* and BC Parks' Conservation Program Policies. Increased awareness and cooperation is vital to ecosystem management.

Consultation and Future Planning

Local groups will continue to be consulted to determine promotion, information and volunteer strategies. In addition, the Environmental Stewardship Division will work with the appropriate Okanagan First Nations to further determine heritage and cultural values. Future planning will not compromise the ecological integrity of natural and cultural values within the Site. Integrated planning with other agencies, adjoining landowners and interest groups will ensure ecosystem integrity and promote long-term stewardship of the area.

Zoning Plan

The Chopaka East Site is zoned as **Special Feature** to provide protection for important ecosystems and red- and blue-listed plants and animals. Recreation will be confined to designated areas. Public access to important natural or heritage areas will be restricted. Existing recreation trails are identified on the map. Some of these have been designated for low-intensity trails, but remain subject to review. See Appendix I for a list of acceptable uses and a map of zoning and recreation corridors.

Appendix I

Acceptable Activities, Uses and Facilities in Chopaka East Site

Activity/Use/Facility	Special Features Zone
First Nation Traditional Uses	Y
Hunting	Y
Fishing	n/a
Trapping	N2
Grazing (domestic livestock)	N2
Recreational gold panning/rock hounding	N
Native Plant Seed Harvest	M
Utility corridors	N
Communication sites	N
Horseback trail riding (casual)	Y
Horseback trail riding (competitive)	N
Guided hunting	Y until existing tenure holder ceases guiding in the PA
Guided fishing	n/a
Guided nature tours	M
Commercial recreation (facility-based)	N
Commercial recreation (non-facility-based)	M
Backcountry huts	N
Water control structures (e.g. wells, reservoirs and diversions)	N2
Fish stocking and enhancement	n/a
Road access	N1
Recreational hiking (on designated trails only)	Y
Recreational mountain bikes (on designated trails only)	Y
Rock Climbing	N
Hang Gliding	N
Pets (under control and on designated trails only)	M
Camping	N
Campfires	N
Off-road access (motorized)	N
Aircraft access (helicopter)	N1
Fire suppression (as per Fire Mgmt Plan)	Y
Prescribed fire (as per Fire Mgmt Plan)	Y
Fire prevention (as per Fire Mgmt Plan)	Y
Noxious weed control	Y
Forest Health (e.g. insect/disease control)	Y
Scientific research	M

Y = allowed subject to conditions identified in the management direction statement and future management strategies

