

# Goats Peak Regional Park Management Plan

# ACKNOWLEDGEMENTS

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Figure ii: Goats Peak Regional Park Concept

Figure 1: Regional Context

Figure 2: Goats Peak Regional Park Land Use Context

Figure 3: Goats Peak Timeline

Figure 4: Goats Peak Location

Figure 5: Opportunities and Constraints Map

Figure 6: Goats Peak Regional Park Concept

Figure 7: Goats Peak Regional Park Phasing Plan



## EXECUTIVE SUMMARY

Acquired for development as a Natural Area Park in 2014, Goats Peak Regional Park is a steep rocky outcrop landscape of grassland and open woodland rising up from the shores of Okanagan Lake in West Kelowna. The park represents a significant number of sensitive ecosystems and its 900m of shores provide spawning habitat for kokanee salmon. The park's ecosystems are generally intact and worth preserving as habitat for a number of rare and endangered species and as a regional wildlife corridor. The park is also admired for its spectacular open bluff views and rich cultural assets, particularly as it was highly regarded by First Nations People and early settlers in the area. People of all ages are expected to visit Goats Peak to experience the natural beauty of this park. Located at the western edge of the City of West Kelowna, adjacent to Peachland, Goats Peak provides a link in the regional trail and active transportation network, and serves an important role in protecting significant habitat.

As the region's population continues to grow, this natural area is, and will be, under increasing pressure from development. Growing numbers of visitors to the park will bring both opportunities for enjoyment and education along with potential impacts to the sensitive ecosystems due to human activities. With the help of volunteers, educational institutions and other government and non-government organizations, the Regional District will continue to seek to conserve and restore this ecologically significant landscape while allowing visitors to learn from and enjoy Goats Peak's unique characteristics. This management plan will be used to guide future park development, maintenance, operations and stewardship of the Regional Park.

## SITE DESCRIPTION

The 52 hectare park is comprised of two parcels, bisected by a private property. A statutory right of way agreement provides park access from the west on a privately owned access road off Seclusion Bay Road. The park is otherwise land locked from public roads. The park is otherwise land locked from public roads.

At present, there are approximately 3km of informal trails within the park. Many are eroding due to poor trail siting and unsustainable trail construction. There is evidence of some mountain bike use (signs of banking on steep turns) but informal users indicate that the park is primarily used by hikers. The lake-front, characterized by steep rock faces, provides limited public access with a small number of narrow, seasonal beaches which is highly desirable in a park where visitors can see the water from many vantage points, but cannot easily access it. The beaches are currently best accessed from the water, as few are located in areas where access from the upper level of the park is feasible.

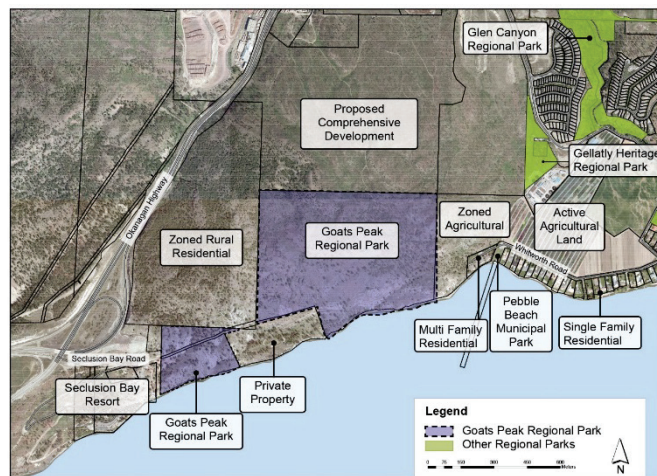


Figure i: Goats Peak Regional Park Land Use Context

## VISION & GOALS

The following vision and goals set the stage for the Management Plan. They establish a philosophical framework for use as touchstones for future evaluation of departmental plans and priorities.

### VISION

*Goats Peak Regional Park will be developed and managed to conserve regionally significant natural resources, while sensitively integrating and managing low impact outdoor activities that respect the park's long term ecological integrity. The park will facilitate interpretive and educational opportunities that increase awareness and appreciation of current and historic natural and cultural features for visitors of all ages to enjoy for years to come.*

### GOALS

#### Passive Recreation

1. Provide opportunities for low impact, passive recreation activities that support appreciation of the natural environment for all ages and abilities.
2. Provide opportunities for low impact water access to and from Okanagan Lake.
3. Provide low impact trail access through appropriate areas identified within the park.
4. Create opportunities within the park to connect with regional trail initiatives that promote active and healthy lifestyles.
5. Connect Canadians to nature.

#### Conservation

6. Conserve, restore, and enhance rare and unique ecosystems within the park.
7. Conserve and enhance habitats for rare and endangered wildlife that are likely to occur in the park.
8. Maintain the diversity of native species and ecosystems within the park.
9. Maintain the park's function as a 'green node' within a regional system of ecosystems and migratory corridors.
10. Contribute to the conservation of a regionally significant cultural landscape.
11. Maintain the unique scenic qualities and viewsapes of Okanagan Lake and its watershed.

#### Interpretation & Education

12. Develop and deliver ongoing nature interpretation programs that promote public awareness and appreciation for the natural environment.
13. Establish the park as a teaching model of best practices for natural areas within close proximity to urban centers.
14. Increase awareness and appreciation of local culture and history.

15. Conserve important historic cultural features unique to the park and within the larger regional context.
16. Increase Canadians natural environment literacy.

#### **Stewardship & Partnerships**

17. Establish an early relationship with education institutions and environmental organizations to further research the implementation of this newly created natural park.
18. Create meaningful opportunities for ongoing public involvement in park, stewardship and maintenance.
19. Continue to develop an ongoing relationship and partnership with Westbank First Nation.

## **KEY PARK MANAGEMENT ISSUES, PRIORITIES AND ACTIONS**

The following sections provide discussion and recommended actions, under four topic areas.

### **PASSIVE RECREATION**

The park is intended to provide opportunities for activities that will allow visitors to explore and appreciate the unique setting of the park in a respectful manner. With a focus on low-impact passive recreation including non-motorized trails, informal non-motorized water access, interpretive facilities and opportunities for nature appreciation, it will be possible to ensure the protection and enhancement of the park's unique natural features without impact from recreational uses. The management plan focuses on formalizing and sustainably rebuilding a primary trail network at Goats Peak, and decommissioning and restoring redundant or poorly routed trails and informal access routes from adjacent private properties.

### **CONSERVATION**

Goats Peak is a unique area of significant ecological importance. Its healthy ecosystems are regionally rare, considered threatened in the province and represent one of the most endangered landscapes in Canada. The majority of the park is rated as high environmental sensitivity and provides critical habitat for species-at-risk including those considered threatened and endangered in Canada. The park warrants a high level of protection. With care, the park will be able to support opportunities for passive recreational uses, nature interpretation and science-based research. Prudent land management decisions, supported by scientific research and cooperation of government agencies at all levels, are required to protect the future function and character of the park.

### **INTERPRETATION AND EDUCATION**

Due to its unique and sensitive setting, the park provides a valuable opportunity for interpretation and educational programming. In addition to signage, the park will provide numerous opportunities for programming and education, including further study. Interpretive themes may include natural and cultural history, geology, wildlife, and active ecological processes such as burn site restoration and kokanee spawning. The establishment of a new natural area park provides an ideal opportunity to advance the goals of conservation and restoration, as well as highlight the site's cultural history. A variety of research-oriented educational institutions, government agencies and not-for-profit groups have the capacity to help monitor the successes and challenges of opening a new park.

Cultural resources are present in the park and have, unfortunately, suffered from vandalism. As all archaeological sites have legal protection, the focus must be on protection and public education of these sensitive sites.

## **STEWARDSHIP AND PARTNERSHIPS**

There is considerable public and stakeholder support and interest in Goats Peak Regional Park. Throughout the development of the management plan, numerous environmental and conservation groups expressed interest in collaborating on stewardship initiatives to help preserve and highlight the unique site. The Regional District has the opportunity to foster collaborative relationships with these groups, as well as academic institutions, other levels of government and Westbank First Nation to further the goals of the park.

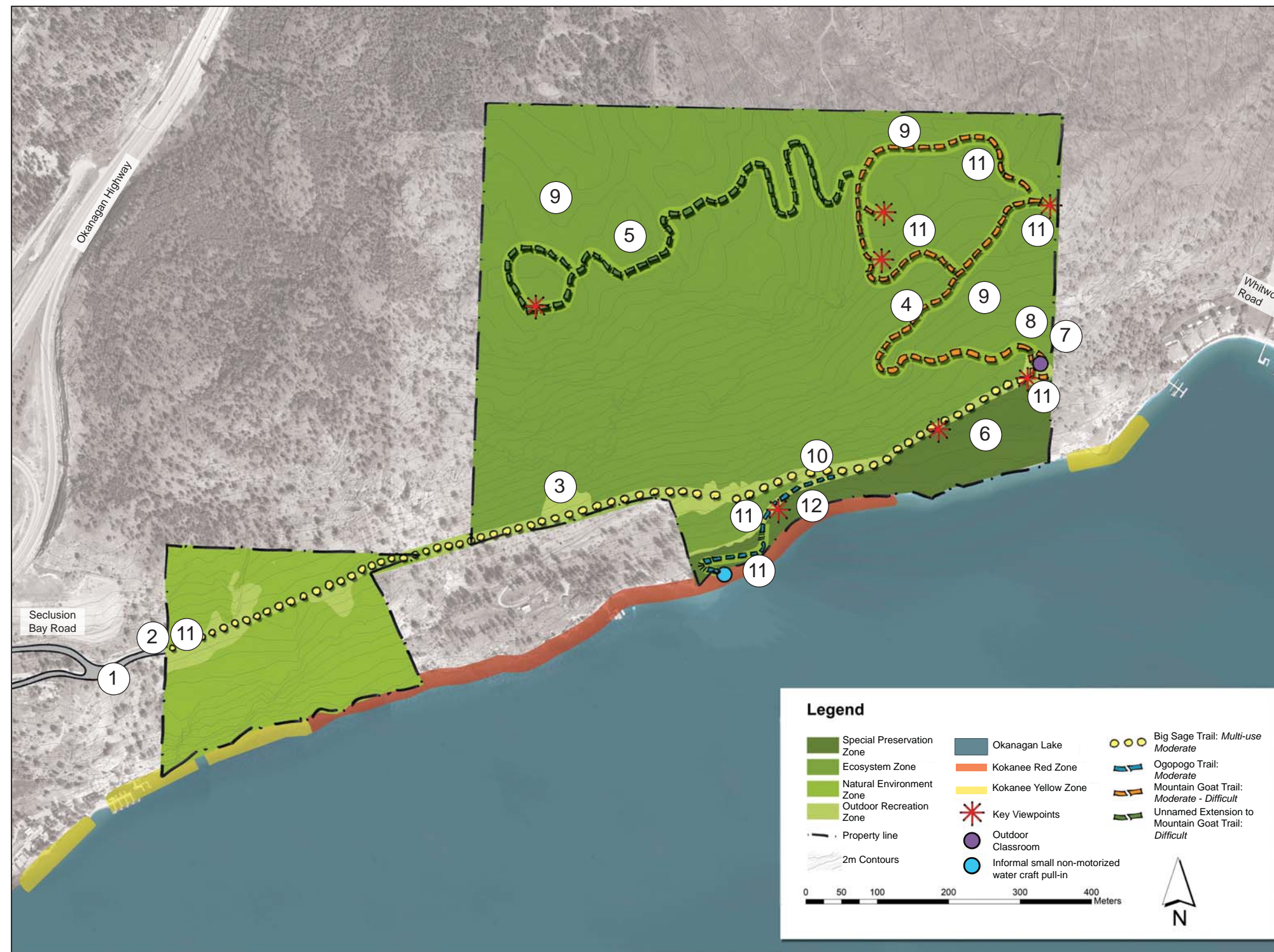
## **20 YEAR IMPLEMENTATION STRATEGY**

### **PARK DEVELOPMENT**

Following the presentation of two draft concept plans to the public and stakeholders, a final concept was developed. As shown in Figure ii, it focuses on the restoration, conservation and interpretation of the park, with low impact park infrastructure, such as trails, viewpoints, interpretive signage and an outdoor classroom to allow visitors to respectfully explore and learn about the park.



Figure ii: Goats Peak Regional Park Concept



### Key Outdoor Experience Features



▪ 2km of formalized existing trails, to be constructed with sustainable trail construction standards.

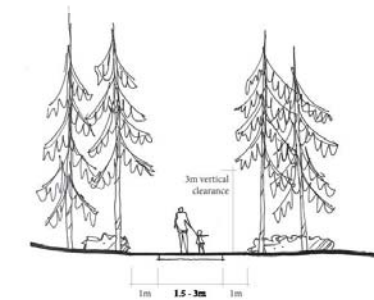
▪ Extension of existing trails to complete trail "loops" (approximately 175m additional).

▪ New *Difficult* hiking trail (approximately 1km).

▪ Small picnic area and low infrastructure outdoor classroom (using natural materials i.e. logs, boulders).

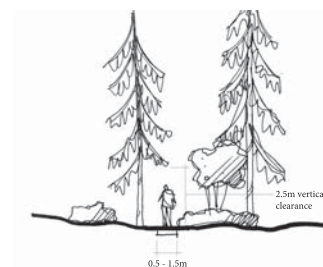
▪ Mountain biking permitted only on the Regional Active Transportation Network multi-use trail.

- 1 Small parking area.
- 2 Primary park entry including kiosk.
- 3 2km multi-use cycling and hiking trail formalized on existing access road. Part of the Regional Active Transportation Network.



- 4 *Moderate - Difficult* hiking trail: formalized existing informal trail. Short sections re-routed to avoid the need for stairs. Short extension to form a complete loop.

- 5 Single track *Difficult* hiking trail.



- 6 Restored and fenced sensitive area.
- 7 Low infrastructure outdoor classroom constructed with natural materials such as logs, boulders.
- 8 Bike rack at base of the hiking only trail.
- 9 All other informal trails decommissioned and restored.
- 10 Rockfall area restoration.
- 11 Interpretive information and signage location.
- 12 *Moderate* nature trail to the waterfront.

## **PARK OPERATIONS**

Park bylaws, operational standards and best management practices exist for the Regional District's system of regional parks, and should be followed for the operation of Goats Peak Regional Park. It is a natural area park, and contains typical inherent risks, including natural processes. Of particular note, and as a result of access road construction along the Big Sage trail in 2013, an area of rock slope may have the potential of increased chance of rock fall hazard. This area was assessed by a geotechnical professional who provided recommendations for monitoring and managing activities along this section of trail. The greatest risk for rockfall along this section of trail as well as any location with slopes above is at times of freeze thaw cycles and heavy rain events. This area should be monitored for future rock fall, and signage should be posted in order to alert the public to the hazards along the trail. Should the rock fall risk increase, protective measures could be considered including further geotechnical assessment.

## **PHASING**

A series of actions are summarized below in a phased implementation strategy. The table prioritizes the actions, provides information regarding potential partners, as well as the provision of capital and ongoing operational and maintenance funding requirements where significant. This plan does not provide specific designs or specific budget recommendations. A separate table is provided for recommended ongoing policy. All actions will be vetted by Staff and the Regional Board in future planning processes, as well as evaluated relative to resource and budget requirements.

Each action in this plan has been assessed as a short (1-5 years), short-medium (6-10 years), medium (11-15 years) or long term (16-20 years) priority. In order to meet these actions, funding should be sought through grants and partners to supplement core Regional District budgeting.

Goats Peak Regional Park Management Plan

Capital Development Plan Items						
Action Item	Action	Short Term (Yr 1-5)	Short - Medium Term (Yr 6-10)	Medium - Long Term (Yr 11-15)	Long Term (Yr 16-20)	Total (Yr 1-20)
<b>Passive Recreation</b>						
2, 3	Construct Big Sage and Ogopogo Trails	\$74,000.00				\$74,000.00
4	Design Mountain Goat Trail	\$23,000.00				\$23,000.00
4	Construct Mountain Goat Trail		\$75,000.00			\$75,000.00
5	Design the unnamed extension to Mountain Goat Trail, pending consultation & environmental studies		\$15,000.00			\$15,000.00
5	Construct the unnamed extension to Mountain Goat Trail, pending consultation & environmental studies			\$55,000.00		\$55,000.00
6	In consultation with Westbank First Nation, develop a trail name for unnamed extension to Mountain Goat Trail		staff liaison time			\$0.00
7	Directly monitor levels of park use through observations of users and installation of trail counters at park entries.	\$1,000.00	\$575.00			\$1,575.00
8	Remove and restore existing redundant informal trails.	\$15,000.00	\$30,000.00	TBD		\$45,000.00
15	Develop small parking lot at park entrance	\$12,000.00				\$12,000.00
15	Install 'comfort station' in a suitable location in the park	\$15,000.00				\$15,000.00
18	Install kiosk, park information & map at park entry	\$2,500.00			\$3,000.00	\$5,500.00
19	Install wayfinding signage and key park information at the base of Mountain Goat Trail.	\$8,500.00				\$8,500.00
20	Install bike racks at major trailheads & beginning of pedestrian only nature trails.	\$1,500.00		\$1,950.00	\$2,150.00	\$5,600.00
21	Install low-key fencing & information signage adjacent to pathways & viewpoints in Special Preservation Zone	\$45,000.00				\$45,000.00
<b>Capital by Phase</b>		<b>\$197,500.00</b>	<b>\$120,575.00</b>	<b>\$56,950.00</b>	<b>\$5,150.00</b>	<b>\$380,175.00</b>

Goats Peak Regional Park Management Plan

Action Item	Action	Short Term (Yr 1-5)	Short - Medium Term (Yr 6-10)	Medium - Long Term (Yr 11-15)	Long Term (Yr 16-20)	Total (Yr 1-20)
<b>Conservation</b>						
23	Develop a long term forest management plan. This could be undertaken as an update to the RDCO Parks Operational Wildfire Protection Plan and Urban Forest Health Strategy to include Goats Peak.		\$25,000.00	TBD	TBD	\$25,000.00
10, 32, 33, 34, 36, 55	Develop an ecosystem restoration monitoring plan. Allow for preliminary restoration work and internally developed scorecard in short term.	\$15,000.00	\$20,000.00	TBD	TBD	\$35,000.00
43	Develop Phase 2 of a Biophysical Inventory for Goats Peak Regional Park				\$25,000.00	\$25,000.00
<b>Capital by Phase</b>		<b>\$15,000.00</b>	<b>\$45,000.00</b>		<b>\$25,000.00</b>	<b>\$85,000.00</b>
<b>Interpretation and Awareness</b>						
44, 45	Implement a strong public information, education and awareness program	\$2,500.00	\$7,000.00			\$9,500.00
48	Construct a low infrastructure outdoor classroom.			\$15,000.00		\$15,000.00
49	Collaborate with the Westbank First Nation to undertake a cultural resource protection strategy including inventory of cultural resources and information related to the Okanagan peoples traditional use of the land.	\$15,000.00				\$15,000.00
<b>Capital by Phase</b>		<b>\$17,500.00</b>	<b>\$7,000.00</b>	<b>\$15,000.00</b>		<b>\$39,500.00</b>
<b>Short Term (FTE)</b>		0.15				



Goats Peak Regional Park Management Plan

Action Item	Action	Short Term (Yr 1-5)	Short - Medium Term (Yr 6-10)	Medium - Long Term (Yr 11-15)	Long Term (Yr 16-20)	Total (Yr 1-20)
<b>Stewardship and Partnerships</b>						
56	Encourage and promote a Friends of Goats Peak Regional Park society as a means of garnering community support and involvement in park management.			\$3,500.00		\$3,500.00
57	Engage the community and local stewardship groups to participate in weed removal and restoration projects		\$3,500.00			\$3,500.00
58	Implement the Regional District's Volunteer in Parks Program (VIP) to monitor trail use, to raise awareness of the ecological and cultural sensitivities of the park and provide information to park visitors.	\$3,500.00				\$3,500.00
<b>Capital by Phase</b>		<b>\$3,500.00</b>	<b>\$3,500.00</b>	<b>\$3,500.00</b>	<b>\$0.00</b>	<b>\$10,500.00</b>
<b>Short Term (FTE)</b>		0.10				
<b>Operations and Maintenance</b>						
60	Continue to follow rockfall hazard recommendations as provided by the geotechnical consultant.	\$5,000.00	TBD, based off results of monitoring			\$5,000.00
61	Integrate mitigation measures at steep transition points adjacent to steep drop offs on Big Sage Trail.	\$10,000.00				\$10,000.00
62	Provide education to Regional District staff and contractors regarding the park's conservation goals and strategies.	\$2,000.00				\$2,000.00
63	Continue to meet service levels for passively managed areas based on annual operations and maintenance costs per hectare of passively managed areas.	\$75,000.00	\$76,000.00	\$78,030.00	\$79,600.00	\$308,630.00
65	Review action priorities, estimated capital cost and required FTEs every 5 years.		\$5,000.00	\$5,500.00	\$6,000.00	\$16,500.00
<b>Capital by Phase</b>		<b>\$92,000.00</b>	<b>\$81,000.00</b>	<b>\$83,530.00</b>	<b>\$85,600.00</b>	<b>\$342,130.00</b>
<b>Short Term (FTE)</b>		0.15				
<b>Grand Total by Term</b>		<b>\$325,500.00</b>	<b>\$257,075.00</b>	<b>\$158,980.00</b>	<b>\$115,750.00</b>	<b>\$857,305.00</b>

Construction costs include 25% contingency, design and administrative costs include 15% contingency, and 2% inflation is applied beyond short term recommendations.