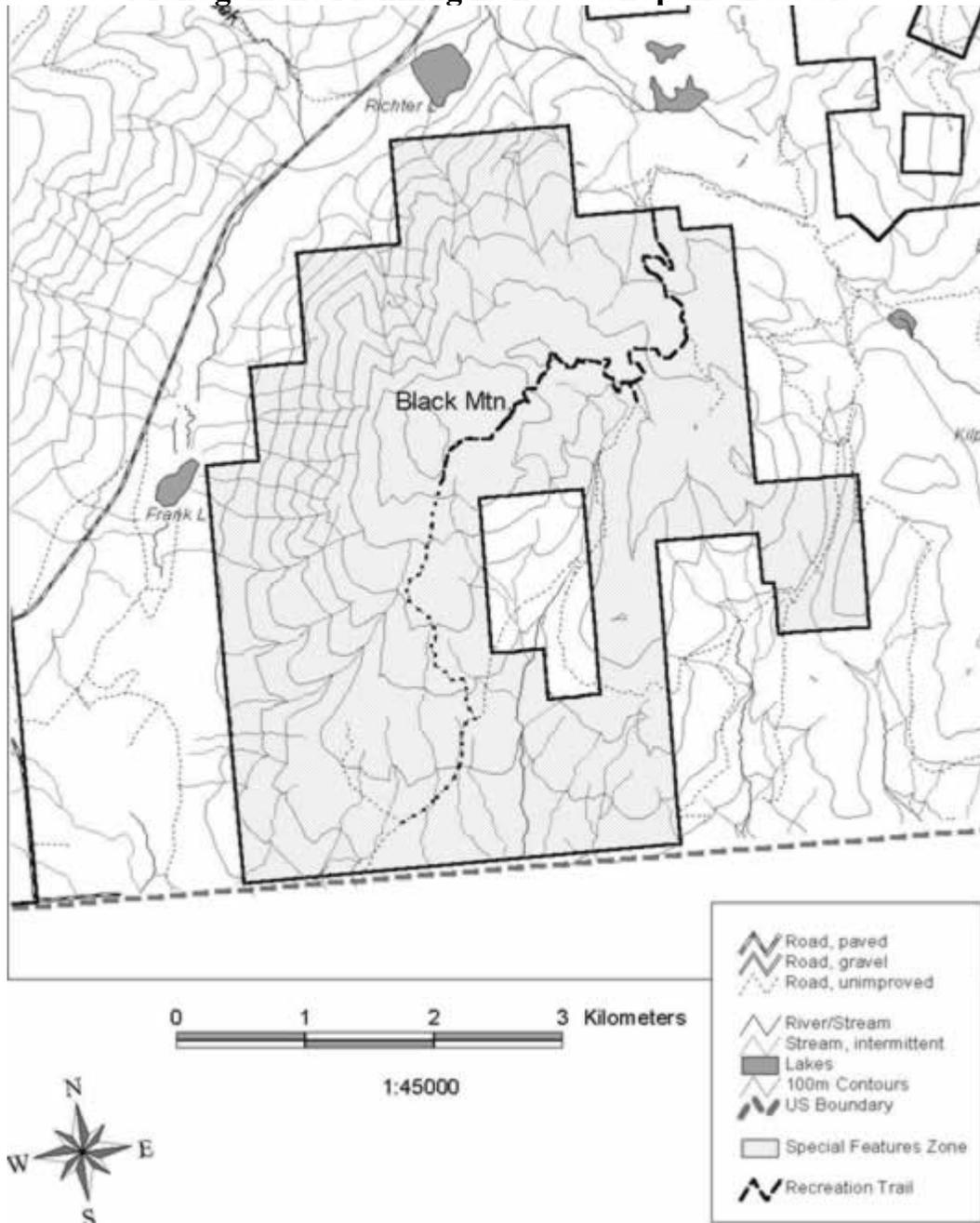
M = authorization required; may be permitted if compatible with Site objectives; may be subject to limitations

N = not allowed

N1 = allowed for authorized purposes only (e.g. Environmental Stewardship Division, tenured uses)

N2 = present and allowed to continue, but not normally allowed

Management Planning Zones – Chopaka East Site



Appendix II

Stakeholders Contacted for South Okanagan Grasslands Park

Contact	Affiliation
Resource Agencies	
Bob Lincoln	ESD, WLAP
Al Hare	EPD, WLAP
Steve Roe	EPD, WLAP
Mike Watkins	EPD, WLAP
Jim Mottishaw	MoF
Alex McLean	MoF
John Pethybridge	MoF
Daryl Hunt	MoF
Roger Venables	MoF
Margot Hollinger	MoF
John Parsons	MoAF
Ken McAra	MoAF
Tom Freeman	MoT
Bill Bedford	MoT
Elsie Lemke	Town of Osoyoos
Glen Mandziuk	Osoyoos Business & Community Development Centre
Joan Bush	RDOS – Electoral Area B
Roger Mayer	RDOS Chair
John Piazza	RDOS – Electoral Area A
Consultative Gov. Members	
Tea Lea	WLAP
Hans Roemer	WLAP
Dennis Lloyd	MoF
Orville Dyer	ESD, WLAP
Ernie Maynard	MSRM
Alex McLean	MoF
Grant Furness	ESD, WLAP
Mike Hanry	ESD, WLAP
Dave Tudhope	MSRM
In-Park Tenures	
Bob Gibbard	LRMP Rep., Trapping
Albin Hochsteiner	guide-outfitter
Mark Quaedvleig	LRMP rep., ranching; range licence
Ace and Rose Elkink	range licence
Clarence Schneider	range licence
D.B. McCurdy	range licence
Carol Allison	range licence
George Thompson	Haynes Estate Ranch
Sherry Linn	Bluebird Trail Society

First Nations	
Chief Moses Louie	Lower Similkameen Band
Chief Clarence Louie	Osoyoos Band
Richard Holmes	Upper Similkameen Band
Stewart Phillip	Penticton Band
Significant Adjacent Landowners and Tenures	
Bureau of Land Management	United States
Jim Hope	TNT, adj. Landowner
Marlin Clapson	Osoyoos Desert Society
Jim Pendergraft	adj. landowner; grazing tenure
Wayne and Hazel Pendergraft	adj. landowner; grazing tenure
Geral Pendergraft	adj. landowner; grazing tenure
Mrs. A. Dolynuk	adj. Landowner
Daryl Gibb	adj. Tenant
Bob Ellis	adj. Landowner
Lee McFadyen	adj. Landowner
Carol Allison	adj. landowner; grazing tenure
George & Richard Thompson	adj. landowner; grazing tenure
Peter Fodey	adj. Landowner
Clarence Schneider	adj. landowner; grazing tenure
Nichola Walkden	The Land Conservancy of BC
Audrey Harper	adj. Landowner
Steve Venables	adj. Landowner
Research / Science	
Pam Krannitz	vegetation and endangered spp. - CWS
Geoff Scudder	invertebrates – UBC
Rob Cannings	invertebrates – UBC
Walt Klenner	small mammals - MoF
Nancy Mahony	song birds – UBC
Mike Miller	vegetation research
T.G. Northcote	limnology
David Dodge	HR MacMillan Space Centre
Conservation	
Robert Hawes	South Okanagan-Similkameen Conservation Program
Bruno Delesalle	Grassland Conservation Council
Brad Arner	Ducks Unlimited
Marlin Clapson	Osoyoos Desert Society
Clive Johnson	Okanagan-Similkameen Parks Society
Laure Neish	South Okanagan Naturalists Club
Dick Cannings	South Okanagan Naturalists Club
Harry Nielsen	Oliver-Osoyoos Naturalists Club
Harold King	Oliver-Osoyoos Naturalists Club
Don Sloan	Okanagan-Similkameen Parks Society
Lee McFadyen	Similkameen Naturalist Club

Sportsmen Assoc.

John Nett	Osoyoos Wildlife Federation
Joan McKay	South Okanagan-Similkameen Sportsmen's Association / BC Wildlife Federation
Ron Taylor	LRMP rep, BC Wildlife Federation
Ernie Marven	Kermeos-Cawston Sportsmen's Association

Recreation

Juergen Hansen	LRMP rep., recreation
Brad Houston	Penticton Outdoors Club
Eva Durance	Penticton Outdoors Club
Roberta Carleton	Equestrian
Terry Burke	off-road motorized
Chris Prowse	The Bike Barn
Peter Matthews	mountain biker
Bill Archibald	Trails BC VP & route chair
Jim Shaver	local astronomical group
Jim Failes	Mt. Kobau Astronomical Society

Utilities and Commercial

Kevin Jones	Aquila Networks Canada
Barry Radies	Aquila Networks Canadar
Jan Rustad	Canadian Helicopters