Goats Peak Regional Park Management Plan

Planning Items - ongoing policy	
Action Item	Action
<b>Passive Recreation</b>	
1	Construct trails to appropriate Regional District trail design standards. Re-route existing informal trails scheduled to be formalized to allow for gentle turns and less steep transitions.
9	Practice best management practices such as minimizing soil disturbance, avoiding the spread of noxious weeds, respecting native plants, animals, and respecting First Nations and cultural resources.
11	Treat restoration as an adaptive experiment. Monitor the areas for success of restoration in combination with educational institutions.
12	Do not support recreational rock climbing on the cliffs within the park due to possible ecological impacts to species-at-risk.
13	Work with adjacent land owners to develop trail access from the eastern extent of Big Sage Trail to Whitworth Road through an easement or statutory right of way.
14	As opportunities arise, assess possible park entries to the north. Limit the number and location to protect the park's sensitive areas and to limit fragmentation.
17	Develop park infrastructure according to Regional District design guidelines to ensure appropriate and consistent use of materials and standards.

Planning Items - ongoing policy	
Action Item	Action
<b>Conservation</b>	
16, 29	Permit informal non-motorized small craft landing at the beach at the bottom of Ogopogo Trail. Monitor for possible impacts from recreational use of the waterfront to ensure activities do not diminish the productive capacity of biophysical resources.
22	Manage pest management with the use of best practices until such a time as a Regional Park System Integrated Pest Management Program can be developed.
24	Monitor successional changes in grassland/sagebrush ecosystem and develop long-term plans for tree/shrub removal.
25	Develop a partnership to undertake an inventory and assessment plan for ecosystems and species at risk.
26	Wherever possible, preserve old veteran trees and snags and create wildlife trees if tree removal is planned.
27	Protect key shoreline habitat features through established mechanisms.
28	Monitor for the establishment of invasive weeds in the foreshore, particularly purple loosestrife ( <i>Lythrum salicaria</i> ) on an ongoing basis.
30	Continue to support the Ministry of Environment's efforts to monitor Kokanee shore spawning inventory numbers.
31	Participate, along with all levels of government and the First Nations, in any future lakeshore management planning initiatives.
35	Allow natural successional changes to proceed in the burn area and monitor for progress.
37	Conduct a hazard tree assessment as part of establishing any adopted trails within the burn area. Where possible, reroute trails away from any standing snags rather than removing dead trees.
38	Continue to be aware of provincial and federal conservation and restoration priorities and how these priorities can be of benefit to Goats Peak and Regional Parks in general.
39	Use the nine conservation planning principles as a suggested starting point to develop a region-wide policy
40	Explore options to expand the park boundaries to protect more complete ecosystems, ensure greater protection of critical habitat, maintain essential wildlife corridors and enhance recreational greenways.
41	Work with all levels of government, land trusts, conservation groups and private land owners to explore possible options to protect and enhance the park boundaries.
42	If future boundary expansion is not possible, advocate for the establishment of adequate buffers around the park and wildlife corridor.

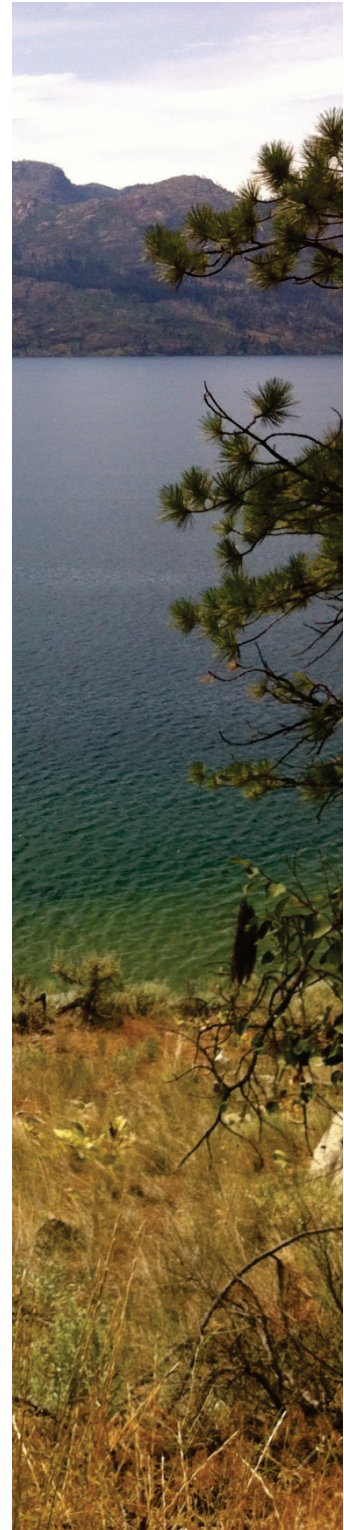
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Planning Items - ongoing policy	
Action Item	Action
<b>Interpretation and Education</b>	
46	Collaborate with Westbank First Nation to develop and co-present an information program on the WFN local culture and history.
47	Promote the park as an area of scientific study and share knowledge of management of a public park in conservation zones.
<b>Stewardship and Partnerships</b>	
50	Continue to encourage and support cooperation amongst regional partners, provincial ministries and stakeholders for the management of regional biodiversity.
51	Continue to work with the federal and provincial government environment departments to monitor for upcoming recovery strategies and management plans. Review the park management plan if further habitat protection is required.
52	Continue to work with the OCCP to keep up to date on regional conservation initiatives and ensure an integrated approach to conservation and restoration in the region.
53	Work in conjunction with the OCCP to explore opportunities for grant funding including the Habitat Conservation Trust Program and Eco-Action Community Funding Program.
54	Continue to work with the OCCP, UBC and local governments to determine requirements and actions to establish appropriate wildlife corridors to outline natural areas beyond the park boundaries.
<b>Operations</b>	
59	Work with partnering jurisdictions to assess the need for year round access and appropriate levels of winter maintenance on Big Sage Trail, as a component of the Regional Active Transportation Network.
64	Include top implementation priorities within the Regional District's annual 5 year financial plans.

## INTRODUCTION

Goats Peak Regional Park is a steep rocky outcrop landscape of grassland and open woodland rising up from the shores of Okanagan Lake in West Kelowna. The park represents a significant number of sensitive ecosystems and its shores provide spawning habitat for kokanee salmon. The park's ecosystems are generally intact and worth preserving as habitat for a number of rare and endangered species and as a regional wildlife corridor. The park is also admired for its spectacular open bluff views and rich cultural assets, particularly as it was highly regarded by First Nations People and early settlers in the area. People of all ages are expected to visit Goats Peak to experience the natural beauty of this park.

As the region's population continues to grow, this natural area is, and will be, under increasing pressure from development. Growing numbers of visitors to the park will bring both opportunities for enjoyment and education along with potential impacts to the sensitive ecosystems due to human activities. With the help of volunteers, educational institutions and other government and non-government organizations, the Regional District will continue to seek to conserve and restore this ecologically significant landscape while allowing visitors to learn from and enjoy Goats Peak's unique characteristics. This management plan will be used to guide future park development, maintenance, operations and stewardship of the Regional Park.





## LOCATION AND CONTEXT

Goats Peak Regional Park is one of 30 Regional Parks in the Central Okanagan Regional District.



Figure 1: Regional Context

Located at the western edge of the City of West Kelowna, adjacent to Peachland, Goats Peak provides a link in the regional trail and active transportation network, and serves an important role in protecting significant habitat.

The 52 hectare park is comprised of two parcels, bisected by a private property. It is located on Okanagan Lake and is bordered by private lands to the north and east. A statutory right of way agreement provides park access from the west on privately owned access road off Seclusion Bay Road. It is currently the only point of land access to the park, which is otherwise land locked from any other public roads.

A proposed comprehensive development to the north of Goats Peak would bring a significant population increase to the area, which could negatively impact the sensitive ecosystems, if the park is not planned and managed well.

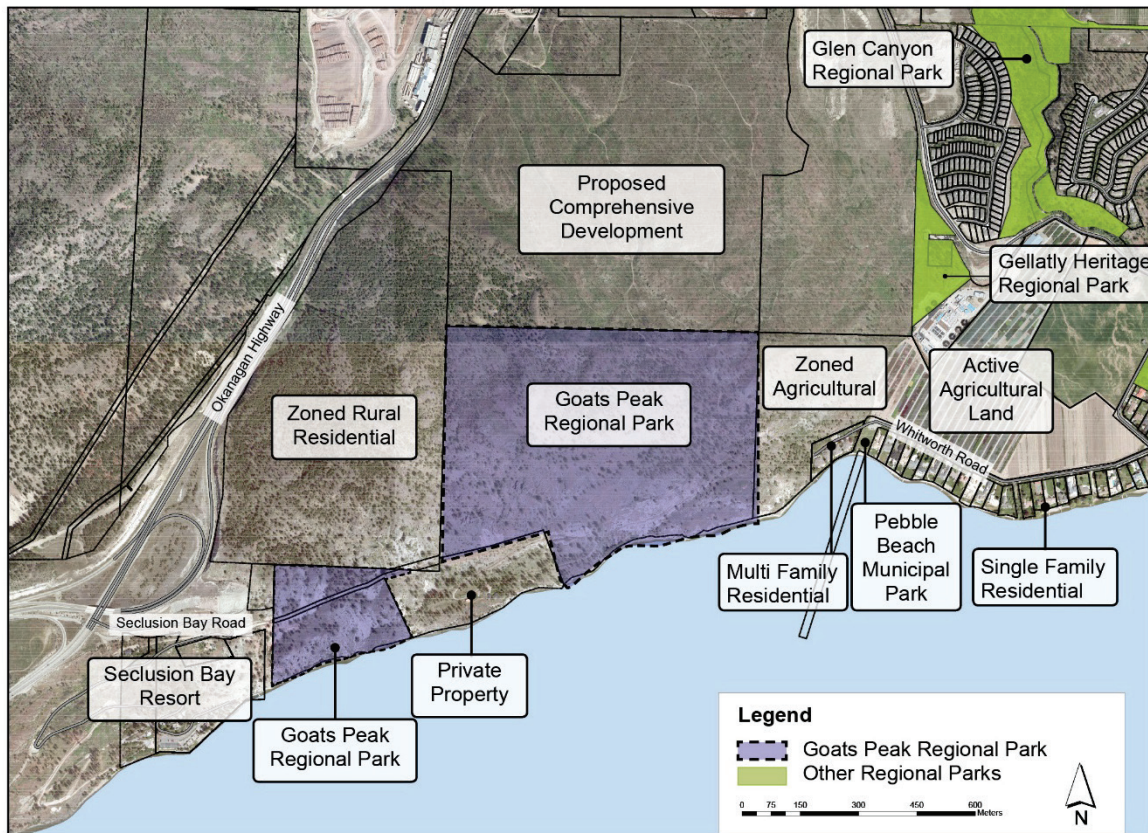


Figure 2: Goats Peak Regional Park Land Use Context

## ECOLOGICAL CONTEXT

Goats Peak holds significant ecological value at both the regional and provincial levels. It is useful to consider its ecological value within both of these contexts to highlight the value of the natural resources within the park and align conservation and restoration actions with broader priorities and goals<sup>1</sup>.

From a socio-economic perspective, this ecosystem provides valued outdoor green space and recreational opportunities, adds high scenic quality to the Okanagan valley, creates opportunities for environmental research and education, supports eco-tourism, increases local property values and protects historic and cultural resources<sup>2</sup>.

1. It should be noted that not all the features described within the Provincial and Regional context apply equally to Goats Peak Regional Park.

2. Iverson, K. and C. Cadrin. 2003. *Sensitive Ecosystems Inventory: Central Okanagan, 2000 – 2001. Volume 1: Methodology, Ecological Descriptions, Results and Conservation Tools. Technical Report Series No. 399, Canadian*

## Provincial Context

The Central Okanagan basin of British Columbia is an area of great ecological significance within both BC and Canada. It is an area with high biodiversity values and many rare and endangered ecosystems, plant and animal species<sup>3, 4</sup>. The Ponderosa Pine Zone, of which Goats Peak is a part, represents approximately one percent of the province's land base. Historical mapping records show that 80% of this zone has been lost in the last 100 years due largely to urban expansion, agriculture, livestock grazing and fire suppression. Remaining areas are sensitive to disturbance and have low rates of productivity due to limited rainfall. Ecologically, this biogeoclimatic zone has attributes recognized by the BC Conservation Data Centre (BC CDC) as critically important due to their rarity, fragility and high biodiversity<sup>5</sup>. The Ponderosa Pine Zone also includes specialized habitat for many species that are nationally ranked by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as endangered, threatened or of special concern, or are provincially ranked as red-listed or blue-listed.

## Regional Context

The Okanagan Collaborative Conservation Program (OCCP) recently undertook a joint Biodiversity Conservation Strategy for the Okanagan Region with the South Okanagan Conservation Program.<sup>6</sup> This project provided an assessment of the relative significance and sensitivity of various ecosystems and their conservation status within the region at a closer scale. The analysis highlighted that valley bottoms in the entire region, as represented by the dry, hot forested/grassland phases of the interior Douglas-fir and Ponderosa pine ecosystems, as found in Goats Peak Regional Park, are key areas for biodiversity protection.

The OCCP assessed Goats Peak as "High" Conservation Ranking and "Moderate to High" importance for habitat connectivity.<sup>7</sup>

*Of the total 2.2 million hectares of land within the Okanagan Valley:*

- *Only 28,060 hectares (1.3%) is represented by the Bunchgrass biogeoclimatic zone, and*
- *Only 150,0177 hectares (6.6%) is represented by the Ponderosa Pine biogeoclimatic zone, emphasizing the significance of Goats Peak's vegetation communities in the regional landscape.*

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*Wildlife Service, Pacific and Yukon Region, British Columbia.*

[http://a100.gov.bc.ca/appsddata/acat/documents/r1757/sei\\_4196\\_rpt01\\_SEI\\_\\_1111091325256\\_e9ba873828cd4c4f96a5d99edce00e12.pdf](http://a100.gov.bc.ca/appsddata/acat/documents/r1757/sei_4196_rpt01_SEI__1111091325256_e9ba873828cd4c4f96a5d99edce00e12.pdf)

3. *Biodiversity BC. 2008. Taking Natures Pulse: The Status of Biodiversity in British Columbia.*

<http://www.biodiversitybc.org/EN/main/downloads/tnp-introduction.html#sexec>

4. *Okanagan Collaborative Conservation Program, South Okanagan-Similkameen Conservation Program. 2014. A biodiversity conservation strategy for the Okanagan region.*

[http://a100.gov.bc.ca/appsddata/acat/documents/r42389/ABiodiversityStrategyfo\\_1425071681093\\_5071573148.pdf](http://a100.gov.bc.ca/appsddata/acat/documents/r42389/ABiodiversityStrategyfo_1425071681093_5071573148.pdf)

5. *BC Ministry of Environment Conservation Data Centre website:* <http://www.env.gov.bc.ca/cdc/access.html>

6 *Okanagan Collaborative Conservation Program, South Okanagan-Similkameen Conservation Program. 2014. A biodiversity conservation strategy for the Okanagan region.*

[http://a100.gov.bc.ca/appsddata/acat/documents/r42389/ABiodiversityStrategyfo\\_1425071681093\\_5071573148.pdf](http://a100.gov.bc.ca/appsddata/acat/documents/r42389/ABiodiversityStrategyfo_1425071681093_5071573148.pdf)

7 *Carol Luttmmer Coordinator. Okanagan Collaborative Conservation Program. Personal communications. 8 August, 2015.*

## HISTORY AND DESIGNATION

There is evidence of First Nations use of the land, as well as more recent historical use.

The Goats Peak area has a long history of First Nations and European settlement use. The lands around Goats Peak hold significant value to the Okanagan First Nation people, and there is evidence of their use of the land. The early Europeans in the 1800's used land to the West of Goats Peak, along the Fur Brigade trail as a means of transporting goods, such as furs for trading, for the Hudson's Bay Company. European settlement of the lands near Goats Peak did not occur until the early 1900's, with the Gellatly family settling on the Powers Creek delta to the East.

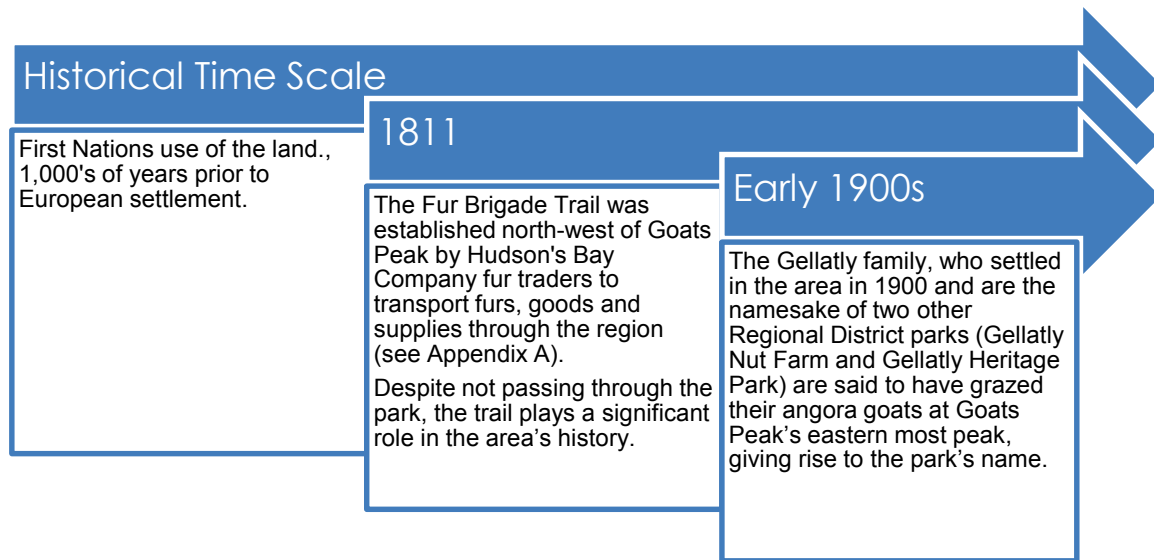


Figure 3: Goats Peak Timeline



Figure 4: Goats Peak Location.

In 2014, following many years of local interest in the privately owned property for recreational and conservation purposes, the Regional District purchased the property (Lot 1, Plan EPP31107, District Lot 4494, O.D.Y.D.) with funds from the Regional Parks Legacy and Park Land Reserve



Fund. It has been designated as a Natural Area Park in order to provide the Central Okanagan community with:

- Passive recreation opportunities;
- Public connections to Okanagan Lake;
- Conservation of natural areas and ecosystem services;
- A key section of a future Regional Active Transportation connection between Peachland and City of West Kelowna;
- Protection of local viewsapes;
- Preservation of accessible areas along the Okanagan Lake shoreline for the enjoyment of all Central Okanagan residents;
- Long term sustainability and character of the Okanagan Valley, and
- Protection of land for the enjoyment of future generations.

Regional Natural Area Parks contain a variety of uses and areas of preservation, conservation and recreation. These lands are generally maintained in their natural state but may include environmentally sensitive parkland development. As a Natural Area Park, Goats Peak will provide opportunities for increasing awareness and knowledge of the natural environment of the Okanagan Valley. By virtue of definition, it contains regionally significant features of geology, physiography, vegetation communities, or wildlife habitat (Regional District Bylaw #884).

## PHYSICAL SITE DESCRIPTION

Goats Peak Regional Park is a steep rocky outcrop landscape of grassland and open woodland rising up from the shores of Okanagan Lake.

### EVIDENCE OF USE

The park is currently undeveloped and there are signs of unsanctioned recreational use of the property, including a network of informal trails, camping, camp fires and graffiti on some of the rock faces.

#### Access Road

A gravel surfaced access road runs east-west through the park. The first kilometer functions as driveway access to the private property and also serves as the main operational access and recreational trail access for park users. The access road sits on a slope bench cut, with steep slopes and cliffs above and below the access road.



#### Informal Trails

At present, there are approximately 3km of informal trails within the park – primarily in the north-east. As shown in Figure 5 (page 10), a number of informal trails lead into the park from the east, north and south. Current users also access the park from the south-east, walking along the shoreline when lake levels are low.

Many of the informal trails are eroding due to poor trail siting and unsustainable trail construction. The park has a history of mountain bike and motorized off-road vehicle use, with users accessing the park from the north. This use has decreased since 2009, when a significant forest fire resulted in changes to trail conditions, including an increase in hazards, such as felled trees across trails.

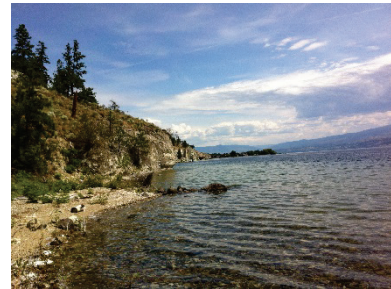
Today, there is evidence of some mountain bike use (signs of banking on steep turns) but informal users indicate that the park is primarily used by hikers.

Existing informal trails bring park visitors to key viewpoints, including the summit of Goats Peak, highlighting the park's spectacular views across the rest of the park, towards West Kelowna and across Okanagan Lake.



## WATERFRONT

Goats Peak's 900 meters of waterfront, characterized by steep rock faces provides limited public access with a small number of narrow, seasonal beaches. The beaches are not large, however, they could potentially provide access to the lake, which is highly desirable in a park where visitors can see the water from many vantage points, but cannot easily access it. The beaches are currently best accessed from the water, as few are located in areas where access from the upper level of the park is feasible.



## BIOPHYSICAL

Goats Peak Regional Park is a healthy and robust representative example of the Ponderosa Pine biogeoclimatic zone.<sup>8</sup> The park contains:

- A unique and diverse assemblage of woodland, grassland, shrub-steppe, rock outcrop, and riparian habitat for a wide variety of wildlife including 4 provincially red-listed ecosystems and 4 provincially blue-listed ecosystems.
- Potentially 9 rare/endangered/special concern vascular plant species, 6 endangered and 8 threatened vertebrate and invertebrate species according to COSEWIC's designation, representing 32 provincially red-listed and 17 blue-listed species following the British Columbia Conservation Data Centre (BC CDC).

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<sup>8</sup> BC Ministry of Environment Conservation Data Centre website: <http://www.env.gov.bc.ca/cdc/access.html>

- Four key regionally significant ecological features:
  - The shrub / grassland ecosystem with a well-developed big sagebrush (*Artemisia tridentata*) plant community, which is significant as it is near the northern edge of its range;
  - A regionally and provincially unique assemblage of rare and endangered plant communities that provide important habitat for sensitive species;
  - The steep slopes, cliffs and sparsely vegetated areas add to the ecological diversity of the woodland, shrubland, and grassland slopes and provide important habitats for species of concern, particularly reptiles, and
  - Goats Peak's shoreline is retained in a largely natural state and offers critically important riparian and aquatic habitat.

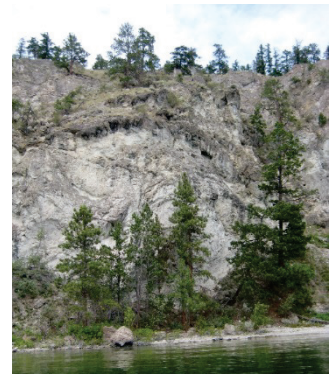
In 2015, Ecoscape Environmental Consulting Ltd prepared a baseline Biophysical Inventory and Environmental Assessment for Goats Peak Regional Park to describe the bio-terrain and landform information, as well as describe and document habitats and provide an overview of existing and potential wildlife species in the park. The environmental sensitivity analysis classified the park based off ESA ratings and applied a corresponding recommended management zone, as shown below in Table 1 and Figure 5.

Table 1: Summarized from Ecoscape (2015)

ESA Rating	% of Park	Description	Management Zone
<b>Very High</b>	18.9%	<ul style="list-style-type: none"> <li>▪ Rare Big Sage – Bluebunch Wheatgrass – Balsamroot ecosystem</li> <li>▪ Sensitive shoreline</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ecosystem Zone: careful balance between recreation use and conservation. Increased access should be carefully planned and restricted. Unsanctioned trail construction should be discouraged. Fencing, invasive plant control, restoration planting and signage are recommended.</li> </ul>
<b>High</b>	66.8%	<ul style="list-style-type: none"> <li>▪ Woodland ecosystems</li> <li>▪ Sparsely vegetated rock outcrops</li> </ul>	<ul style="list-style-type: none"> <li>▪ Natural Environment: recreational activities within these areas should be limited to low impact hiking on existing trails. Where possible, disturbed areas should be restored.</li> </ul>
<b>Moderate</b>	14.3%	<ul style="list-style-type: none"> <li>▪ Access road, associated cutbanks</li> <li>▪ Burn areas (2009 fire)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Outdoor Recreation: once the preferred trail network is identified in the park, this zone may expand to include the entire buffered trail network.</li> </ul>

## GEOLOGY

Goats Peak Regional Park is a steeply sloped, rocky site. Most of the park's geology is characterized by bedrock and colluvium, with glacial fluvial sediments present along the lower reaches of the park that overlook Okanagan Lake. Surficial materials are composed of veneers of sand and gravel

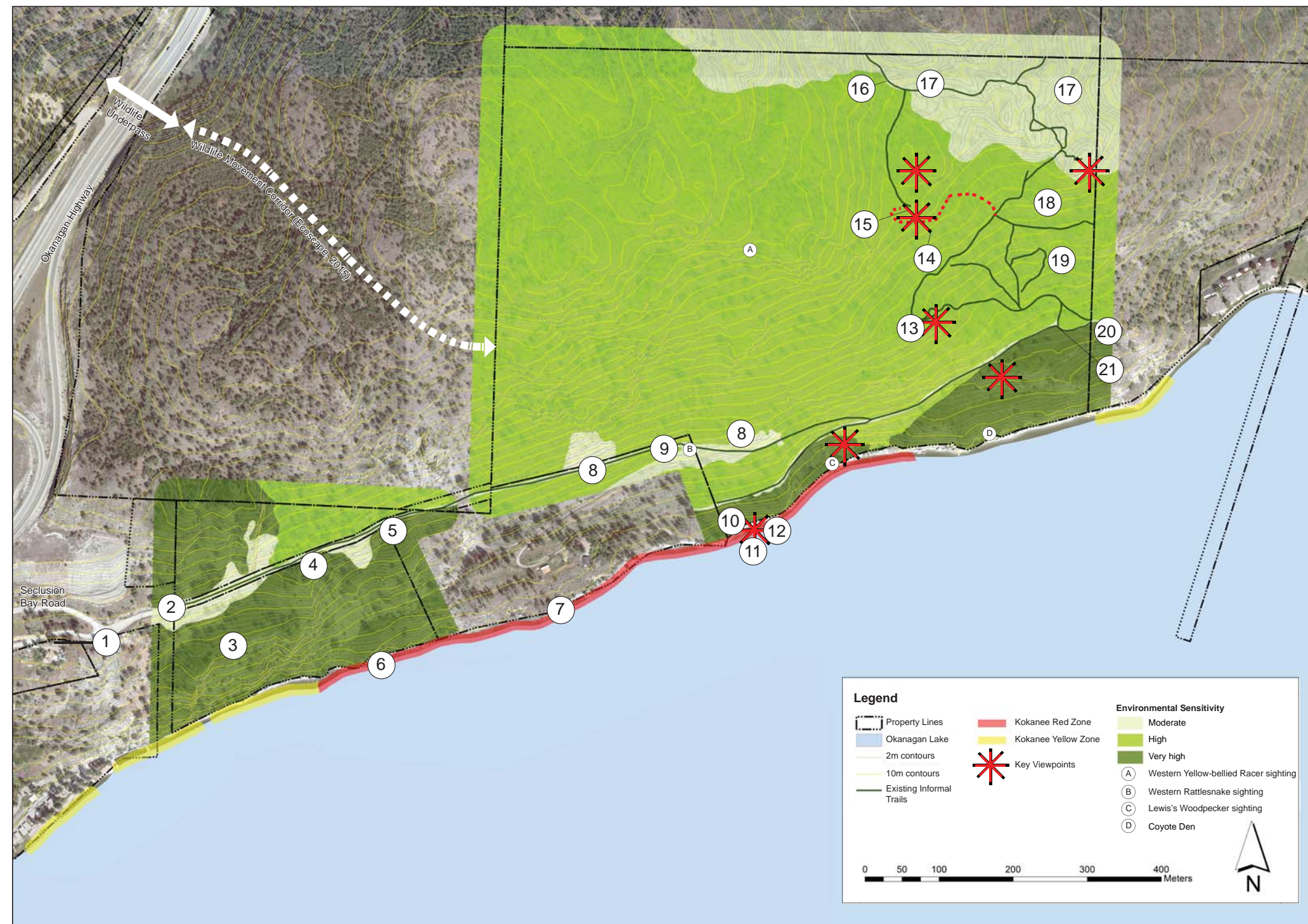


interspersed with areas of exposed bedrock (Ecoscape, 2015). As shown in Figure 5, much of the park is extremely steep, leading to issues of erosion, and challenges in siting universally accessible trails, but easily facilitating significant areas of limited human access.

Figure 5, on the next page, highlights a series of site opportunity and constraints, many of which have been described above.



Figure 5: Site Opportunities & Constraints



- The park is comprised of two parcels, 52 hectares in total size, bisected by a private property.
- The park consists of a mixture of ecosystem habitat types – grasslands, sparse forests, shrub-steppe, riparian foreshore and rugged steep rocky slopes.
- Some rare and endangered ecosystems in the park are considered to be high to very high environmentally sensitive habitats – red and blue-listed ecosystems with the potential for red and blue listed plants and wildlife to occur within them.
- Species at risk have potential to occur in the park and some species at risk, such as the Lewis' woodpecker and western rattlesnake, are known to occur in the park.
- 520 meters of the 900m shoreline has been designated Kokanee Red Zone, important aquatic habitat for kokanee spawning, by the Ministry of Forests, Lands and Natural Resource Operations.
- Evidence of First Nations historical use of the land.

- (13) Trail provides access to higher areas of the park.
- (14) Opportunity to formalize intermittent informal trail to provide a loop trail.
- (15) Remnants of a campfire and litter found. Opportunity to remove debris and restore.
- (16) Existing trail connects to an area shown as Environmentally Sensitive within adjacent property's Comprehensive Development Plan.
- (17) Opportunity for further restoration and interpretation of forest fire burn sites.
- (18) Potential conflict between hikers and mountain bikers on steep secondary trails.
- (19) Steep and eroded trails should be rebuilt or decommissioned.
- (20) Access to the site is currently constrained.
- (21) Trail is challenging to locate. If retained, the trail should be formalized.

- (1) Opportunity for trailhead parking in consultation with City of West Kelowna.
- (2) Trailhead kiosk and signage (by others) will create a formalized park entry.
- (3) Future use in this zone is restricted by steep slopes and very high environmental sensitivity.
- (4) Trail design (by others) to provide multi-use trail access across the site via existing access road. Opportunity for directional and wayfinding signage.
- (5) Steep drop off is hazardous. Opportunity for a combination of fencing, education and signage.
- (6) No opportunity for waterfront trail due to steep terrain, and high environmental sensitivity including Kokanee red zone.
- (7) Lack of continuous park property further limits potential for connection.
- (8) Rockfall hazard area. Areas of natural rockfall create a potential hazard for trail users.
- (9) Presence of noxious invasive weeds along roadway.
- (10) Opportunity to formalize or decommission existing trail desire lines.
- (11) Opportunity as a potential kayak pull in. No structures to be installed, due to Kokanee red zone. Other sites may be available seasonally when water levels are lower.
- (12) Trail design (by others) to provide trail access to waterfront.



## CONSULTATION PROCESS SUMMARY

The consulting team met with stakeholder groups and the public. Feedback was used to inform and support the key findings, concept development and recommended actions and priorities. Two draft concepts (Appendix I) were presented and feedback used to develop the final, recommended concept (page 39).

### **Stakeholder Groups**

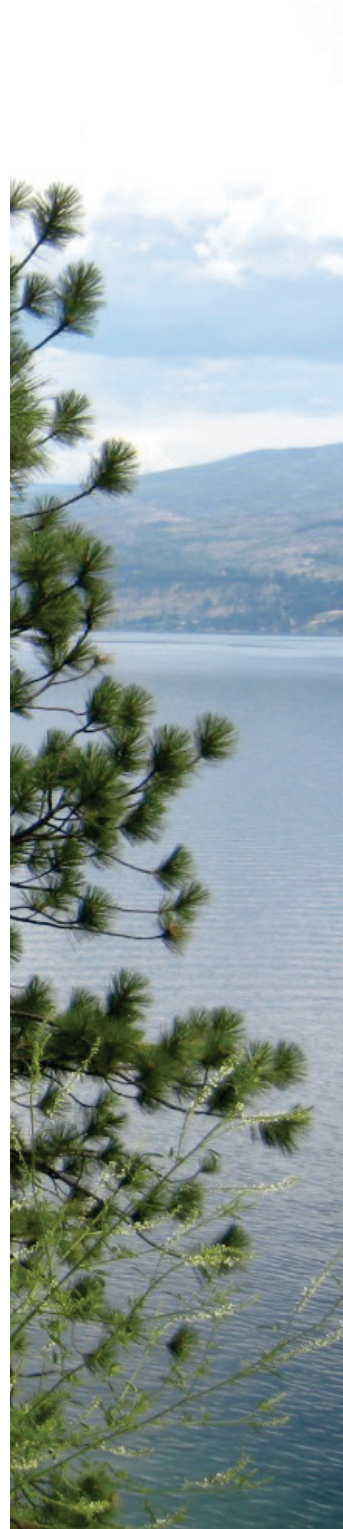
Invitations to group interview sessions were extended to 23 stakeholder groups. Information was summarized and used to help inform the concept development and recommendations. In-depth discussions including review of relevant site information was held with key environmental groups and government departments familiar with the site.

### **Public Open House Event**

The public was engaged through an open house event. The format included informal discussion with Staff and the consultant team, and the opportunity for attendees to review a site analysis summary, two draft concepts, a vision and goals and environmental strategies. Hardcopies of the public questionnaire were also made available. The event was attended by 18 members of the public. Feedback was detailed, thoughtful, and supportive of the direction of the draft.

### **Public Questionnaire**

An open access web questionnaire was made available to interested citizens through a web link provided at an open house event and through community publications and notices. 18 on-line questionnaires were completed. Results are included in Appendix B and were used to help inform the concept development and recommendations. Results showed overwhelming support (81%) for the draft Vision Statement and draft Goals (all rated between 4.64 and 4.86 out of 5.00 (1= I don't support to 5= fully support)).





## VISION & GOALS

The following vision and goals set the stage for the Management Plan. They establish a philosophical framework for use as touchstones for future evaluation of departmental plans and priorities.

### VISION

*Goats Peak Regional Park will be developed and managed to conserve regionally significant natural resources, while sensitively integrating and managing low impact outdoor activities that respect the park's long term ecological integrity. The park will facilitate interpretive and educational opportunities that increase awareness and appreciation of current and historic natural and cultural features for visitors of all ages to enjoy for years to come.*

### GOALS

#### PASSIVE RECREATION

1. Provide opportunities for low impact, passive recreation activities that support appreciation of the natural environment for all ages and abilities.
2. Provide opportunities for low impact water access to and from Okanagan Lake.
3. Provide low impact trail access through appropriate areas identified within the park.
4. Create opportunities within the park to connect with regional trail initiatives that promote active and healthy lifestyles.
5. Connect Canadians to nature.

#### CONSERVATION

6. Conserve, restore, and enhance rare and unique ecosystems within the park.
7. Conserve and enhance habitats for rare and endangered wildlife that are likely to occur in the park.
8. Maintain the diversity of native species and ecosystems within the park.
9. Maintain the park's function as a 'green node' within a regional system of ecosystems and migratory corridors.



10. Contribute to the conservation of a regionally significant cultural landscape.
11. Maintain the unique scenic qualities and views of Okanagan Lake and its watershed.

## **INTERPRETATION & EDUCATION**

12. Develop and deliver ongoing nature interpretation programs that promote public awareness and appreciation for the natural environment.
13. Establish the park as a teaching model of best practices for natural areas within close proximity to urban centers.
14. Increase awareness and appreciation of local culture and history
15. Conserve important historic cultural features unique to the park and within the larger regional context.
16. Increase Canadians natural environment literacy.

## **STEWARDSHIP & PARTNERSHIPS**

17. Establish an early relationship with education institutions and environmental organizations to further research the implementation of this newly created natural park.
20. Create meaningful opportunities for ongoing public involvement in park, stewardship and maintenance.
21. Continue to develop an ongoing relationship and partnership with Westbank First Nation.

## KEY PARK MANAGEMENT ISSUES, PRIORITIES AND ACTIONS

The following sections provide discussion and recommended actions, under four topic areas:

- Passive Recreation;
- Conservation;
- Interpretation and Education, and
- Stewardship and Partnerships.



## PASSIVE RECREATION

Goats Peak is intended to provide opportunities for activities that will allow visitors to explore and appreciate the unique setting of the park in a respectful manner. With a focus on low-impact passive recreation including non-motorized trails, informal non-motorized water access, interpretive facilities and opportunities for nature appreciation, it will be possible to ensure the protection and enhancement of the park's unique natural features without impact from recreational uses.

This section of the management plan explores issues and actions associated with passive recreation including impacts of use, trails, site amenities and park access.

### TRAILS

The primary form of park infrastructure at Goats Peak will be a network of trails. Proposed trails are illustrated on the park concept plan on page 39.

#### Trail Standards and Classification

User experience is a key consideration in the planning and design of trails. The trails need to provide a safe space for a range of user experiences and skill levels. In settings such as Goats Peak, user experience is also key to the environmental protection of sensitive ecosystems – if users are not satisfied with the trail system, they will likely continue to build unsanctioned trails.






The application and highlighting of a formalized trail classification system allows users to better select trails that meet their skill level and desired experience. A formalized system also provides stakeholders with a better understanding of the requirements for a particular trail during planning, construction and maintenance.

The Regional District recently developed Regional Parks Design Guidelines including a trail classification system. This not only provides appropriate guidelines for tread width, surfacing, slope and anticipated levels of accessibility but also ensures a consistent language of materials and trail typographies across the regional park system, allowing greater predictability for users who frequent multiple parks within the system. In addition to trail construction standards, trails should be signed so that users are aware of the level of difficulty of the trail on which they are about to embark. This can be achieved through signage and the use of easily recognizable symbols on the Regional District's standard trail blaze wayfinding. These systems are best designed and implemented across the entire park system to integrate consistency for visitors who frequent a number of different parks.

A series of trails of varying levels of difficulty are proposed. Trail names were established jointly with Westbank First Nation.

#### Goats Peak Goals

1. Provide opportunities for low impact, passive recreation activities that support opportunities for appreciation of the natural environment for all ages and abilities.
2. Provide opportunities for low impact water access to and from Okanagan Lake.
3. Provide low impact trail access through appropriate areas identified within the park.
4. Create opportunities within the park to connect with regional trail initiatives that promote active and healthy lifestyles.

Trail Name	Description	Classification	Users	Level of Difficulty
<b>Big Sage Trail</b>	Main trail from Seclusion Bay Road entrance through to east boundary. Will form part of the regional active transportation network.  In the future, a connection through to Whitworth Road is desired.	Multi-Use	Pedestrians and Cyclists  Regional District Parks Services (operational access)	Moderate 
<b>Ogopogo Trail</b>	Trail heading from Big Sage Trail to the waterfront	Nature Trail	Pedestrians	Moderate 
<b>Mountain Goat Trail</b>	North-east trail loop	Nature Trail	Pedestrians	Moderate - Difficult  
<b>Unnamed (extension to Mountain Goat Trail)</b>	North trail	Nature Trail	Pedestrians	Difficult 

### Permitted Trail Uses

Permitted trail uses are limited by the sensitivity of the park's ecosystems, as well as the size and steepness of the park. Primary desired users are pedestrians, hikers, trail runners and on-leash dog walkers. Cyclists are permitted on Big Sage Trail, which is wider and less steep, is zoned as lower ecosystem sensitivity, and is designed as a section of the regional active transportation network.

Public and stakeholder feedback strongly supported limiting cycling in the park to the Big Sage Trail. Other trails in the park are less suited to multi-use due to both ecological sensitivity, but also to their limited appeal for mountain biking. The trails at Goats Peak are steep and narrow, which would be challenging for beginners and at the designated widths would likely lead to conflict with hikers. The size of Goats Peak Regional Park further limits its attraction for more advanced mountain bikers as there is inadequate length of trail. With numerous mountain biking destinations nearby, including Powers Creek, Goats Peak is unlikely to see high demand.

## Trail Decommissioning and Restoration

Historically, the Okanagan interior dry zones were heavily damaged and fragmented by recreational uses including off-road vehicles, mountain bikes, horseback riding and trail construction. The land is very fragile as a result of drought conditions and thin, weak erodible soils that are slow to recover and very susceptible to erosion and concomitant weed infestation. The most sensitive feature is the microbiotic soil crust amongst grasslands and sparsely vegetated rock outcrops, which takes decades to build<sup>9</sup>.

Goats Peak Regional Park has suffered environmental damage from historic unsanctioned trail construction, off-road vehicle use and occasional camping. Trails occur in both the very-high rated grassland/steppe community and the upper open forests, in high ESA rated areas. Fortunately, overall, damage appears to be limited in scale and distribution.

Recreational use can cause soil compaction, soil erosion, tree decline and loss of native plants. The biggest concern in this situation is infestation from invasive weeds. As a trail plan is adopted, there are approximately 1,250 meters of unwanted trails to be closed representing a net gain in habitat creation over the 1,175 meters of trails to be added/upgraded.

Restoration of the grasslands will be particularly difficult as a result of thin soils and low moisture. A combination of native planting and habitat complexing (rock, logs) will be required. Some success may be achieved by hydroseeding with native seed mixes. However, higher success at restoring grasslands has been achieved by contract growing plants from local seeds, planting out plugs and incorporating native soil arbuscular mycorrhizal fungus.

The management plan focuses on formalizing and sustainably rebuilding a primary trail network at Goats Peak, and decommissioning and restoring redundant or poorly routed trails and informal access routes from adjacent private properties. Many of the retained trails follow existing informal trails. However, in some cases sections of trails can be rerouted for gentler turns and less steep transitions, to meet improved design standards.

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9. Iverson, K. and C. Cadrin. 2003. *Sensitive Ecosystems Inventory: Central Okanagan, 2000 – 2001. Volume 1: Methodology, Ecological Descriptions, Results and Conservation Tools. Technical Report Series No. 399, Canadian Wildlife Service, Pacific and Yukon Region, British Columbia.*



**Actions**

1. Construct trails to appropriate Regional District trail design standards to ensure the protection of the natural environment while offering safe and enjoyable opportunities for trail users. Re-route existing informal trails scheduled to be formalized to allow for gentle turns and less steep transitions.
2. Construct Big Sage Trail.
3. Construct Ogopogo Trail.
4. Design and construct Mountain Goat Trail.
5. Design and construct the unnamed extension to Mountain Goat Trail, pending consultation and the results of the recommended environmental studies.
6. In consultation with Westbank First Nation, develop a name for the unnamed extension to Mountain Goat Trail.
7. Directly monitor the levels of park use through observation of users and installation of trail counters at park entries.
8. Decommission existing redundant informal trails and install physical barriers next to trail closures to prevent public access.
9. Practice best management practices such as minimizing soil disturbance, avoiding the spread of noxious weeds, respecting native plants, animals, and respecting First Nations and Cultural resources.<sup>29</sup>
10. Undertake restoration plantings utilizing hydroseeding native plants coupled with habitat complexing. Implement restoration plantings in the very high ESA-rated grasslands area first as a high priority.
11. Treat restoration as an adaptive experiment, since the science of grassland restoration is still evolving. Monitor the areas for success of restoration in combination with educational institutions.
12. Do not support recreational rock-climbing on the cliffs within the park due to possible ecological impacts to species-at-risk.