Appendix III

Red- and Blue-listed Species Recorded in or Near Chopaka East Site

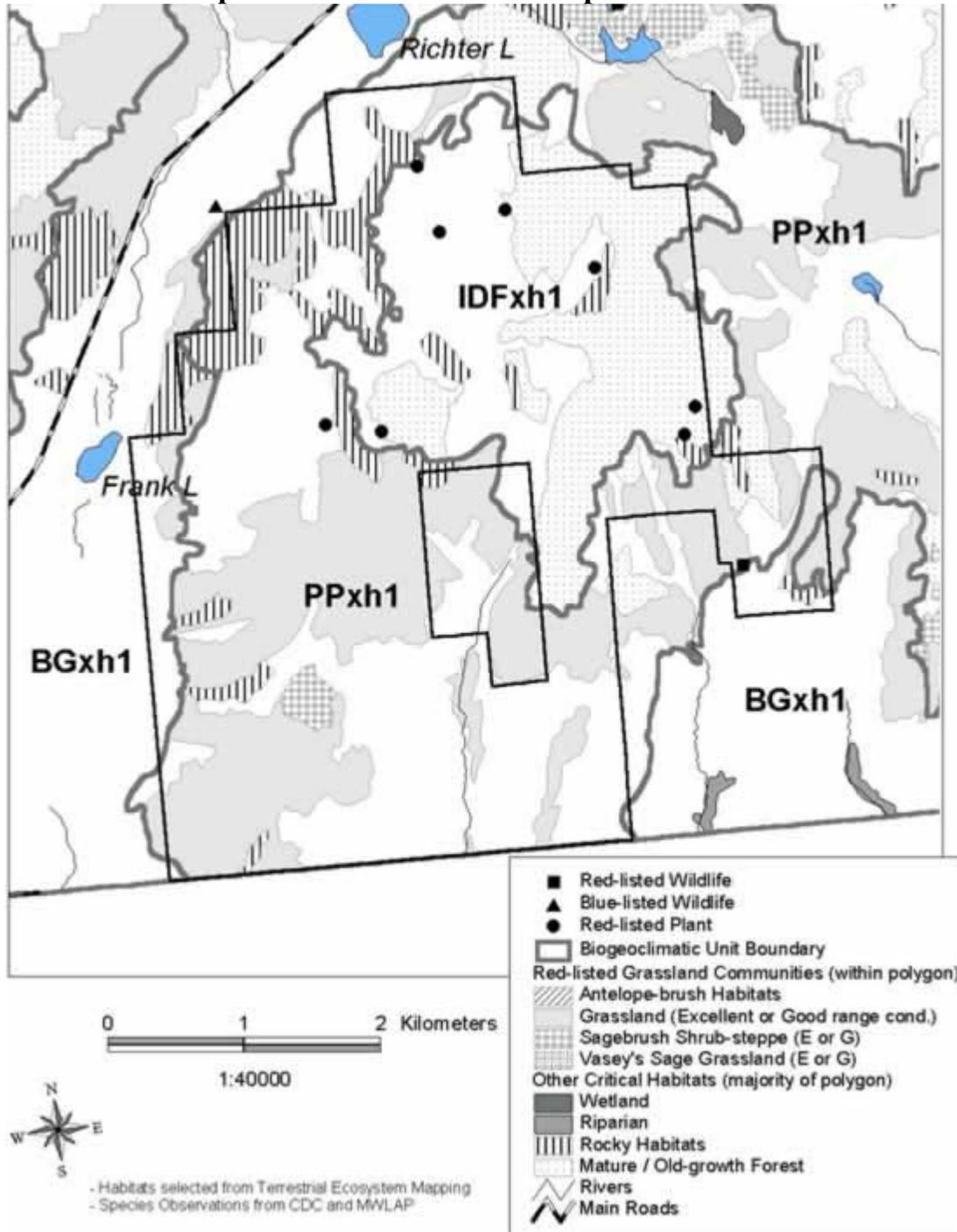
Common Name	Scientific name	Prov. Status	COSEWIC Status	Source **
AMPHIBIANS		1 species		
Great Basin Spadefoot Toad *	<i>Spea intermontana</i>	Blue	Special Concern	CDC
REPTILES		2 species		
Gopher Snake	<i>Pituophis catenifer deserticola</i>	Blue		WLAP
Western Rattlesnake *	<i>Crotalus viridus</i>	Blue		WLAP
BIRDS		7 species		
Brewer's Sparrow	<i>Spizella breweri breweri</i>	Red		CDC, WLAP
Bobolink *	<i>Dolichonyx oryzivorus</i>	Blue		WLAP
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	Red		WLAP
Great Blue Heron *	<i>Ardea herodias herodias</i>	Blue		WLAP
Prairie Falcon *	<i>Falco mexicanus</i>	Red		WLAP
Sage Grouse	<i>Centrocercus urophasianus</i>	Red	Extirpated	WLAP
Sage Thrasher	<i>Oreoscoptes montanus</i>	Red	Endangered	WLAP
MAMMALS		2 species		
Badger	<i>Taxidea taxus</i>	Red	Endangered	WLAP
Nuttall's Cottontail	<i>Sylvilagus nuttallii</i>	Blue	Special Concern	WLAP
PLANTS		2 species		
Whited's Halimolobos	<i>Halimolobos whitedii</i>	Red		CDC
Lyall's Mariposa Lily	<i>Calochortus lyallii</i>	Red		CDC
?	<i>Chenopodium leptophyllum</i> var. <i>oblongifolium</i>			MTM
Flat-topped broomrape	<i>Orobanche corymbosa</i> ssp. <i>Mutabilis</i>	Red		MTM