## **SITE AMENITIES AND PARK ACCESS**

In addition to trails, key low infrastructure structures and park amenities are proposed. Where they exist, these amenities should be designed to the standards outlined in the Regional Parks Design Guidelines. Fencing will be required to denote decommissioned trails, park boundaries and to outline sensitive areas and steep drop offs. A 'comfort station' outhouse is recommended at the park entry parking lot or at another suitable location within the park.

### **Park Access**

At present, the main park entrance and access is located off Seclusion Bay Road. This shared access is for pedestrians, cyclists, operation vehicles, and to access the private property between the two bisected parcels of the park. Vehicle access into the park for park visitors is not recommended in the concept.

In the future, additional pedestrian and multi-use entry points to the park will be desired. Until a connection can be made east of Big Sage Trail, the trail will be a disconnected element to the regional active transportation system. Consideration for additional entry points should be considered as opportunities arise with adjacent land owners, with thought given to volume of park users, sensitivity of the park zone in which the possible entry point is situated, as well as consideration for limiting the number of park entries to protect sensitive ecosystems and to reduce the possibility of further habitat fragmentation.

### **Parking and Trailheads**

The concept indicates parking and a primary trailhead be designated at the only park entry. Space limitations dictate that the park will only have a small amount of parking, which will need to be designed and constructed in consultation with the City of West Kelowna.

Trailheads with park information and bike racks can help to denote the transition from multi-use family trails in the southern portion of the park, to the pedestrian only Mountain Goat trail in the north of the park.

### **Water Access**

Due to the sensitivity of the foreshore, water access at Goats Peak should be limited to low volume, informal boat access by non-motorized craft, such as canoes and kayaks through "pull in" access. Boat launching facilities and built structures such as docks or ramps should not be constructed. Ogopogo Trail will allow visitors to move between the Big Sage Trail and the waterfront, but will not be designed to facilitate the transport of boats.



### **Signage and Wayfinding**

Signage is a crucial aspect of all trail systems as it provides a base level of information that reassures new and novice users, explicitly outlines rules and etiquette, underpins risk management, can add to the enjoyment of the walk or ride and enhances visitor understanding of the natural environment and ecology. Signage and wayfinding within a park of this size are key to achieving positive user experiences, and for ensuring park goals including conservation, educational and interpretive opportunities are maximized. The Regional Parks Design Guidelines contain a series of signage standards and should be used to ensure consistent messaging, aesthetic fit, legibility, maintenance and affordability. It can also help to foster public pride in the cleanliness, maintenance and safety of the trails by using approachable language

without being overly regulatory in nature. Proper signage, in tandem with the provision of a variety of trail experiences and progression of trail difficulty levels, will result in users being more likely to choose the most appropriate trail for their skill level, lowering the risk of injury, and leading to more enjoyable experiences. Trail signage is a vital component to a trail classification system – without adequate signage trail users are not able to assess the suitability of a trail.



#### *Trailhead Signage*

Trailhead signs at major access points to the park orient users, communicate and teach trail etiquette, and provide cautionary information about safety concerns and hazards - ensuring that trail users understand and assume risks associated with their activities along the trails. Signs should warn of major dangers (e.g. steep drop offs), postings regarding maintenance, and details outlining users responsibility for their own safety and use of the trails at their own risk.

#### *Wayfinding*

Wayfinding signs along trails, in conjunction with trailhead maps, orient trail users and assist in route planning. Signage at trail intersections should be limited to signage regarding the level of difficulty of the trails. The wayfinding system should clarify which user types are welcome on which trails, as well as relative distance and time a trail will take the average visitor.

#### *Trail Difficulty Signage*

The Regional District has adopted a 5 level trail difficulty system. As there is currently no standardized provincial or regional system, Parks Services has adopted the green, blue and black trail rating system often associated with mountain biking or downhill skiing.

#### *Interpretive and Educational Signage*

Interpretive and educational signage could be integrated to provide users with information on the natural and cultural history of the park. In an effort to reduce “signage pollution”, or over-signing, of the trails, this signage could be integrated at trailheads, in tandem with way-finding signage or sensitively incorporated at key viewpoints.

## **Actions**

13. Work with adjacent land owners to develop trail access from the eastern extent of Big Sage trail to Whitworth road through an easement or statutory right of way.
14. As opportunities arise, assess possible park entries from the north. Consider only those with the lowest environmental impacts, considering the environmental principles established in this management plan. Limit the number of entry points to protect the park's sensitive areas and to limit fragmentation.
15. Develop a small parking lot at the park entrance and 'comfort station' in a suitable location within the park.
16. Permit informal non-motorized small craft landing at the beach at the bottom of Ogopogo Trail.
17. Develop park infrastructure according to Regional District design guidelines to ensure appropriate and consistent use of materials and standards.
18. Install a kiosk including key park information and a map at the park entry.
19. Install wayfinding signage and key park information at the base of Mountain Goat Trail.
20. Install bike racks at trailheads within the park, as well as at any future park entries not situated on Big Sage Trail, to allow visitors to safely leave their bikes at the beginning of pedestrian only nature trails.
21. Install low-key fencing and information signage adjacent to pathways and viewpoints within the Special Preservation Zone.

## CONSERVATION

This section of the management plan explores the conservation of plant communities, wildlife conservation, foreshore management and ecological restoration. A number of recommendations are presented which are specific to Goats Peak Regional Park, but the regional district may find economies of scale by implementing projects in junction with similar projects throughout the regional park system, such as an updates on the Urban Forest Health Strategy or a comprehensive Integrated Pest Management Plan. A set of draft conservation planning principles are presented in Appendix C which may assist future regional-wide policy documents. Future park initiatives should consider the impacts of climate change.

### CONSERVATION OF PLANT COMMUNITIES

The BC Conservation Data Centre<sup>10</sup> identifies four major threats to endangered ecosystems similar to those found within Goats Peak:

- Invasion from alien weed species;
- Invasion from alien pest species;
- Wildfire management, and
- Recreation impacts (discussed in the Passive Recreation section).

#### Goats Peak Goals

1. Conserve, restore, and enhance rare and unique ecosystems within the park.
2. Conserve and enhance habitats for rare and endangered wildlife that are likely to occur in the park.
3. Maintain the diversity of native species and ecosystems within the park.
4. Maintain the park's function as a 'green node' within a regional system of ecosystems and migratory corridors.
5. Contribute to the conservation of a regionally significant cultural landscape.
6. Maintain the unique scenic qualities and views of Okanagan Lake and its watershed.

A 2007 forest health management plan prepared for the Regional District by B.A. Blackwell and Associates Ltd. predicted that widespread forest decline due to beetle outbreaks, other forest insects, diseases, weed infestations, in combination with drought will dramatically alter the forested landscape of the South Okanagan over the next ten to fifteen years. These changes will create significant environmental impacts to vegetation, local hydrology, fish and wildlife, and contribute to increased forest fire hazard and increased risk to public safety<sup>11</sup>.

B.A. Blackwell and Associates Ltd. provided short and long term forest management recommendations and a summary of best management practices as guidance for managing the entire regional park system. Although the report was prepared prior to the establishment of Goats Peak, some of the recommendations are useful in the management of the park. However, the report also noted that a dynamic, adaptive management approach is needed to deal with changing conditions and site specific situations. B.A. Blackwell and Associates Ltd. recommended that

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10. BC Ministry of Environment. Conservation data centre website. <http://www.env.gov.bc.ca/cdc/>

11. Needoba, A.; B.A. Blackwell; F. Steele; E. Panozzo. 2007. Urban forest health strategy: strategies for forest health management in the Regional District's Parks System. Contract report completed for the Regional District of Central Okanagan. Kelowna, BC.



individual parks that undergo master planning processes should incorporate a finer scale of forest health assessment and planning.

The major forest challenges for Goats Peak Park– invasive weeds, insect pests and wildfire threats are discussed below.

### **Invasion from Alien Weed Species**

Goats Peak Regional Park appears to be in healthy condition with few invasive weeds. Invasive species of concern include: Diffuse knapweed, Cheatgrass, Russian thistle, and Dalmatian toadflax, St. John's wort, Sulphur cinquefoil and Great mullein, mainly along the disturbed area associated with the access road. Of these, knapweed is of highest concern; it is highly competitive and capable of invading grassland sites to the exclusion of native vegetation.

*The BC Ministry of Environment has developed a Conservation Framework to guide effective conservation actions in the province, guided by three fundamental conservation goals:*

- *Contribute to global efforts for species and ecosystem conservation;*
- *Prevent species and ecosystems from becoming at risk, and*
- *Maintain the diversity of native species and ecosystems.*

*The conservation goals established for Goats Peak Regional Park support and are aligned with the provincial objectives. By doing so, conservation actions within the park support a larger initiative for global conservation and, will hopefully increase the chances of support for conservation efforts.*

Control and eradication programs for all weeds will require an integrated pest-management approach including a combination of physical removal, bio-controls, restoration of disturbed areas using native plants and public education. Preventing the establishment and spread of invasive weeds is best achieved by limiting disturbance to soils and replanting disturbed areas using native vegetation. Use of pesticides is contrary to the Regional District's no herbicide policy.

The Ministry of Forests, Lands and Natural Resources Operations website<sup>12</sup> lists invasive weeds for which there are known biological control programs including:

- Knapweed<sup>13</sup>: Seed-reducing flies (*Urophora sp*) and root-feeding beetle (*Sphenoptera jugoslavica*)
- Dalmation toadflax<sup>14</sup>: Five agents occur in BC including *Brachypterolus pulicarius* (beetle), *Calophasia lunula* (moth), *Eteobalea intermediella* (moth), *Gymnaetron antirrhini* (weevil) and *Mecinus janthinus* (beetle).

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12. Ministry of Forests, Lands and Natural Resources Operations. *Invasive Plants with Bio-control*. <https://www.for.gov.bc.ca/hra/Plants/biocontrol/plantsInfo.htm#DT>

13. Ministry of Agriculture. *Knapweed – its cost to British Columbia*. <http://www.agf.gov.bc.ca/cropprot/knapweed.htm>

14. Ministry of Agriculture, Food and Fisheries. *A guide to weeds of BC- Toadflax*. [http://www.weedsbc.ca/pdf/dalmation\\_toadflax.pdf](http://www.weedsbc.ca/pdf/dalmation_toadflax.pdf)

### Invasion from Forest Pest Species

The presence of invasive forest pest species have been detected in the park. The following table details some key findings and measures for mitigation.

Species	Issue	Discussion of Management Options
<b>Pine Beetles</b>	The presence of pine beetle was noted in the park. Although thought to be small scale at present, their presence in the park, as well as locally, poses a potential threat to the park's forest. Both the western pine beetle ( <i>Dendroctonus brevicomis</i> ) and Mountain pine beetle ( <i>Dendroctonus ponderosae</i> ) are native beetles that attack pines in the area. Weakened trees also attract Red turpentine beetles ( <i>Dendroctonus valens</i> ).	<p>Continue to monitor the park for signs of a Pine Beetle outbreak.</p> <p>If an outbreak of significance is determined, consider actions for control as identified in the Regional District's Urban Forest Health Strategy.</p> <p>Resource information is found in Appendix D.</p>
<b>Western Tussock Moth (<i>Orgyia pseudotsugata</i>)</b>	Western tussock moth is potentially a pest species of management concern because of the impacts infestations can have on interior Douglas-fir, especially in urbanized areas. Tussock moths are covered in thousands of tiny hairs, which may give some people an allergic reaction, known as 'tussockosis'. The public is advised to avoid physical contact with the insects and wash after exposure. If tussockosis symptoms are severe people should seek the advice of a physician <sup>15</sup> .	<p>Options for control must include the MFLNRO and may include the following:</p> <ul style="list-style-type: none"> <li>▪ MFLNRO management strategy includes healthy forest stand management and bio-controls</li> <li>▪ Reforest with a mix of species and maintain a mosaic of species and ages across the landscape.</li> <li>▪ Thin using prescribed fire or mechanical thinning to reduce stand susceptibility.</li> </ul>

### Actions

22. Manage pest management with the use of best practices until such a time as a Regional Park System Integrated Pest Management Program can be developed.

15. Ministry of Forests, Lands and Natural Resource Operations, Douglas-fir Tussock Moth Management Strategy. [https://www.for.gov.bc.ca/rsi/foresthealth/PDF/DFTM\\_Strategy\\_Feb\\_2013.pdf](https://www.for.gov.bc.ca/rsi/foresthealth/PDF/DFTM_Strategy_Feb_2013.pdf)

## Wildfire Management

Ecosystems of the Okanagan Valley have evolved with natural fire as a major factor in ecosystem characteristics and habitat distribution. According to the Ministry of Forests, wildfires historically occurred as often as every 15–25 years and have played an important role in the ecology of this zone. Mature ponderosa pine trees have a thick bark and a self-pruning habit that prevents most fires from spreading upward to the crown. However, as fires spread through the understory, they burn off grasses and new growth, leaving behind a relatively bare forest floor and restricting regeneration of new trees. Historically, this pattern resulted in a mosaic of grasslands and open stands of pine.

In recent times, as a result of fire suppression, dense stands of pines have replaced some of the more open forest stands, as well as some grasslands. Increased tree densities in forests have stressed trees making them more susceptible to diseases such as mistletoe and insect pests such as Spruce budworm and Pine beetle. These factors have affected both ecosystem processes and wildlife habitat values<sup>16</sup>. Fire suppression has also resulted in extensive fuel accumulations, which, combined with forest growth, has altered the fire regime from low-to-moderate severity surface fires to high severity, stand-replacing fires<sup>17</sup>.

Most of Goats Peak Regional Park, with the exception of the northeast corner, has undergone years of forest fire suppression. The park is at increased risk of large-scale, stand-replacing wildfires. Over time, some measure of intervention will be necessary in order to maintain the park's ecological integrity<sup>18</sup>. Planned thinning and prescribed burning will help reduce the growth of Douglas-fir, ponderosa pine and native shrubs to maintain grassland habitats.

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16. Ministry of Forests 1998. *The Ecology of the Ponderosa Pine Zone*.  
<https://www.for.gov.bc.ca/hfd/pubs/docs/bro/bro60.pdf>

17. Iverson, K. and C. Cadrin. 2003. *Sensitive Ecosystems Inventory: Central Okanagan, 2000 – 2001. Volume 1: Methodology, Ecological Descriptions, Results and Conservation Tools. Technical Report Series No. 399, Canadian Wildlife Service, Pacific and Yukon Region, British Columbia*.  
[http://a100.gov.bc.ca/appsddata/acat/documents/r1757/sei\\_4196\\_rpt01\\_SEI\\_\\_1111091325256\\_e9ba873828cd4c4f96a5d99edce00e12.pdf](http://a100.gov.bc.ca/appsddata/acat/documents/r1757/sei_4196_rpt01_SEI__1111091325256_e9ba873828cd4c4f96a5d99edce00e12.pdf)

18. *Ecoscape Environmental Consultants Ltd. 2015. Biophysical Inventory for Goats Peak Regional Park. Prepared for: Regional District of Central Okanagan.*

### Actions

23. Develop a long term forest management plan including: assessment of forest and tree health, a hazard tree assessment and a wildfire assessment plan. Include habitat considerations for rare and endangered species, management of rare plant ecosystems and possible impacts of climate change in the plan. *This could be undertaken as an update to the RDCO Parks Operational Wildfire Protection Plan and Urban Forest Health Strategy to include Goats Peak.*
24. Monitor successional changes in grassland/sagebrush ecosystem and develop long-term plans for tree/shrub removal.

## WILDLIFE CONSERVATION

With its variety of habitats from lakeshore, grasslands, rocky cliffs, and forested woodland, Goats Peak Regional Park has the potential to provide habitat for a very significant number of species-at-risk. Ecoscape (2015) documents sightings of many common birds, indications of the diversity of habitats, health of the region, and value of the park for nature interpretation. Historically, large mammals including black bear, coyote, cougar and deer would have utilized the site and a wildlife tunnel below Highway 97, west of the park, was built for that purpose<sup>19</sup>. According to the BC Ministry of Environment, the 2009 Glenrosa Fire may have caused a temporary shift in wildlife patterns<sup>20</sup>.

Utilizing the British Columbia Conservation Data Centre data, Ecoscape (2015) indicates that up to 50 species-at-risk may be found in the park: 17 red-listed (extirpated, endangered or threatened), 32 blue listed (species of special concern) and 1 yellow listed.

Federally, COSEWIC identifies 30 species-at-risk that may potentially be found in the park. Under the federal SARA legislation, 6 of these potential species are listed as endangered, 6 as threatened and 12 as special concern (6 COSEWIC listed species currently have no status with SARA). A determination of the likelihood of occurrence of these 30 species to be found in the park was undertaken by the Canadian Wildlife Service.<sup>21</sup> This review indicates that of the 30 potential species, 5 are confirmed to occur in the park, 10 are likely to occur while 14 are less likely or unlikely to be found in the park. Appendix E summarizes the conservation status of 30 potential species-at-risk and their likelihood of occurrence in Goats Peak Regional Park, and Appendix G provides the legislative background related to species conservation in BC.

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<sup>19</sup> Andrew Walker. *Wildlife Biologist. Ministry of Forests, Lands and Natural Resource Operations. Personal communications 19 September 2015.*

<sup>20</sup> John Huby. *BC Ministry of Environment. Personal communications. 12 September 2015.*

<sup>21</sup> Lucy Reiss. *Senior Terrestrial Habitat Planner. Canadian Wildlife Service. Personal communications. 24 August 2015.*

The five confirmed species-at-risk which have been sighted in the park are:

*Common nighthawk*

*Olive –sided flycatcher*

*Western yellow-bellied racer*

*Lewis’s woodpecker*

*Western rattlesnake*

The ten species-at-risk considered likely to occur in the park are:

*Western toad*

*Western screech-owl*

*Spotted bat*

*Flammulated owl*

*Rusty blackbird*

*Western harvest mouse*

*Short-eared owl*

*Nuttall’s cottontail*

*Western skink*

*Great basin gopher snake*

While an overall ecosystem based approach to managing the park is most effective, at times focus on these key species may be required to ensure their protection as part of that larger approach.

Appendix F summarizes the habitat requirements and threats for these species. The most significant threats are loss/fragmentation of habitat, suppression of forest fires and pesticides. For snakes, threats also include human persecution and high road kill mortality. Goats Peak is an ideal conservation park for many of the potential species-at-risk that can be found within the region.

Based on this review, the most significant habitats for conservation of wildlife are the grasslands, shrub steppe communities, rocky cliffs and riparian fringe. This correlates with the Special Preservation Zone and the Ecosystem Zone consisting of Very High and High ESA valued habitat. Protection of these habitats is essential to protect species-at-risk. Federal SARA-driven management and conservation plans recognize that protecting habitat for species-at-risk is one of the key actions to their conservation. Sensitive ecosystems correlate closely with the habitats of at-risk species, and since Goats Peak contains 8 ecosystems that are threatened, endangered or of special concern, a high level of conservation of the park is warranted. As an example, western rattlesnakes share communal denning sites with other snake species including racer, great basin gopher snake and perhaps garter snakes. Protection of habitat for one will contribute to conservation of all snakes in the park.

As well, certain attributes within a forest provide important habitat for multiple species. Coarse woody debris offers habitat for mammals, amphibians, and invertebrates. Mature trees and snags which provide nesting, roosting, and foraging habitat for cavity nesting species such as the Lewis’s woodpecker are critical habitat features.

Where possible, adjacent land owners should be encouraged to allow extended park wildlife surveys to determine if the park boundaries are appropriate or should be expanded to achieve the goal of conservation of threatened and endangered species and plant communities.

## **Actions**

25. Develop a partnership to undertake an inventory and assessment plan for ecosystems and species-at-risk.
26. Wherever possible, preserve old veteran trees and snags and create wildlife trees if tree removal is planned.



## FORESHORE MANAGEMENT

Okanagan Lake is one of the Okanagan Valley's important resources, contributing significant environmental, social and economic benefits to the region. It sets a very appealing aesthetic character for the valley and provides much sought after recreational opportunities. The lake supports important fish populations including rainbow trout, kokanee, mountain whitefish, burbot and populations of coarse fish species such as sculpins or longnose/leopard dace. Shoreline areas also provide important habitat for numerous wildlife species, including raptors, water birds, song birds, large game and numerous other populations of avian and mammal fauna. The shoreline of Okanagan Lake also provides habitats that are important for rare plant species and communities. The Lake is the primary source of water for agricultural purposes and human consumption for many Okanagan Communities<sup>22</sup>. Appendix H provides a summary of Provincial Shoreline Management guidelines.

### Goats Peak Foreshore

The park shoreline consists of steep slopes with sparsely vegetated cliff/bluffs, rocky/gravel beach and well-established riparian zones. This narrow foreshore band is largely unmodified and exists in a healthy, natural state.

The Aquatic Habitat Index (AHI) rating for this segment of the foreshore is Very High, meaning it is considered integral to the maintenance of fish and wildlife species. According to the assessment, these areas should be considered the highest priority for conservation. Within that designation, approximately 520 meters of the park shoreline is provincially designated as Kokanee Red Zone, which means significant development activity is to be avoided or moved to a lower risk area. In addition to providing kokanee shore spawning habitat, substrates adjacent to the park likely provide suitable spawning, foraging and general living habitat for a number of fish species. This further confirms the need for priority actions to preserve and protect the shoreline habitat. Additional shorter shoreline sections are designated as Yellow Zone, reflecting lower quality spawning habitat, permitting slightly more development activity.

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22. *Ecoscape Environmental Consultants Ltd. 2011. Okanagan Lake: A Compilation of North, South, and Central Okanagan Lake. Prepared For: Okanagan Collaborative Conservation Program.*

## Actions

The following recommendations flow from the Okanagan Lake FIM and AHI and Ecoscape report:

27. Protect key shoreline habitat features through established mechanisms:
  - a. No structural alteration of the shoreline;
  - b. No alteration of the riparian vegetation or aquatic vegetation;
  - c. No construction of any features or amenities such as viewing platforms or docks;
  - d. Control of erosion and silt deposition onto the foreshore, and
  - e. No development of a formal swimming beach.
28. Monitor for the establishment of invasive weeds, particularly purple loosestrife (*Lythrum salicaria*), on an ongoing basis.
29. Monitor for possible impacts from recreational use of the waterfront to ensure activities do not diminish the productive capacity of biophysical resources.
30. Continue to support the Ministry of Environment's efforts to monitor kokanee shore spawning inventory numbers.
31. Participate, along with all levels of government and First Nations, in any future lakeshore management planning initiatives.

## ECOLOGICAL RESTORATION

Goats Peak Regional Park, with its healthy ecosystems, requires only minor restoration efforts in three areas:

- (1) areas of disturbance adjacent to the access road,
- (2) the 2009 Glenrosa Fire burn area and
- (3) decommissioning of small unnecessary sections of informal trails.

The goal of restoration is to ensure that these areas become suitably integrated into a larger matrix of natural landscapes and contribute to an overall healthy, intact, resilient, self-sustaining ecosystem. The three sites are presented in order of restoration priorities.

The use of fire to maintain the big sage/ steppe community is also recommended and is discussed separately under the Wildfire Conservation section.

The Ministry of Environment highlights the significant challenges of restoration in the Okanagan valley ecosystems<sup>23</sup>. These challenges are attributable to summer drought conditions, thin soil, slow growing plants and high susceptibility to weed invasion. Thus, it is always much better to avoid disturbance than to attempt restoration.

### Access Road Zone

In 2014, construction of a 255 meter section of the access road resulted in significant disturbance with blast rock and spoil material being deposited on the downward slopes and into Okanagan Lake. Ecoscape (2015) speculates that there were terrestrial, aquatic, and riparian impacts. In particular, there is a high potential that a rattlesnake hibernaculum exists within the immediate proximity of the rockfall area, and understanding the hibernaculum location and extent of use will be important in future park management planning<sup>24</sup>. Mitigation and site remediation were undertaken in 2014 including hydroseeding of the disturbed slopes and planting 641 native plants including Oregon grape, Saskatoon berry and basin sage. Although some of the transplanted material is flourishing, the area is rapidly becoming infested with invasive weeds including: Great mullein, Russian thistle, Bull thistle, cheatgrass, knapweed, and Dalmatian toadflax. The constructed access road poses a potential risk to wildlife movement.

### Actions

32. Monitor restoration plantings and determine if a second restoration planting around the perimeter of the rockfall zone is required.
33. Initiate planting on the foreshore to help re-establish the riparian zone. Utilize native riparian plants such as red-osier dogwood, rose, willows and cottonwood trees, which would also help create a visual screen of the rockfall from the water.
34. Install transitional habitat for upslope lands to lower slope lands along the Big Sage Trail for reptilian, invertebrate, and small mammal species.

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23. B.C. Ministry of Environment. B.C. Conservation Framework. 2015. Conservation Framework Summary: *Pseudotsuga menziesii* - *Pinus ponderosa* / *Pseudotsuga menziesii*. <http://a100.gov.bc.ca/pub/eswp/>

24. Ecoscape Environmental Consultants Ltd. 2015. Biophysical Inventory for Goats Peak Regional Park. Prepared for: Regional District of Central Okanagan.

## Burn Area

In 2009, the Glenrosa Fire burned approximately 6.74 hectares in the northeast corner of the park. The area is in the upper elevations of the woodland ecosystem, characterized by an open interior Douglas-fir and ponderosa pine forest. The fire was classed as low intensity within the park, leaving dead trees standing and native soil largely intact. No significant long term environmental degradation should be anticipated; no soil erosion is occurring and there was no loss of riparian vegetation<sup>25</sup>. No restoration work has been undertaken.

Low intensity ground fire is a natural part of this ecosystem. In this case, because the soil has not been lost, the area is in the early stages of recolonizing with native herbs and shrubs. In general, it is not necessary to initiate planting programs that include native shrubs or deciduous trees unless there is a specific land management objective that requires accelerated vegetation establishment or increased plant diversity. Replanting now with conifer seedlings is not necessary and would see limited success due to summer drought. As natural plant succession proceeds, there are sufficient sources of native conifer tree seeds nearby. This area will recover without intervention as natural processes take place. The natural processes of ecological recovery typically result in few, if any, irreparable effects.

Some invasive weeds are colonizing the area. Although not presently in large infestations, some invasive species can exclude the establishment of native plant communities. An integrated pest management program and physical removal may be necessary to aid long term succession to native plant communities.

The burn area also offers tremendous opportunities for interpretive themes including the role of fire in this region, natural processes, plant succession and provides increased opportunities for sighting bird species new to the park.

*While the burn area may appear unsightly to some, it actually rejuvenates the area and leads to an increase in biodiversity. Researchers studying the change in bird species 8 years after the Okanagan Mountain fire found that the majority of bird species showed no great changes in numbers. Since habitat was created for additional species without the loss of any common species, overall bird diversity increased and the number of species counted per year was higher after the fire.*

*The biggest increases were for birds that breed successfully in post-fire habitats, either associated with standing dead trees, semi-open country, or with dense and abundant shrubs. Woodpecker numbers increased. Both mountain and western bluebirds were either not observed or were rare in the park prior to the fire, but both were common afterwards. Olive-sided flycatchers, a species considered threatened in Canada, and potentially present in Goats Peak Regional Park, increased ten-fold in abundance in Okanagan Mountain Park.*

## Actions

35. Allow natural successional changes to proceed in the burn area and monitor for progress.
36. Monitor weed growth in the burn area. Where infestations limit native plant growth, implement an Integrated Pest Management Program.
37. Conduct a hazard tree assessment as part of establishing any adopted trails within the burn area. Where possible, rerouting trails away from any standing snags rather than removing dead trees.

<sup>25</sup> Dobson, D. 2009. Glenrosa Fire (KL50739). Post-Wildfire Hydrologic and Slope Hazards and Risk Review. Draft report prepared for the District of West Kelowna.

### Summary of Conservation Context

Goats Peak Regional Park is a unique area of significant ecological importance. Its healthy ecosystems are regionally rare, considered threatened in the province and represent one of the most endangered landscapes in Canada. The majority of the park is rated as high environmental sensitivity and provides critical habitat for species-at-risk including those considered threatened and endangered in Canada. The park warrants a high level of protection and will require careful and cautious management. With care, the park will be able to support opportunities for passive recreational uses, nature interpretation and science-based research.

However, the park's natural features and ecosystems extend beyond its borders into undeveloped land, some of which is privately held. It is this connectivity that currently allows the habitats to function fully and to contribute to regional biodiversity. Prudent land management decisions, supported by scientific research and cooperation of government agencies at all levels, are required to protect the future function and character of the park and sustain the area's unique biodiversity.

#### **Actions**

38. Continue to be aware of provincial and federal conservation and restoration priorities and how these priorities can be of benefit to Goats Peak and Regional Parks in general.
39. Use the nine conservation planning principles as a suggested starting point to develop a region-wide policy.
40. Explore options to expand the park boundaries to protect more complete ecosystems, ensure greater protection of critical habitat, maintain essential wildlife corridors and enhance recreational greenways.
41. Work with all levels of government, land trusts, conservation groups and private land owners to explore possible options to protect and enhance the park boundaries.
42. If future park boundary expansion is not possible, advocate for the establishment of adequate buffers around the park and protection of wildlife corridors to the wildlife underpass below Highway 97 to maintain essential ecological process and offset the edge effects. (The Ministry of Environment recommends a 100 meter buffer to protect conservation parkland or, as directed in recovery plans if species at risk are involved.)
43. Develop Phase 2 of a Biophysical Inventory for Goats Peak Regional Park.



## INTERPRETATION AND EDUCATION

Due to its unique and sensitive setting, Goats Peak Regional Park provides a valuable opportunity for interpretation and educational programming.

In addition to signage, which is described in the Passive Recreation section, the park will provide numerous opportunities for programming and education, including further study.

Interpretive themes may include natural and cultural history, geology, wildlife, and active ecological processes such as burn site restoration and kokanee spawning.

This section of the management plan ties together interpretation and education actions related to previous sections of the management plan, in addition to a discussion on the park as a teaching model and cultural artifacts protection.

### THE PARK AS A TEACHING MODEL

The professions of Conservation Biology and Restoration Ecology stress that their fields are new sciences in need of ongoing research in support of their disciplines. Adaptive management and communicating the results of conservation work are an integral part of best management practices in Conservation<sup>26</sup>.

Communication of the restoration efforts to the public can have a positive effect on raising community awareness, support and involvement in restoration projects. Parks management professionals are always looking for proven, successful best management practices to meet the challenge of managing natural areas in close proximity to growing urban centers.

The establishment of a new natural area park provides an ideal opportunity to advance the goals of conservation and restoration, as well as highlight the site's cultural history. A variety of research-oriented educational institutions, government agencies and not-for-profit groups have the capacity to help monitor the successes and challenges of opening a new park. Communication to the larger community will help garner community support. These initiatives will help manage the park and help contribute to regional protection of biodiversity and cultural resources.

#### Goats Peak Goals

11. Develop and deliver ongoing nature interpretation programs that promote public awareness and appreciation for the natural environment.
12. Establish the park as a teaching model of best practices for natural areas within close proximity to urban centers.
13. Increase awareness and appreciation of local culture and history
14. Conserve important historic cultural features unique to the park and within the larger regional context.
15. Increasing Canadians natural environment literacy.

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26. Keenleyside, K. A., Dudley, N., Cairns, S., Hall, C. M., & Stolton, S. (2012). *Ecological restoration for protected areas: principles. Guidelines and best practices*. IUCN, Gland.

## Outdoor Classroom

The concept plan (page 39) shows a proposed outdoor classroom, integrated at a disturbed area near the eastern edge of the park at the junction between Big Sage Trail and Mountain Goat Trail. Constructed of natural elements such as logs and boulders, the outdoor classroom would provide opportunities for both formal and informal programming for groups ranging from 5 to approximately 25 for use as for informal picnicking through more formal outdoor education programming.



## Actions

44. Implement a strong public information and awareness program, highlighting the sensitivity of the park and its unique ecology, appropriate uses and raising awareness of conservation efforts and ongoing research partnerships. Include information:
  - a. to help limit the spread of invasive weeds within the park;
  - b. about pine beetle management options to help reduce the spread throughout the region;
  - c. with emphasis on species-at-risk to raise public awareness of the sensitivity of the habitats;
  - d. to raise awareness of the presence of snakes in the park, particularly rattlesnakes; outline potential risks and raise awareness of the need for appreciation and conservation of the species;
  - e. to explain the sensitivity and value of the preserved foreshore and aquatic resources including fish and bird species dependent on the shoreline;
  - f. about habitat requirements of bats, snakes and western skink which likely inhabit the rockfall zone;
  - g. about plant succession and the role of fire in the ecosystem, and
  - h. about the impacts that pet cats can have on wildlife populations with recommendations to reduce impacts.
45. Implement a public education program to raise awareness of the:
  - a. sensitivity of the area and gain acceptance of parks rules and regulations, and
  - b. trail uses and potential impacts of misuse.
46. Work with Westbank First Nation to jointly develop and deliver programs and interpretive materials to celebrate their cultural history and past use of Goats Peak.
47. Promote the park as an area of scientific study of the unique ecosystems within the region and share knowledge of best management practices of natural areas.
48. Construct a low infrastructure outdoor classroom out of natural materials for outdoor programming and informal use.

## CULTURAL RESOURCES PROTECTION

Cultural resources are present in the park and have, unfortunately, suffered from vandalism. As all archaeological sites have legal protection, the focus must be on protection and public education of these sensitive sites.

Different approaches have been used to manage cultural resources. In some areas, they are left unidentified so that attention and possible vandalism is avoided. In others, site protection combined with interpretive information is used to raise public appreciation, respect and awareness of the cultural past. The appropriate approach is very site dependent and generally results from a more thorough pathway of investigation including: full assessment of a site, determining significance, assessing risk, and finally, exploring management options. All sources consulted stress the importance of a flexible, collaborative process between the managing land agency, Westbank First Nations and the BC Archaeology Branch.

A possible process may include:

- Working jointly with the Westbank First Nation archaeologist to undertake a full inventory and assessment of cultural resources, including an assessment of threats to the integrity of resources and prescriptions for monitoring programs.
- Providing a resource base for non-archaeologist park managers, including background information necessary for their understanding (Beram, 1990<sup>27</sup>).
- Developing of a separate cultural heritage management plan to guide cultural heritage management actions (BC Parks<sup>28</sup>) or utilizing a “preservation” zone to protect cultural resources found in parks (Parks Canada<sup>29</sup>). If the latter is taken, the Westbank First Nation archaeologist should be consulted in the drafting of appropriate actions.
- Provide an interpretive program, which have proven to be an effective mechanism for increasing public ethic of archaeological conservation. Public displays may include artifact replicas and photographs to generate public interest, education and support, as well as natural history and ethnobotany guided walks.
- Training of park staff: both formal and informal, including on and off site training, and opportunities to work with local naturalists to help plan interpretive programs.

Specific protection measures of cultural sites should consider the influence of people (looting, vandalism), and the environment (weathering due to rain, runoff, winds, waves, sun, etc.).

A first step to exploring possible protection measures is to contact Westbank First Nation and the BC Archaeology Branch to speak with someone with expertise in the protection cultural sites who may be able to share precedents anecdotally.

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27. Beram, Luisa Jane 1990. SFU M.A. thesis: *The Capital Regional District parks : a case study in archaeological resource management*

28. BC Parks. *Cultural Heritage Management* [http://www.env.gov.bc.ca/bcparks/conservation/cpp\\_p1/cultural.pdf](http://www.env.gov.bc.ca/bcparks/conservation/cpp_p1/cultural.pdf)

29. Parks Canada: *Parks Canada: Guidelines for the Management of Archaeological Resources* <http://www.pc.gc.ca/eng/docs/pc/guide/gra-mar/index.aspx>

Precedents of physical protection of sites include:

- Dionisio Point Provincial Park: protects and identifies archaeological sites through fencing and interpretive signage (BC Parks).
- Haynes Point: has shifted to co-management with the Osoyoos Indian Band. A burial site has been fenced off using split rail fencing but no signage or interpretive information is currently provided. No details are available on managing the artifacts (BC Parks).
- Petroglyphs abound along the beaches of Quadra Island, around Cape Mudge Lighthouse and at the Kwagiulth Museum and Cultural Centre in Cape Mudge Village. Petroglyphs have been relocated to the grounds of the museum for their protection (North Island Distance Education School<sup>30</sup>)
- Interpretive signage is located with the petroglyphs at Petroglyph Provincial Park in Nanaimo. Replicas are found in the main interpretive area to allow visitors to take rubbings of the petroglyphs without impacting the original artifacts (BC Parks). A similar method is employed at Gabriola Island's Petroglyph park (Gabriola Island Museum<sup>31</sup>).

### **Actions**

49. Collaborate with the Westbank First Nation and the BC Archeology Branch to undertake a cultural resource protection strategy including an inventory of cultural resources and information related to the Okanagan peoples traditional use of the land in and around Goats Peak.

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30. North Island Distance Education School: <http://nides.bc.ca/Assignments/Canada/Paper10/PetroglyphsBC.htm>

31. Gabriola Island Museum: <http://gabriolamuseum.org/exhibits/petroglyph-park/>

## STEWARDSHIP AND PARTNERSHIPS

There is considerable public and stakeholder support and interest in Goats Peak Regional Park. Throughout the development of the management plan, numerous environmental and conservation groups expressed interest in collaborating on stewardship initiatives to help preserve and highlight the unique site. The Regional District has the opportunity to foster collaborative relationships with these groups, as well as academic institutions, other levels of government and Westbank First Nation to further the goals of the park.

This section of the plan ties together stewardship and partnership actions related to previous sections of the management plan.

### Goats Peak Goals

15. Establish an early relationship with education institutions and environmental organizations to further research the implementation of this newly created natural park.
16. Create meaningful opportunities for ongoing public involvement in park, stewardship and maintenance.
17. Continue to develop an on-going relationship and partnership with Westbank First Nation.

### Actions

50. Continue to encourage and support cooperation amongst regional partners, provincial ministries and stakeholders for the management of regional biodiversity.
51. Continue to work with the federal and provincial government environment departments to monitor for upcoming recovery strategies and management plans. Review the park management plan if further habitat protection is required.
52. Continue to work with the OCCP to keep up to date on regional conservation initiatives and ensure an integrated approach to conservation and restoration in the region.
53. Work in conjunction with the OCCP to explore opportunities for grant funding including the Habitat Conservation Trust Program and the EcoAction Community Funding Program.
54. Continue to work with the OCCP, UBC and local governments to determine requirements and actions to establish appropriate wildlife corridors to outline natural areas beyond the park boundaries, particularly to the wildlife underpass beneath Highway 97, west of the park.
55. Develop an “Ecological Scorecard” as a key performance indicator related to overall park ecological health.
56. Encourage and promote a Friends of Goats Peak Regional Park society as a means of garnering community support and involvement in park management.
57. Engage the community and local stewardship groups to participate in weed removal and restoration projects.
58. Implement the Regional District’s Volunteer in Parks Program (VIP) to monitor trail use, raise awareness of the ecological and cultural sensitivities of the park and provide information to park visitors.



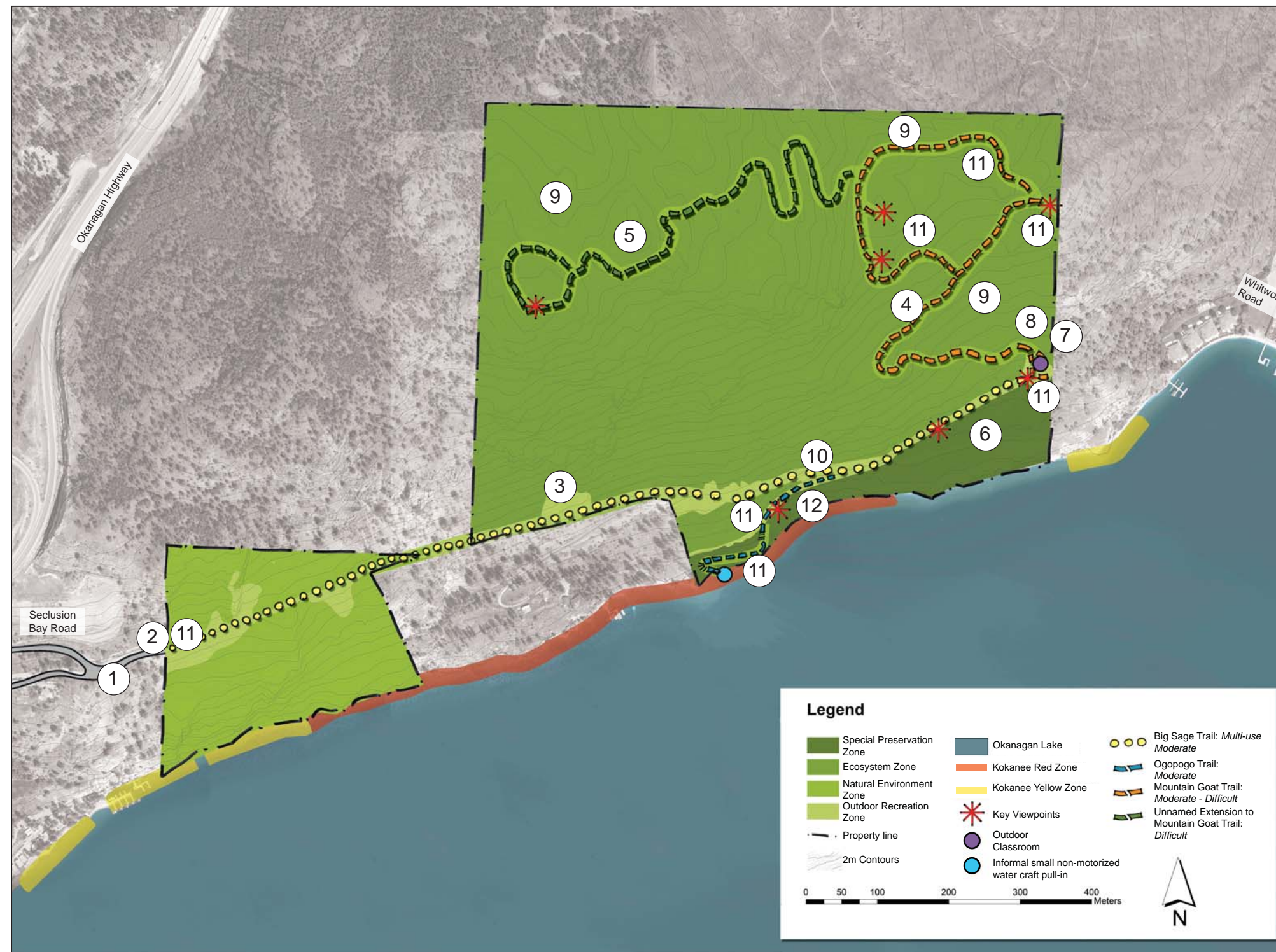
# 20 YEAR IMPLEMENTATION STRATEGY

## PARK DEVELOPMENT

Following the presentation of two draft concept plans (Appendix I) to the public and stakeholders, a final draft concept was developed. As shown in Figure 6, it focuses on the restoration, conservation and interpretation of the park, with low impact park infrastructure, such as trails, viewpoints and interpretive signage, to allow visitors to respectfully explore and learn about the park.



Figure 6: Goats Peak Regional Park Concept



### Key Outdoor Experience Features



▪ 2km of formalized existing trails, to be constructed with sustainable trail construction standards.

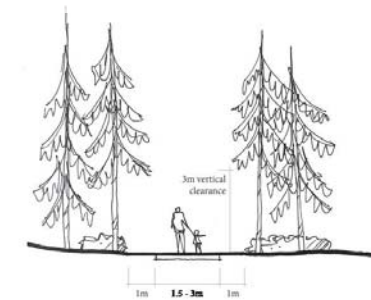
▪ Extension of existing trails to complete trail "loops" (approximately 175m additional).