* Observation within 500m of Protected Area, but not recorded within Protected Area boundary

** WLAP = Ministry of Water, Land and Air Protection wildlife sightings database (Penticton); CDC = Conservation Data Centre element occurrence report; MM = Mike Miller

Note: Some additional species have been documented in this Site, but are not yet recorded by CDC or WLAP.

Important Ecological Areas and Red/Blue Listed Species Observations – Chopaka East Site



Appendix IV
Ecosystem Representation in Chopaka East Site

BEC / Habitat Type	% of PA	Habitats Present	
BGxh1		5.7	
Grassland	2.9	WB	Bluebunch wheatgrass - Sandberg's bluegrass deep soil
		WS	Bluebunch wheatgrass - selaginella shallow soil
Sagebrush Shrub-Steppe	1.7	SN	Big sagebrush - needle-and-thread grass coarse-textured soil
		SS	Big sagebrush - selaginella very shallow soil
		SW	Big sagebrush - bluebunch wheatgrass mesic
Rocky Habitats	1.0	RO	Rock outcrop
		TA	Talus
		SO	Saskatoon - mock-orange talus
		YS	Yellow pine - saskatoon fan
Riparian	0.1	AS	Trembling aspen - common snowberry moist
		CD	Black cottonwood - red-osier dogwood floodplain
Fields	0.0	CF	Cultivated field
		PM	Pasture, moist
PPxh1		63.4	
Grassland	35.6	WA	Bluebunch wheatgrass - arrow-leaved balsamroot deep soil
		WF	Bluebunch wheatgrass - Idaho fescue coarse-textured soil
		WJ	Bluebunch wheatgrass - junegrass mesic
		WS	Bluebunch wheatgrass - selaginella shallow soil
Sagebrush Shrub-Steppe	2.3	SS	Big sagebrush - selaginella very shallow soil
Rocky Habitats	12.8	CL	Cliff high
		RO	Rock outcrop
		TA	Talus
		SO	Saskatoon - mock-orange talus
Riparian	1.2	AS	Trembling aspen - common snowberry moist
Dry Forest	10.5	PF	Ponderosa pine - Idaho fescue warm aspect, deep soil
		PS	Ponderosa pine - selaginella shallow soil
		PW	Ponderosa pine - bluebunch wheatgrass mesic
Moist Forest	0.9	SP	Common snowberry - pinegrass moist
Fields	0.1	PD	Pasture, dry
IDFxh1		30.9	
Rocky Habitats	1.6	RO	Rock outcrop
		SO	Saskatoon - mock-orange talus
Wetland	0.0	OW	Shallow open water
Forest	29.2	DP	Douglas-fir - pinegrass mesic
		PS	Ponderosa pine - selaginella shallow soil
		SP	Common snowberry - pinegrass moist

Ecosystem Representation – Chopaka East Site