▪ New *Difficult* hiking trail (approximately 1km).

▪ Small picnic area and low infrastructure outdoor classroom (using natural materials i.e. logs, boulders).

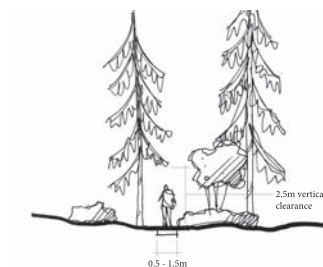
▪ Mountain biking permitted only on the Regional Active Transportation Network multi-use trail.

- 1 Small parking area.
- 2 Primary park entry including kiosk.
- 3 2km multi-use cycling and hiking trail formalized on existing access road. Part of the Regional Active Transportation Network.



- 4 *Moderate - Difficult* hiking trail: formalized existing informal trail. Short sections re-routed to avoid the need for stairs. Short extension to form a complete loop.

- 5 Single track *Difficult* hiking trail.



- 6 Restored and fenced sensitive area.
- 7 Low infrastructure outdoor classroom constructed with natural materials such as logs, boulders.
- 8 Bike rack at base of the hiking only trail.
- 9 All other informal trails decommissioned and restored.
- 10 Rockfall area restoration.
- 11 Interpretive information and signage location.
- 12 *Moderate* nature trail to the waterfront.



## **PARK OPERATIONS**

Park bylaws, operational standards and best management practices exist for Regional District parks, and should be followed for the operation of Goats Peak Regional Park. The following outlines a few areas of special concern.

### **SEASONAL ACCESS**

The Regional District focuses their park maintenance and operations programs from April to October. Operationally, some regional parks are determined to be not regularly maintained between November and April, meaning the park is open with limited maintenance. As Goats Peak holds a portion of the regional active transportation route, the Regional District should consider year round maintenance and public access to the Big Sage Trail, once trail links become established. In addition to a decision regarding appropriate levels of winter maintenance, if year round maintenance is to be focused only on this trail, signage can be posted at the other trailheads and junctions to Big Sage trail, warning users that the trails are not maintained in the winter season.

### **MAINTENANCE AND RISK MANAGEMENT**

Goats Peak is a natural area park, and contains typical inherent risks including those associated with natural processes. Of particular note, and as a result of access road construction along the Big Sage trail in 2013, an area of rock slope may have the potential of increased chance of rock fall hazard. This area was assessed by a geotechnical professional who provided recommendations for monitoring and managing activities along this section of trail. The greatest risk for rockfall along this section of trail as well as any location with slopes above is at times of freeze thaw cycles and heavy rain events. At these times appropriate management actions as recommended should be considered.

This area should be monitored for future rock fall, and signage should be posted in order to alert the public to the hazards along the trail. Should the rock fall risk increase, protective measures to protect from rockfall could be considered including further geotechnical assessment.



## **Actions**

59. Work with partnering jurisdictions to assess the need for year round access and appropriate levels of winter maintenance on Big Sage Trail, as a component of the Regional Active Transportation Network.
60. Continue to follow rockfall hazard recommendations as provided by the geotechnical consultant.
61. Integrate mitigation measures at steep transition points adjacent to steep drop offs on Big Sage Trail.
62. Provide education to Regional District staff and contractors regarding the park's conservation goals and strategies.
63. Continue to meet service levels for passively managed areas based on annual operations and maintenance costs per hectare of passively managed areas.
64. Include top implementation priorities within the Regional District's annual 5 year financial plans.
65. Review action priorities, estimated capital cost and required FTEs every 5 years.

## **PHASING**

A series of actions, shown at the end of each section, are summarized below in a phased implementation strategy. The table prioritizes the actions, provides information regarding potential partners, as well as the provision of capital and ongoing operational and maintenance funding requirements where significant. Where applicable, measureable outcomes are listed for evaluative purposes. This plan does not provide specific designs or specific budget recommendations. All actions will be vetted by Staff and the Regional Board in future planning processes, as well as evaluated relative to resource and budget requirements.

Each action in this plan has been assessed as a short (1-5 years), short-medium (6-10 years), medium (11-15 years) or long term (16-20 years) priority.

In order to meet these actions, funding should be sought through grants and partners to supplement core Regional District budgeting.

Some of the recommended actions may be achieved through broader departmental initiatives. Where possible, studies should be combined with planning processes for other regional parks.

Action items in the implementation table have been shown in order of priority.



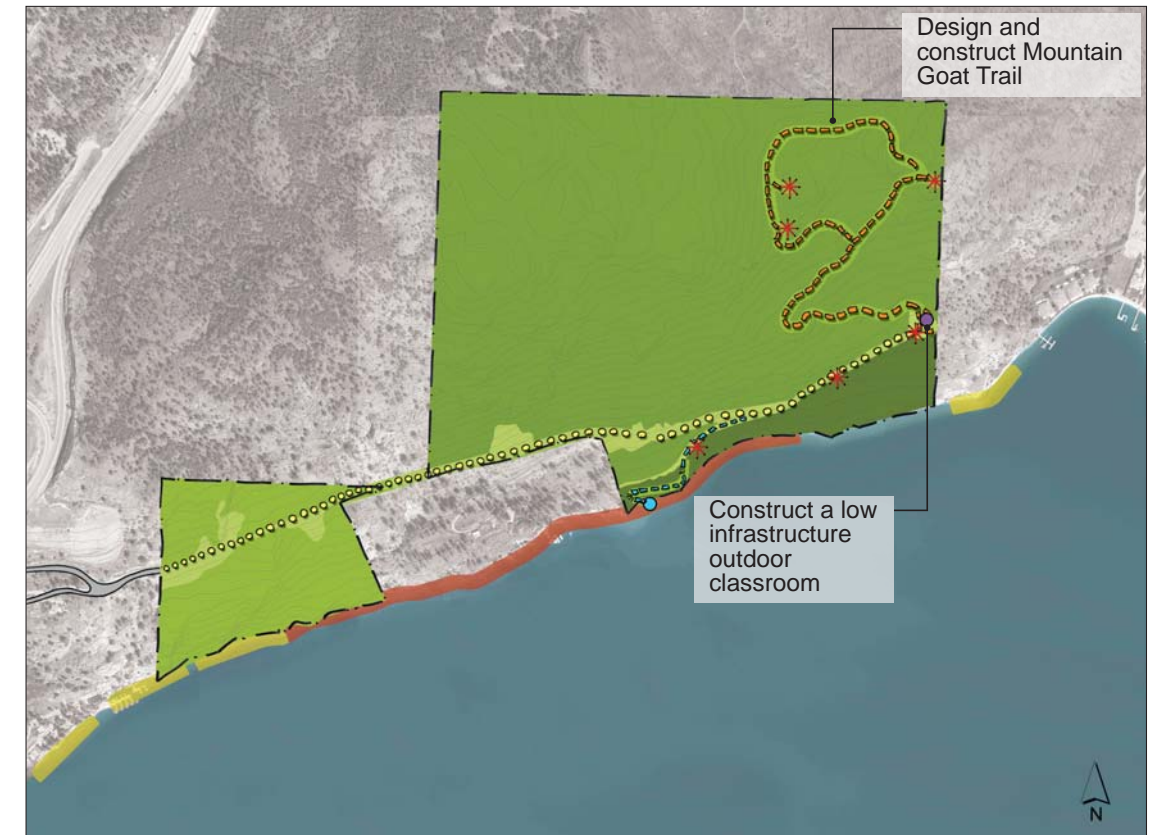
Figure 7: Goats Peak Regional Park Phasing



# PHASE 1



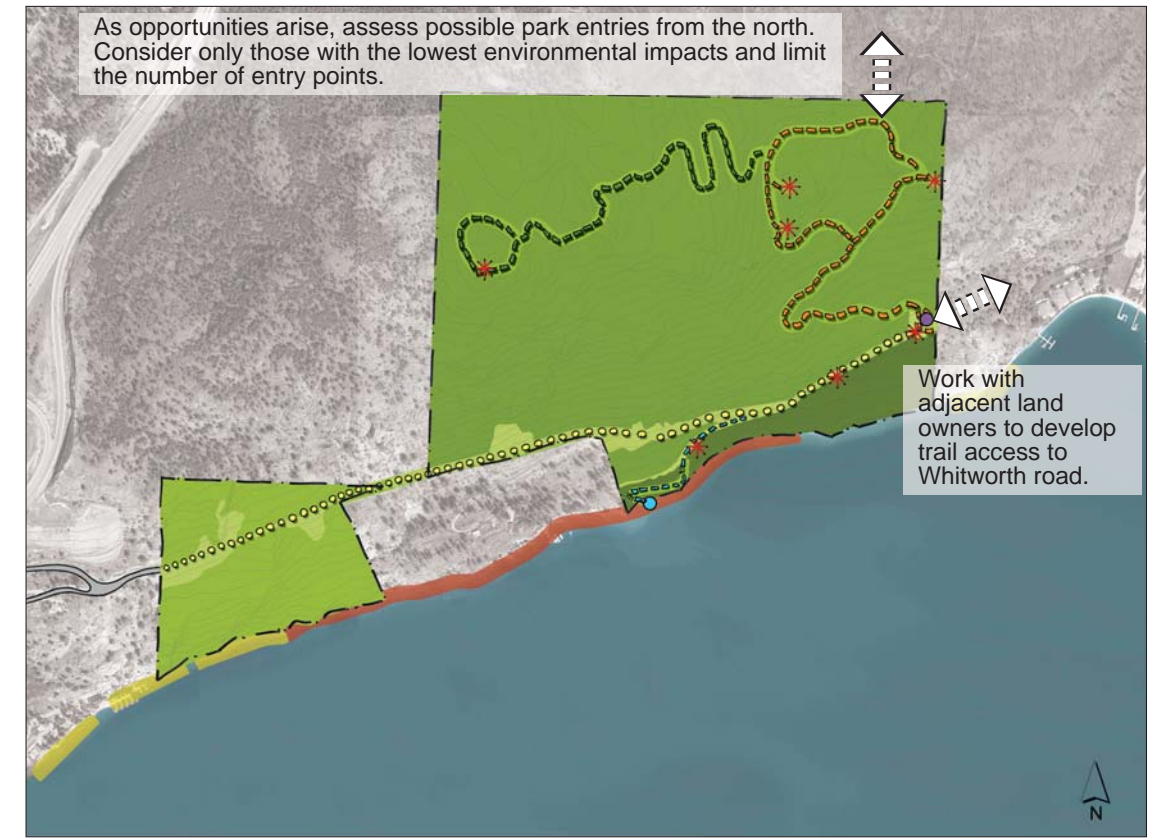
# PHASE 2



# PHASE 3



# VISION





Capital Development Plan Items								
Action Item	Action	Measurable Outcomes (where applicable)	Short Term (Yr 1-5)	Short - Medium Term (Yr 6-10)	Medium - Long Term (Yr 11-15)	Long Term (Yr 16-20)	Total (Yr 1-20)	Potential Partners
Passive Recreation								
2, 3	Construct Big Sage and Ogopogo Trails	Kilometers of trails constructed	\$74,000.00				\$74,000.00	
4	Design Mountain Goat Trail		\$23,000.00				\$23,000.00	
4	Construct Mountain Goat Trail	Kilometers of trail constructed		\$75,000.00			\$75,000.00	
5	Design the unnamed extension to Mountain Goat Trail, pending consultation & environmental studies			\$15,000.00			\$15,000.00	
5	Construct the unnamed extension to Mountain Goat Trail, pending consultation & environmental studies	Kilometers of trail constructed			\$55,000.00		\$55,000.00	
6	In consultation with Westbank First Nation, develop a trail name for unnamed extension to Mountain Goat Trail			staff liaison time			\$0.00	
7	Directly monitor levels of park use through observations of users and installation of trail counters at park entries.	Ongoing records of trail use (user counts per month per yr)	\$1,000.00	\$575.00			\$1,575.00	Volunteers/Stakeholder groups
8	Remove and restore existing redundant informal trails.	Kilometers of trails restored and decommissioned	\$15,000.00	\$30,000.00	TBD		\$45,000.00	Volunteers, Eco-events
15	Develop small parking lot at park entrance		\$12,000.00				\$12,000.00	
15	Install 'comfort station' in a suitable location in the park		\$15,000.00				\$15,000.00	
18	Install kiosk, park information & map at park entry		\$2,500.00			\$3,000.00	\$5,500.00	
19	Install wayfinding signage and key park information at the base of Mountain Goat Trail.		\$8,500.00				\$8,500.00	
20	Install bike racks at major trailheads & beginning of pedestrian only nature trails.		\$1,500.00		\$1,950.00	\$2,150.00	\$5,600.00	
21	Install low-key fencing & information signage adjacent to pathways & viewpoints in Special Preservation Zone	Meters of fencing/ guardrail installed	\$45,000.00				\$45,000.00	
		Capital by Phase	\$197,500.00	\$120,575.00	\$56,950.00	\$5,150.00	\$380,175.00	

Action Item	Action	Measurable Outcomes (where applicable)	Short Term (Yr 1-5)	Short - Medium Term (Yr 6-10)	Medium - Long Term (Yr 11-15)	Long Term (Yr 16-20)	Total (Yr 1-20)	Potential Partners
Conservation								
23	Develop a long term forest management plan. This could be undertaken as an update to the RDCO Parks Operational Wildfire Protection Plan and Urban Forest Health Strategy to include Goats Peak.	Action plan for forest management developed		\$25,000.00	TBD	TBD	\$25,000.00	
10, 32, 33, 34, 36, 55	Develop an ecosystem restoration monitoring plan. Allow for preliminary restoration work and internally developed scorecard in short term.	Improved habitat for species at risk and accurate monitoring of restoration efforts.	\$15,000.00	\$20,000.00	TBD	TBD	\$35,000.00	Academic institutions, naturalist groups, Stakeholder Groups, Conservation Societies, Provincial and Federal Wildlife Authorities, Not-for-Profit Societies
43	Develop Phase 2 of a Biophysical Inventory for Goats Peak Regional Park	Confirmation of the presence/absence of species.				\$25,000.00	\$25,000.00	Ministry of Environment, Ministry of Forests, Lands & Natural Resource Operations, Canadian Wildlife Service, Okanagan Collaborative Conservation Program, CWS, academic institutions
		Capital by Phase	\$15,000.00	\$45,000.00		\$25,000.00	\$85,000.00	
Interpretation and Awareness								
44, 45	Implement a strong public information, education and awareness program		\$2,500.00	\$7,000.00			\$9,500.00	
48	Construct a low infrastructure outdoor classroom.				\$15,000.00		\$15,000.00	
49	Collaborate with the Westbank First Nation to undertake a cultural resource protection strategy including inventory of cultural resouces and information related to the Okanagan peoples traditional use of the land.	Adopted plan for the preservation of cultural artifacts.	\$15,000.00				\$15,000.00	Westbank First Nation. Ministry of Forests, Lands and Natural Resource Operations.
		Capital by Phase	\$17,500.00	\$7,000.00	\$15,000.00		\$39,500.00	
		Short Term (FTE)	0.15					

Stewardship and Partnerships								
56	Encourage and promote a Friends of Goats Peak Regional Park society as a means of garnering community support and involvement in park management.				\$3,500.00		\$3,500.00	Volunteers/Stakeholder groups
57	Engage the community and local stewardship groups to participate in weed removal and restoration projects			\$3,500.00			\$3,500.00	Volunteers/Stakeholder groups
58	Implement the Regional District's Volunteer in Parks Program (VIP) to monitor trail use, to raise awareness of the ecological and cultural sensitivities of the park and provide information to park visitors.		\$3,500.00				\$3,500.00	Volunteers/Stakeholder groups
		Capital by Phase	\$3,500.00	\$3,500.00	\$3,500.00	\$0.00	\$10,500.00	
		Short Term (FTE)	0.10					
Operations and Maintenance								
60	Continue to follow rockfall hazard recommendations as provided by the geotechnical consultant.		\$5,000.00	TBD, based off results of monitoring			\$5,000.00	
61	Integrate mitigation measures at steep transition points adjacent to steep drop offs on Big Sage Trail.		\$10,000.00				\$10,000.00	
62	Provide education to Regional District staff and contractors regarding the park's conservation goals and strategies.		\$2,000.00				\$2,000.00	
63	Continue to meet service levels for passively managed areas based on annual operations and maintenance costs per hectare of passively managed areas.		\$75,000.00	\$76,000.00	\$78,030.00	\$79,600.00	\$308,630.00	
65	Review action priorities, estimated capital cost and required FTEs every 5 years.			\$5,000.00	\$5,500.00	\$6,000.00	\$16,500.00	
		Capital by Phase	\$92,000.00	\$81,000.00	\$83,530.00	\$85,600.00	\$342,130.00	
		Short Term Park Operational (FTE)	0.15					
		Grand Total by Term	\$325,500.00	\$257,075.00	\$158,980.00	\$115,750.00	\$857,305.00	

Construction costs include 25% contingency, design and administrative costs include 15% contingency, and 2% inflation is applied beyond short term recommendations.

Planning Items - ongoing policy			
Action Item	Action	Measurable Outcomes (where applicable)	Potential Partners
Passive Recreation			
1	Construct trails to appropriate Regional District trail design standards. Re-route existing informal trails scheduled to be formalized to allow for gentle turns and less steep transitions.	Reduce quantity of informal trails, and reduce erosion on trails	
9	Practice best management practices such as minimizing soil disturbance, avoiding the spread of noxious weeds, respecting native plants, animals, and respecting First Nations and Cultural resources.		
11	Treat restoration as an adaptive experiment. Monitor the areas for success of restoration in combination with educational institutions.		
12	Do not support recreational rock climbing on the cliffs within the park due to possible ecological impacts to species-at-risk.		
13	Work with adjacent land owners to develop trail access from the eastern extent of Big Sage Trail to Whitworth Road through an easement or statutory right of way.		Adjacent Land Owners
14	As opportunities arise, assess possible park entries to the north. Limit the number and location to protect the park's sensitive areas and to limit fragmentation.		
17	Develop park infrastructure according to Regional District design guidelines to ensure appropriate and consistent use of materials and standards.		

Planning Items - ongoing policy			
Action Item	Action	Measurable Outcomes (where applicable)	Potential Partners
<b>Conservation</b>			
16, 29	Permit informal non-motorized small craft landing at the beach at the bottom of Ogopogo Trail. Monitor for possible impacts from recreational use of the waterfront to ensure activities do not diminish the productive capacity of biophysical resources.	no net loss of fish or wildlife habitat	
22	Manage pest management with the use of best practices until such a time as a Regional Park System Integrated Pest Management Program can be developed.		
24	Monitor successional changes in grassland/sagebrush ecosystem and develop long-term plans for tree/shrub removal.		
25	Develop a partnership to undertake an inventory and assessment plan for ecosystems and species at risk.		
26	Wherever possible, preserve old veteran trees and snags and create wildlife trees if tree removal is planned.	Wildlife trees identified and protected	
27	Protect key shoreline habitat features through established mechanisms.	No structural alternations to shoreline, no alteration of riparian vegetation or aquatic vegetation, no construction of structures or a formal swimming beach.	
28	Monitor for the establishment of invasive weeds in the foreshore, particularly purple loosestrife ( <i>Lythrum salicaria</i> ) on an ongoing basis.		
30	Continue to support the Ministry of Environment's efforts to monitor Kokanee shore spawning inventory numbers.		
31	Participate, along with all levels of government and the First Nations, in any future lakeshore management planning initiatives.		
35	Allow natural successional changes to proceed in the burn area and monitor for progress.		
37	Conduct a hazard tree assessment as part of establishing any adopted trails within the burn area. Where possible, reroute trails away from any standing snags rather than removing dead trees.		
38	Continue to be aware of provincial and federal conservation and restoration priorities and how these priorities can be of benefit to Goats Peak and Regional Parks in general.	Cooperative joint programs in conservation and restoration	Ministry of Environment, CWS
39	Use the nine conservation planning principles as a suggested starting point to develop a region-wide policy		
40	Explore options to expand the park boundaries to protect more complete ecosystems, ensure greater protection of critical habitat, maintain essential wildlife corridors and enhance recreational greenways.		
41	Work with all levels of government, land trusts, conservation groups and private land owners to explore possible options to protect and enhance the park boundaries.		
42	If future boundary expansion is not possible, advocate for the establishment of adequate buffers around the park and wildlife corridor.		Wildlife Service, Okanagan Collaborative Conservation Program Gellatly Bay Parks and



Planning Items - ongoing policy			
Action Item	Action	Measurable Outcomes (where applicable)	Potential Partners
Interpretation and Education			
46	Collaborate with Westbank First Nation to develop and co-present an information program on the WFN local culture and history.		Westbank First Nation
47	Promote the park as an area of scientific study and share knowledge of management of a public park in conservation zones.		Academic Institutions and Conservation Programs
Stewardship and Partnerships			
50	Continue to encourage and support cooperation amongst regional partners, provincial ministries and stakeholders for the management of regional biodiversity.		Regional Partners, Provincial Ministries, Stakeholder Groups
51	Continue to work with the federal and provincial government environment departments to monitor for upcoming recovery strategies and management plans. Review the park management plan if further habitat protection is required.		Federal Ministries, Provincial Ministries
52	Continue to work with the OCCP to keep up to date on regional conservation initiatives and ensure an integrated approach to conservation and restoration in the region.		OCCP
53	Work in conjunction with the OCCP to explore opportunities for grant funding including the Habitat Conservation Trust Program and Eco-Action Community Funding Program.		OCCP
54	Continue to work with the OCCP, UBC and local governments to determine requirements and actions to establish appropriate wildlife corridors to outline natural areas beyond the park boundaries.		OCCP, Academic Institutions, Local Government
Operations			
59	Work with partnering jurisdictions to assess the need for year round access and appropriate levels of winter maintenance on Big Sage Trail, as a component of the Regional Active Transportation Network.		Regional Active Transportation Network Partners
64	Include top implementation priorities within the Regional District's annual 5 year financial plans.		

# GLOSSARY OF TERMS AND ACRONYMS

## Acronyms

Aquatic Habitat Index Rating (AHI)

BC Conservation Data Centre (BC CDC)

Committee on the Status of Endangered Wildlife in Canada (COSEWIC)

Environmentally Sensitive Area (ESA)

Federal Government's Species at Risk Act (SARA)

Foreshore Inventory and Mapping (FIM)

Okanagan Collaborative Conservation Program (OCCP)

Ministry of Forests, Lands and Natural Resource Operations (MFLNRO)

## Terms

**Comfort Station:** Outhouse, as defined in the Regional District Guidelines Document. Comfort stations should be placed in proximity to major park entrances, parking lots, or major activity nodes.

**Cultural Resource:** A general term used to refer to archaeological sites, historic structures, monuments, artifacts, traditional cultural properties, and/or other human expressions of ethnic or national identity. They are places or objects of local and national heritage with cultural, historical, spiritual or ceremonial significance.

**Ecological Scorecard:** A scoring method using fixed set of standard questions, key indicators and scoring criteria to measure the ecosystem health of the regional parks by monitoring and evaluating progress over time towards defined management goals and practices.

**ESA (Environmentally Sensitive Area):** A site or area that has environmental attributes worthy of retention or special care and which are protected by government regulations. Environmentally sensitive areas range in size from small patches to extensive landscape features and can include rare or common habitats, plants and animals.

**Hibernaculum (Plural: Hibernacula):** A sheltered place where an overwintering animal rests, or a den where snakes hibernate.

**Informal Trails:** Unsanctioned, unplanned trails created by users.

**Interpretation:** A communication and education process designed to reveal meanings and relationships with a park's landscape, stories and features. Interpretation establishes a value of preserving park resources by helping audiences discover meanings and significance of a place.

**Kokanee Red Zone:** Foreshore Sensitivity, as defined by the BC Ministry of Environment - High to very high habitat value for kokanee shore spawning.

**Kokanee Yellow Zone:** Foreshore Sensitivity, as defined by the BC Ministry of Environment - Generally moderate habitat value, with some high value habitat for kokanee shore spawning.

**Management Zone:** Park management zone categories, as defined by the RDCO Official Regional Parks Plan, are identified by the predominant nature of the landscape and are based on the degree

of environmental protection or ecological conservation, management focus, extent of park development and intensity of recreational opportunities within regional parks. The five management zones reflect the management focus and operational objectives within the Regional Parks.

- *Special Preservation:* Management focus is primarily on ecosystems. Operational objectives include a high level of conservation for sensitive ecosystems and species at risk or of concern, minimal to no park development where possible, recreational opportunities limited to trails that support low volume use, and appropriate construction methods are used for working in sensitive ecosystems.
- *Ecosystem:* Management focus is more towards ecosystem than park development. Operational objectives include conservation of sensitive ecosystems and species at risk or of concern, park development limited to trails and minor trail amenities/infrastructure, and recreational opportunities are limited to trails that support low volume use.
- *Natural Environment:* Management focus is balanced between ecosystem and low intensity passive recreational use. Operational objectives include conservation of sensitive areas and species at risk or of concern within the natural ecosystems, park development and recreational opportunities are limited to trails and trail infrastructure that support moderate volume use.
- *Outdoor Recreation:* Management focus is on recreation. Operational objectives include development of passive and active recreational amenities, turf areas, and trails that support higher volume use.
- *Park Services:* Management focus is on park service delivery and infrastructure. Management objectives include development of infrastructure and amenities such as washrooms, park operations yards, parking areas and administration buildings.

*Passive Recreation:*

- Unstructured, natural resource based activities that occurs in natural landscapes;
- Provides opportunities for people to connect with nature and appreciate the natural environment;
- Does not require the provision of extensive park amenities or specialized facilities;
- Results in non-consumptive, minimal impact and/or disturbance to natural and cultural resources; and
- Non-motorized, low impact and primarily of a day use nature.
- Examples of passive recreation activities include: nature appreciation, walking, hiking, cycling, picnicking, birdwatching, photography and canoeing.

*Ponderosa Pine Biogeoclimatic Zone:* One of fourteen biogeoclimatic or ecological zones in British Columbia. The zone is characterized by open ponderosa pine stands, minimal shrub cover and abundant grasses with hot dry summer conditions and cool winters with little snow. This is the driest forested zone in British Columbia, as defined by the Biogeoclimatic Ecosystem Classification (BEC).

*Regional Natural Area Parks:* A regional park classification which guides the management decisions, access and design elements within it. 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 feature of geology, physiography, vegetation communities, or wildlife habitat.

*Stewardship:* Stewardship is the management, monitoring, protection and enhancement of the natural environment and resources for future generations.

*Wayfinding:* Information systems that guide visitor navigation, orientation and identification to their surroundings. Examples of park wayfinding infrastructure are kiosks, directional and informational signs, trail blazes/markers and maps.

## APPENDIX A: FUR BRIGADE TRAIL

The local Fur Brigade Trail, one of two routes used by Hudson's Bay Company fur traders to transport furs, goods and supplies through the region, is said to have passed north-west of, but not through, Goats Peak Regional Park, presumably due to steep grades. Despite not passing through the park, the trail plays a significant role in the area's history.

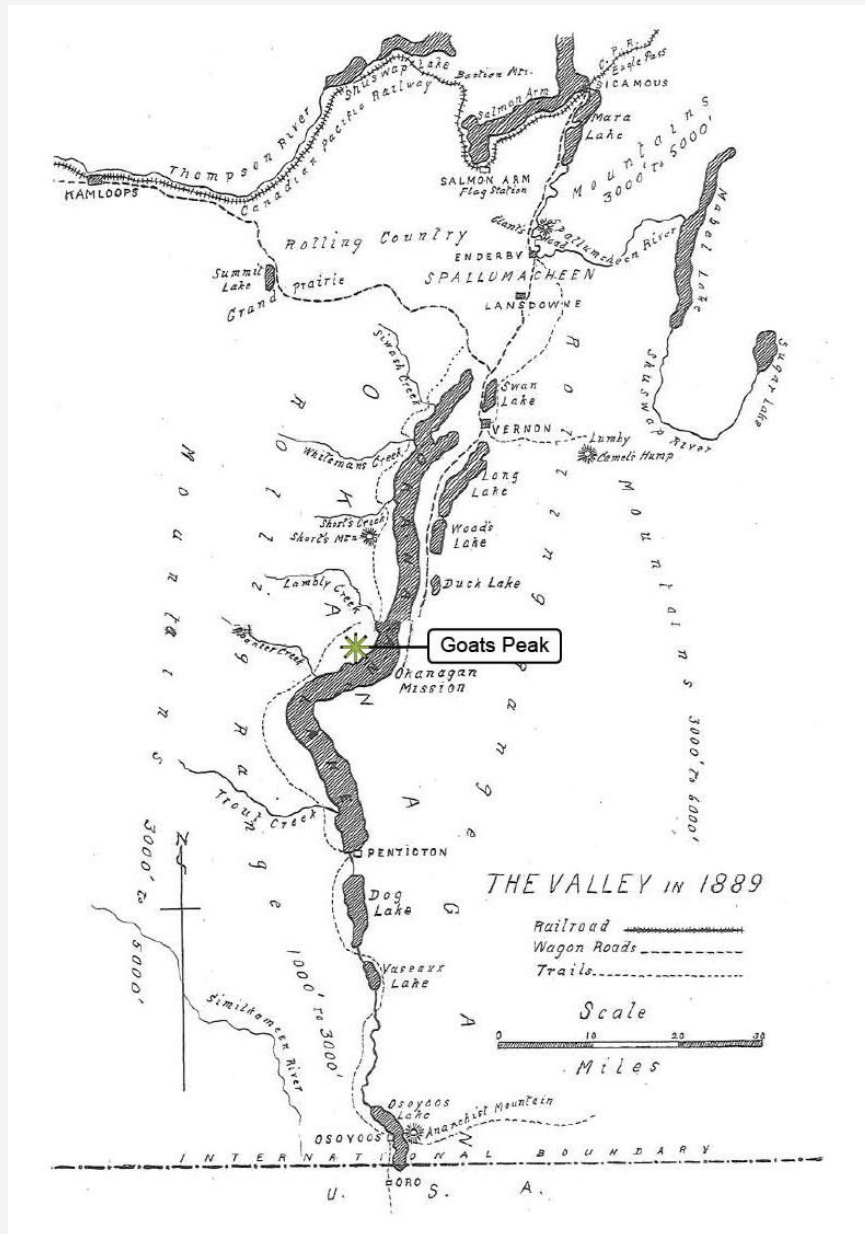


Figure 8: Fur Brigade Trail, provided by Randy Manuel. Historian. Personal communications (1, Sept. 2015).

## **APPENDIX B: CONSULTATION RESULTS**



## GOATS PEAK PUBLIC QUESTIONNAIRE ANALYSIS

To gauge public feedback on Two Draft Concept Plans, developed for the Goats Peak Draft Park Management Plan, our team conducted a questionnaire on behalf of the Regional District of Central Okanagan. We collected responses from 18 people on-line and 4 people filled in the hardcopy version of the questionnaire. Respondents were between age 35 and 74, 43% female, 57% male 71% reside in West Kelowna and 21% reside in Kelowna.

According to the questionnaire there is overwhelming support (81%) for the draft Vision Statement. When asked to describe their ideal future for Goats Peak Regional Park, responses emphasized the importance of nature; the words nature, natural or naturally came up in 8 out of the 13 written responses. In addition, 8 out of 13 responses referred to recreation, most commonly in the form of low-impact, passive recreation such as walking or hiking.

There was also high support for the draft goals presented on board two. The weighted average for each goal was between 4.64 and 4.86 out of 5.00 (1= I don't support to 5= fully support). One respondent mentioned the challenges of providing educational programs for students in a park with steep terrain and sensitive species.

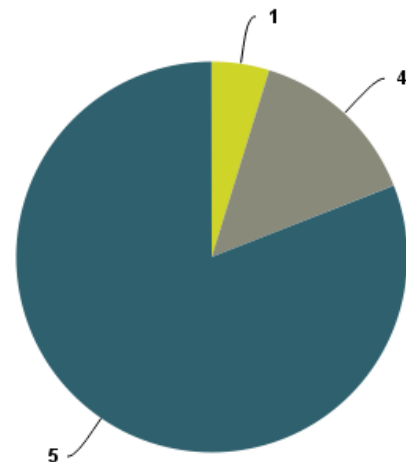
The questionnaire asked respondents to rank the proposed recommendations to reflect their top priorities for Goats Peak Regional Park. According to the weighted averages the ranking of recommendations from top priority to lowest priority is as follows:

1. Conservation of sensitive habitats and ecosystems;
2. Opportunities for family hiking and day use;
3. Opportunities for intermediate to advanced hiking;
4. Strong public information and awareness program highlighting the sensitivity of the park;
5. Restoration of disturbed sites;
6. Opportunities for low-impact water access;
7. Opportunities for cultural and historic interpretive programs;
8. Opportunities for beginner and intermediate mountain biking on shared use trails;
9. A low infrastructure outdoor classroom area made from natural materials i.e. logs and boulders, and
10. Ongoing science-based research into ecosystems and species at risk in conjunction with community groups, educational institutions, conservation societies and wildlife authorities.

This prioritization reveals the importance of simultaneously supporting ecological conservation and low-impact, passive recreation. Mountain biking came in low on the list at number 8.

**Q1 In your opinion, does the Vision Statement capture a realistic, sustainable, long range vision for the Park? (1= I don't support to 5= I fully support).**

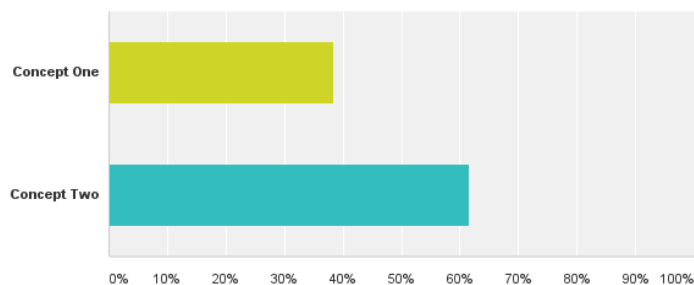
Answered: 21 Skipped: 1



Respondents had a preference for concept two. Some respondents liked that Concept 1 would have a lower impact on the park and restrict mountain bike, but others did not like the lack of user experience, especially, no loop option and no advanced hiking trail to the peak. Respondents liked Concept 2 for its looped trail and advanced hiking trail to the peak, however some respondents like that the loop trail is multi-use and others do not, with slightly more respondents disliking the idea of a multi-use trail. Concern was expressed that biking and hiking do not mix safely and that wider trails may be inappropriate in a conservation area with steep slopes.

**Q5 Which of the two Draft Concept Plan options most closely resembles your ideal vision for the Regional Park? Please refer to Display Panels 4 and 5. Please check one:**

Answered: 13 Skipped: 9

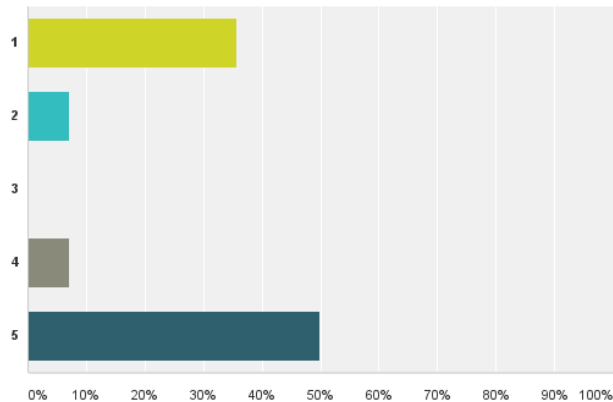


The Park will provide opportunities for hiking and cycling as part of the region's Active Transportation Network, but when asked if respondents support mountain biking as a secondary, allowable use on OTHER trails within the park, response was very polarized. 36% of respondents don't support and 50% very much support, with few responses in the middle. This result highlights that this is potentially a very divisive issue that will need to be managed carefully.

The comments to this question suggest that clarity is needed on the difference between the proposed cycling route as part of the Active Transportation Network and proposed mountain biking on OTHER trails. Written comments suggest that respondents approve of the Active Transportation Network and disapprove of mountain biking on OTHER trails (with two exceptions), and this may explain the polarized response. Respondents cite limited size of the park, steep slopes, erosion, and safety as key determinants to permitting mountain biking in the Park.

**Q8 A multi-use trail is planned across the Park and will provide opportunities for hiking and cycling as part of the region's Active Transportation Network. Do you support mountain biking as a secondary, allowable use on OTHER trails within the park? Please rate your response from 1-5 (1= I don't support to 5 = I very much support).**

Answered: 14 Skipped: 8



Support for the proposed level of access along the waterfront is much clearer, with 57% of respondents very much in support. Respondents clarified in their comments that they support non-motorized water access that does not have a negative impact on the aquatic ecosystems.

Respondents also support the proposed conservation enhancement strategies, with 57% of respondents very much in support.

The majority of respondents did not see a need to incorporate any additional low-impact recreation activities, park improvements, or site amenities, however the following amenities/improvements were mentioned: outhouses, trail maps, interpretive signage on ecology and native history, picnic tables, benches, shelters, stairs with handrails, and accessibility for people with disabilities and strollers.

## **Stakeholder Session 1**

**September 15, 2015 1:30pm**

Represented Groups: Central Okanagan Land Trust, Gellatly Bay Trail and Park Society, Central Okanagan Outdoor Club

Stakeholders in this group are very familiar with the site having visited, written about, helped with negotiations and advocated for the park.

### **Visions for the Park:**

- Designated trails
- Doubtful regarding a programmed swimming beach
- Protect the iconic local landscape
- Limited site interventions
- Protect/enhance Biodiversity
  
- General support for the draft vision
- Many users access the park via Pebble beach when the water is down.

### **Analysis:**

- This is the only regional park that cannot be accessed directly by the adjacent community. Need improved access through bylands
- Question: is adjacent property sub-dividable?
- Have equestrians been considered? There is a local stable.
- Not seen as a biking park – mountain biking has decreased since the fire
- Motorized boating is not appropriate
- There is only one habitat connector tunnel – the other one is further west
- Lars Carscad (sp?) has had trail cameras at Goats Peak to id wildlife entering park
- Gellatly family used to pasture goats at Goats Peak
- Erosion is currently a concern along trails. Keep trails away from the waterfront
- No trees have regenerated since the fire

### **Concepts:**

- General consensus around Concept #2, but without mountain biking beyond the main trail, bikes should be discouraged elsewhere in the park.
- Trail users would try to summit the peak regardless of there being a trail there. Better to keep people on a designated trail.
- The park will be managed as a natural park, not as a major destination.
- Comments on the park not being large enough.

## Stakeholder Session 2

September 15, 2015 3:15pm

Represented Groups: Central Okanagan Naturalists Club, Westbank Museum and Visitor Center, FLRN Ecosystems, Canadian Wildlife Service, Okanagan Collaborative Conservation Centre, City of West Kelowna

### Visions for the Park:

- Conservation of ecosystems and visual amenities
- Non-motorized transportation corridor
- Conservation and tourism opportunity: a quiet destination
- Conservation and hiking focus
- Conservation and kokanee management
- Species at risk, conservation of critical habitats, low impact recreation

### Analysis

- 
- More wildlife data needed
- Dogs on leash would increase the number of users – dogs okay from Kokanee perspective, but sedimentation and feces in the water could be a concern.
- Keep “recreation” out of vision statement

### Enhancement Strategies

- If possible, keep trails away from hibernacula – can tell possible areas by topography
- No federally listed plants
- Sage brush as a focus for conservation
- Route trails to avoid any potential veteran trees (keep as many trails as shown in Concept #2) to ensure that they won't need to come out as “hazard” trees
- Often a caretaker's house on regional parks
- Would ESAs to the north be absorbed or would it become a West Kelowna park?
- Look at broader connections to other natural areas

### Concepts:

- General consensus around Concept #2, but without mountain biking beyond the main trail, bikes should be discouraged elsewhere in the park.
- Single Track Trail:
  - o is it to keep people on the trail who would be there regardless, or is it a draw to the park? Greater support if it is to manage trail users who will be there regardless.
  - o More indepth wildlife surveys should be undertaken.
  - o Loop trails are appreciated. A small loop is suggested at the end of the single track path.
  - o There is an existing trail – Mark at West Kelowna to send GIS files to Katy.
- Appreciate interpretation, park rules and enforcement
- General consensus that mountain bikers will not be drawn to Goats Peak Park – the trail system is too short and too steep. Bike parking recommended at end of bikeable area of park.

- Comparison made to Knox Park.
- Is there research about impacts of dogs on conservation? i.e. rattlesnakes'?
- Consider re-routing trails vs formalizing informal trails where they have been poorly sited. i.e. near valuable snags.
- JK to follow up with Josie re: Kokanee Zones (2013 map on imap)



## APPENDIX C: CONSERVATION PLANNING PRINCIPLES

The Regional District has a comprehensive stewardship policy for planning the regional park system. Related agencies such as BC Parks and Parks Canada have also developed conservation planning principles. Nine principles have been developed to help guide Regional District's future decision-making and operation of the new park.

**Maintain Ecological Integrity.** Ecological integrity refers to a condition in which biotic and abiotic components of ecosystems are allowed to function normally and the structure, composition and abundance of native species and natural processes are characteristic for their natural regions. Wildfires are an example of a key ecological process that are essential in shaping the park's ecosystem and are discussed in more detail later in this section of the management plan.

**Maintain Ecosystem Resilience.** Resilience is the ability of the ecosystem to withstand disturbance or to recover from disturbance and is a reflection of both the health and sensitivity of an ecosystem. Resilience is often achieved through protection of biodiversity.

**Maintain Ecological Connectivity.** The movement of organisms throughout the landscape from one preserve to another is essential to maintain populations, especially endangered species. Corridors can offset the impacts of habitat loss and fragmentation on biodiversity and increase the resilience to potential threats associated with climate change.

**Maintain buffers to reduce edge effect.** Land use practices surrounding conservation areas can have potentially adverse effects on a park's ecological integrity such as: allowing increased human access, promoting weed infestations, increasing access by pets and reducing wildlife movement changing drainage patterns. Establishing buffer zones can absorb and avoid negative edge effects.

**Apply Adaptive Management.** Conservation is still an evolving science with unpredictable outcomes and trade-offs. A successful program involves setting clear goals, adopting a management plan then implementing ongoing monitoring and data collection to track progress combined with refining and adjusting actions where needed to ensure attainment of the goals.

**Apply the Precautionary Principle.** Since there is uncertainty in conservation management, practitioners often adopt a conservative approach to err on the side of doing no harm to the environment. Planning development and maintenance work should be planned carefully with full information such as site assessments, CDC bio-inventory data, as well as public consultation are essential steps. Small -scale experimental programs may support this approach.

**Limit direct and indirect impacts.** Recreational activities can bring unwanted negative impacts, such as, soil erosion, disturbance to wildlife and decreased habitat quality. The best approach is to adopt a system of park land-use zones reflecting appropriate conservation levels and levels of recreational use. Seasonal zones may apply to known important breeding sites. Public education to raise awareness and support is also essential. Clear park development and operations standards and best management practices will be needed. Applying the Precautionary Principle coupled with ongoing Adaptive Management is essential.

**Engage the entire community.** Ecosystems do not know political or geographic boundaries. Ecosystems are a dynamic complex of plant, animal and microorganism communities that operate more on a regional or landscape scale in order to maintain their composition, structure and function. Successful conservation requires a cooperative, collaborative approach throughout the region and among all levels of government, non-government and private sector organizations, land owners

and other residents. Healthy human communities require the coexistence of healthy, fully functioning ecosystems.

**Manage for change.** In the face of global climate change, as well as the evolution of novel ecosystems, conservation must shift from trying to preserve existing conditions to managing changing ecosystems. The goal is to maintain dynamic and resilient systems by protecting underlying ecological and evolutionary processes so that ecosystems can adapt and evolve. For example, in the long term, climate change is predicted to favour drought- tolerant plants increasing the grassland communities at the expense of Ponderosa pine and interior Douglas-fir.

## APPENDIX D: RESOURCES FOR INFORMATION ON PINE BEETLES

- BC Ministry of Forests. Insects of the Southern Interior Forest Region. Western Pine Beetle *Dendroctonus brevicomis*  
<https://www.for.gov.bc.ca/rsi/foresthealth/PDF/WPBpamphlet.pdf>
- BC Ministry of Forests, Lands and Parks. Mountain Pine Beetle.  
[https://www.for.gov.bc.ca/hfp/mountain\\_pine\\_beetle/faq.htm](https://www.for.gov.bc.ca/hfp/mountain_pine_beetle/faq.htm)
- Ministry of Forests, Lands and Natural Resource Operations, Douglas-fir Tussock Moth Management Strategy .  
[https://www.for.gov.bc.ca/rsi/foresthealth/PDF/DFTM\\_Strategy\\_Feb\\_2013.pdf](https://www.for.gov.bc.ca/rsi/foresthealth/PDF/DFTM_Strategy_Feb_2013.pdf)
- City of Kelowna. Pine Beetle. <http://www.kelowna.ca/CM/page1077.aspx>

## **APPENDIX E: CONSERVATION STATUS OF 30 POTENTIAL SPECIES-AT-RISK AND THEIR LIKELIHOOD OF OCCURRENCE IN GOATS PEAK REGIONAL PARK**

TABLE AA GoatsPeak: Status of Potential Species- at- risk ( From Lucy Reiss. Environment Canada)

LEGAL NAME	SCIENTIFIC NAME	TAXONOMIC GROUP	COSEWIC STATUS	SARA STATUS	CURRENT SCHEDULE	SPP JURISDICTION	Mig bird?	Ecoscape report Table 4	Likely to occur within Goat's Peak park?	Rationale	Recovery strategy / management plan / COSEWIC Status Report if RS/MP not available
Great Basin Spadefoot	<i>Spea intermontana</i>	Amphibians	Threatened	Threatened	Schedule 1	Provincial		yes	Less likely	No nearby wetlands or obvious breeding areas	<a href="#">Recovery Strategy for the Great Basin Spadefoot (Spea intermontana) in British Columbia</a>
Tiger Salamander (Southern Mountain population)	<i>Ambystoma tigrinum</i>	Amphibians	Non-active	Endangered	Schedule 1	Provincial		yes	Unlikely	Northern extent of range is Peachland	
Western Tiger Salamander (Southern Mountain population)	<i>Ambystoma mavortium</i>	Amphibians	Endangered	No Status	No schedule	Provincial		yes	Unlikely	Northern extent of range is Peachland	
Western Toad	<i>Anaxyrus boreas</i>	Amphibians	Non-active	Special Concern	Schedule 1	Provincial		yes	Likely / Possible?	Within range, plausible that breeding could occur in shallow areas of Okanagan Lake, suitable foraging habitat	<a href="#">Management Plan for the Western Toad (Anaxyrus boreas) in British Columbia</a>
Western Toad (Calling population)	<i>Anaxyrus boreas</i>	Amphibians	Special Concern	No Status	No schedule	Provincial		yes			
Western Toad (Non-calling population)	<i>Anaxyrus boreas</i>	Amphibians	Special Concern	No Status	No schedule	Provincial		yes			
Barn Swallow	<i>Hirundo rustica</i>	Birds	Threatened	No Status	No schedule	Federal	Yes	yes	Confirmed	<a href="#">ebird records 2009-2015</a>	<a href="#">COSEWIC Assessment and Status Report on the Barn Swallow Hirundo rustica in Canada</a>
Bobolink	<i>Dolichonyx oryzivorus</i>	Birds	Threatened	No Status	No schedule	Federal	Yes	yes	Less likely	Habitat not suitable	<a href="#">COSEWIC Assessment and Status Report on the Bobolink in Canada</a>
Common Nighthawk	<i>Chordeiles minor</i>	Birds	Threatened	Threatened	Schedule 1	Federal	Yes	yes	Confirmed	<a href="#">ebird records 2011-2014</a>	
Flammulated Owl	<i>Otus flammeolus</i>	Birds	Special Concern	Special Concern	Schedule 1	Provincial		yes	Likely / Possible?	Suitable habitat (maybe not ideal, depending on mix of Fd to Py), within range	<a href="#">Management Plan for the Flammulated Owl (Otus flammeolus) in British Columbia</a>
Lewis's Woodpecker	<i>Melanerpes lewis</i>	Birds	Threatened	Threatened	Schedule 1	Federal	Yes	yes	Confirmed	Ecoscape report, ebird records 2008-2015	Sent via email
Olive-sided Flycatcher	<i>Contopus cooperi</i>	Birds	Threatened	Threatened	Schedule 1	Federal	Yes	yes	Confirmed	<a href="#">ebird records 2010-2015</a>	
Rusty Blackbird	<i>Euphagus carolinus</i>	Birds	Special Concern	Special Concern	Schedule 1	Federal	Yes	yes	Likely / Possible?	Possible suitable habitat along lakeshore? e-bird records at mouth of Power's Creek (nearby)	<a href="#">COSEWIC assessment and status report on the Rusty Blackbird Euphagus carolinus in Canada</a>
Short-eared Owl	<i>Asio flammeus</i>	Birds	Special Concern	Special Concern	Schedule 1	Provincial		yes	Likely / Possible?	Suitable habitat (maybe not ideal depending on openness/ fields?), within range	<a href="#">COSEWIC assessment and update status report on the Short-eared Owl Asio flammeus in Canada</a>
Western Screech-Owl macfarlanei subspecies	<i>Megascops kennicottii macfarlanei</i>	Birds	Threatened	Endangered	Schedule 1	Provincial		yes	Possible	Within range, not a lot of suitable habitat though?	<a href="#">Recovery strategy for the Western Screech Owl (Megascops kennicottii macfarlanei) in British Columbia</a>
Williamson's Sapsucker	<i>Sphyrapicus thyroideus</i>	Birds	Endangered	Endangered	Schedule 1	Federal	Yes	yes	Less likely	Habitat not suitable	
Yellow-breasted Chat auricollis subspecies (Southern Mountain population)	<i>Icteria virens auricollis</i>	Birds	Endangered	Endangered	Schedule 1	Federal					
							Yes	yes	Less likely	Habitat not suitable	
Monarch	<i>Danaus plexippus</i>	Arthropods	Special Concern	Special Concern	Schedule 1	Provincial		yes	Less likely	Milkweed not present?	<a href="#">COSEWIC Assessment and Status Report on the Monarch Danaus plexippus in Canada</a>

[illegible]

## **APPENDIX F: HABITAT REQUIREMENTS AND THREATS FOR FOCAL SPECIES**



TABLE ## AB. Summary of threats and habitat requirements for fifteen focal species- at- risk in Goats Peak Regional Park.

CONFIRMEND SPECIES				
SPECIES	SARA STATUS	THREATS	HABITAT REQUIREMENTS	REFERENCE
Common Nighthawk	Threatened	<ul style="list-style-type: none"> <li>Uncertain; loss of habitat, decline in insect populations, increased predation are likely causes</li> </ul>	<ul style="list-style-type: none"> <li>Nests in a wide range of open, vegetation-free habitats, including dunes, beaches, recently harvested forests, burnt-over areas, logged areas, rocky outcrops, rocky barrens, grasslands, pastures, peat bogs, marshes, lakeshores, and river banks.</li> </ul>	<a href="http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=986">http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=986</a>
Lewis's Woodpecker	Threatened  (Current population estimate in British Columbia is 315–460 breeding pairs occurring in the southern interior of British Columbia).	<ul style="list-style-type: none"> <li>Loss of habitat</li> <li>Fire suppression in ponderosa pine forests</li> <li>interspecific competition from European Starlings</li> </ul>	<ul style="list-style-type: none"> <li>The most common breeding habitats of are open, mature ponderosa pine forests; riparian black cottonwood stands adjacent to open areas; and recently logged or burned coniferous forests with standing snags.</li> <li>Essential habitat features are large, standing dead or dying trees (snags) for nesting cavities, and relatively open areas for feeding.</li> </ul>	<a href="http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=589">http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=589</a>  <a href="http://www.registrelep-sararegistry.gc.ca/default.asp?lang=En&amp;n=1F98A1D2-1">http://www.registrelep-sararegistry.gc.ca/default.asp?lang=En&amp;n=1F98A1D2-1</a>
Olive-sided flycatcher	Threatened	<ul style="list-style-type: none"> <li>Uncertain; loss of habitat, decline in insect populations, increased predation are likely causes</li> </ul>	<ul style="list-style-type: none"> <li>breeds in scattered locations throughout most of forested Canada</li> <li>Often associated with open areas containing tall live trees or snags for perching. These vantage points are required for foraging.</li> <li>Open areas may be forest clearings, forest edges located near natural openings (such as rivers or swamps) or</li> </ul>	<a href="http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=999">http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=999</a>

			<p>human-made openings (such as logged areas), burned forest or openings within old-growth forest stands</p> <ul style="list-style-type: none"> <li>• Prefers forests characterized by mature trees and large numbers of dead trees.</li> </ul>	
Western Yellow-bellied Racer	Special Concern	<ul style="list-style-type: none"> <li>• Loss of habitat</li> <li>• High road kill mortality</li> <li>• Human persecution</li> <li>• Pesticides</li> <li>• Forest fire suppression</li> <li>• Predation by pests, especially cats</li> </ul>	<ul style="list-style-type: none"> <li>• Commonly associated with the Bunchgrass, Ponderosa pine, Interior Douglas-fir, and dry Interior Cedar–Hemlock biogeoclimatic zones</li> <li>• Found in a wide variety of habitat types that include wet valley bottoms and riparian areas, rocky slopes, and sandy terraces at or below 900 m elevation</li> <li>• Found to share communal hibernacula with Gopher Snake and Western Rattlesnake</li> <li>• Have limited dispersal ability and possess specific microhabitat requirements that are limited in availability.</li> </ul>	<a href="http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do?subdocumentId=9254">http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do?subdocumentId=9254</a>
Western Rattlesnake	Threatened	<ul style="list-style-type: none"> <li>• Loss of habitat</li> <li>• High road kill mortality</li> <li>• Human persecution</li> <li>• Pesticides</li> <li>• Forest fire suppression</li> <li>• </li> </ul>	<ul style="list-style-type: none"> <li>• The Western Rattlesnake occupies the Bunchgrass, Ponderosa Pine, and Interior Douglas-fir biogeoclimatic zones.</li> <li>• Rattlesnakes require several interconnected habitats to perform their life history functions.</li> <li>• The habitat of the Western Rattlesnake varies with the seasons. In winter, hibernacula are generally found on the sheer faces of outcrops, along talus slopes or on earth-covered rock outcrops. The hibernacula must provide refuge that is sufficiently deep to protect the snakes from below-freezing temperatures. South-facing slopes preferred. In spring, the rattlesnake migrates to its</li> </ul>	<a href="http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do?sessionid=FGDCVtvJ3hMGmQHvf1fv07vSjbpBH448n7LL2kG1SJWn9rLz1WYZ!-102646030?subdocumentId=7182">http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do?sessionid=FGDCVtvJ3hMGmQHvf1fv07vSjbpBH448n7LL2kG1SJWn9rLz1WYZ!-102646030?subdocumentId=7182</a>  <a href="http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=986">http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=986</a>  <a href="http://ecoreserves.bc.ca/wp-content/uploads/2013/08/CROR-sps-account.pdf">http://ecoreserves.bc.ca/wp-content/uploads/2013/08/CROR-sps-account.pdf</a>

			<p>summer range consisting of grasslands that provide basking sites, shelter and food sources. Shrub-steppe/grasslands comprise the most significant component of foraging habitat, but they also are associated with riparian and ponderosa pine habitats during the summer foraging period. The snakes are also known to migrate to shoreline areas in extremely hot weather. Rattlesnakes spend a good deal of their time underneath or near objects that provide shelter, including rocks, dead trees, and man-made objects such as pieces of concrete, sheets of plywood and discarded construction materials.</p> <ul style="list-style-type: none"> <li>During migration, individuals follow specific dispersal corridors, typically up to 1 km, in a straight line distance, from their hibernation site.</li> </ul>	
SPECIES LIKELY TO OCCUR IN THE PARK				
SPECIES	SARA STATUS	THREATS	HABITAT REQUIREMENTS	REFERENCE
Western Toad	Special concern	<ul style="list-style-type: none"> <li>pesticides, ultraviolet radiation, fungal infection</li> <li>Loss of habitat</li> <li>vulnerable to road kill, predation, and barriers to movement during migration</li> </ul>	<ul style="list-style-type: none"> <li>Can be found in many biogeoclimatic zones: Bunchgrass, Ponderosa Pine, Interior Douglas-fir. Thought to exist as metapopulations, or a series of relatively independent subpopulations</li> <li>Require waterbodies to breed in.</li> <li>Terrestrial habitats include a variety of grassland, forest, shrub, marsh, and meadows</li> <li>Hibernation takes place in underground burrows or crevices in terrestrial habitats and in at least some areas is communal</li> </ul>	<a href="http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do;jsessionid=znYyVzNh815PqC4fhQl2xwLK18x1Jyl33TvVy7pnD2wr70C4xQV1!992352579?subdocumentId=9843">http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do;jsessionid=znYyVzNh815PqC4fhQl2xwLK18x1Jyl33TvVy7pnD2wr70C4xQV1!992352579?subdocumentId=9843</a>
Flammulated owl	Special concern	<ul style="list-style-type: none"> <li>fire and fire suppression</li> <li>Loss of habitat</li> </ul>	<ul style="list-style-type: none"> <li>in drier Interior Douglas-fir (IDF) biogeoclimatic subzones and, secondarily, in the Ponderosa Pine (PP) zone. They also use the Bunchgrass (BG) zone</li> </ul>	<a href="http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do?subdocumentId=8552">http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do?subdocumentId=8552</a>

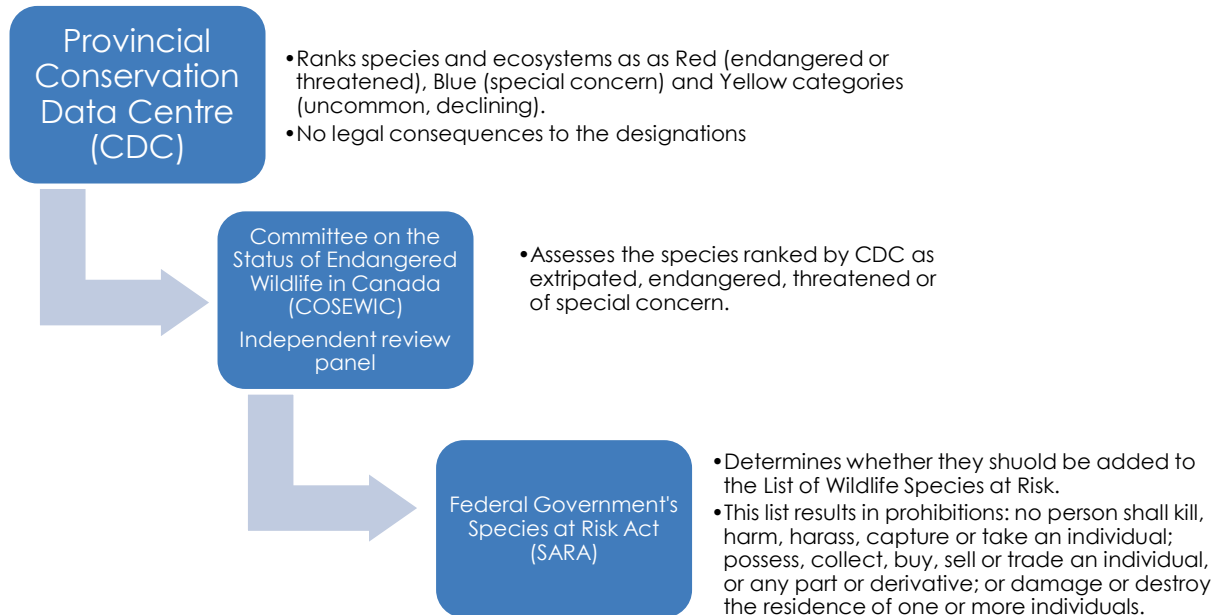
		<ul style="list-style-type: none"> <li>• Pine beetle infestations</li> <li>• A lack of comprehensive studies has resulted in knowledge gaps</li> </ul>	<ul style="list-style-type: none"> <li>• Depends on mature and old-growth, multi-canopied Douglas-fir–leading forests, often with a ponderosa pine component. Flammulated Owl requires wildlife trees for nesting, a low to moderate canopy closure, thickets of younger Douglas-fir for security cover, and open forest or patches with shrub understory for foraging</li> <li>• Canopy cover at nest sites is generally low to moderate, reflecting a preference for the more open forests often associated with old growth under historic fire regimes.</li> <li>•</li> </ul>	
Western Screech owl	Endangered	<ul style="list-style-type: none"> <li>• Loss of habitat, particularly in the Okanagan with decline in riparian cottonwood vegetation and old snags</li> </ul>	<ul style="list-style-type: none"> <li>• This subspecies is found in deciduous valley bottoms and low-elevation riparian areas and to a lesser degree wooded urban areas. Areas with black cottonwood (<i>Populus trichocarpa</i>) are often favoured for nesting but water birch (<i>Betula occidentalis</i>) and trembling aspen (<i>Populus tremuloides</i>) are also associated with occurrences of screech-owls. Suitable nesting habitat typically includes patches of cottonwood, water birch, and aspen, with moderate to dense understorey of shrubs. The presence of wildlife trees for nest cavities is important</li> <li>• There also must be adequate adjacent foraging habitat: woodlands, edges of open habitats including fields and pasture; riparian, coniferous, wetland, or other habitats with suitable perches</li> </ul>	<a href="http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do?subdocumentId=7183">http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do?subdocumentId=7183</a>
Short-eared owl	Special concern			
Rusty Blackbird	Special concern	<ul style="list-style-type: none"> <li>• Loss of habitat primarily in its winter range in the Mississippi</li> <li>• Blackbird control programs</li> </ul>	<ul style="list-style-type: none"> <li>• Its habitat is characterized by forest wetlands, such as slow moving streams, peat bogs, sedge meadows, marshes, swamps, beaver ponds and pasture edges. In winter, it occurs primarily in damp woodlands and cultivated fields.</li> <li>• Has been known to nest in the Okanagan</li> </ul>	<a href="http://registrelep-sararegistry.gc.ca/document/default_e.cfm?documentID=1005">http://registrelep-sararegistry.gc.ca/document/default_e.cfm?documentID=1005</a>  <a href="http://ibis.geog.ubc.ca/biodiversity/efauna/documents/Okanagan_Checklist_2007.pdf">http://ibis.geog.ubc.ca/biodiversity/efauna/documents/Okanagan_Checklist_2007.pdf</a>
Nuttall's cottontail	Special concern	<ul style="list-style-type: none"> <li>• fire and fire suppression</li> <li>• Loss of habitat</li> </ul>	<ul style="list-style-type: none"> <li>• Small population with limited distribution in the south Okanagan valley</li> <li>• Habitat occurs mainly in the Bunchgrass biogeoclimatic</li> </ul>	<a href="http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do">http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do</a>

			zone and open Ponderosa Pine zone but may occur in the Interior Douglas-fir zone. Antelope-brush and sagebrush shrub-steppe and rocky outcrops are the main habitats occupied by this species. Sagebrush and rocky outcrops are the most important habitat attributes.	<a href="http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do?subdocumentId=9301">;jsessionid=Bs5KV0jLyZRcVTF3nVCQZ2nnnMSPyRRynQFc0hh76nR6nnWwM2yG!992352579?subdocumentId=9361</a>
Spotted bat	Special concern	<ul style="list-style-type: none"> <li>loss of habitat</li> <li>Recreational rock climbing can cause disturbances that can lead to roost abandonment.</li> <li>A lack of comprehensive studies has resulted in knowledge gaps</li> </ul>	<ul style="list-style-type: none"> <li>Located in the Bunchgrass, Ponderosa Pine and Interior Douglas-fir biogeoclimatic zones. It uses these regions for both roosting (within crevices in steep cliff faces) and foraging.</li> <li>roosts are specialized as they are typically in cracks and crevices (2.0–5.5 cm wide) on faces of cliffs with vertical faces of up to 400 m and warm aspects</li> <li>The primary foraging habitats for the Spotted Bat are in close proximity to water; marshes, riparian areas, open fields, and clearings in forests</li> </ul>	<a href="http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do?subdocumentId=9301">http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do?subdocumentId=9301</a>
Western harvest mouse	Special concern	<ul style="list-style-type: none"> <li>loss of habitat</li> <li>livestock grazing</li> <li>predation by cats</li> <li>Rodenticides.</li> <li>A lack of comprehensive studies has resulted in knowledge gaps</li> </ul>	<ul style="list-style-type: none"> <li>Intermontane grasslands of the Okanagan and Similkameen valleys, occupying areas with tall, herbaceous cover. It is predominantly located in the Bunchgrass biogeoclimatic zone but is also found in the Ponderosa Pine and Interior Douglas-fir biogeoclimatic zones.</li> <li>require tall grasses and dense vegetative cover for nesting, foraging, and shelter from predators</li> <li>They are most closely associated with antelope-brush (<i>Purshia tridentata</i>), big sagebrush (<i>Artemisia tridentata</i>), common rabbitbrush (<i>Ericameria nauseosa</i>), and grasses such as bluebunch wheatgrass (<i>Pseudoroegneria spicata</i>) and needlegrass.</li> </ul>	<a href="http://sararegistry.gc.ca/virtual_sara/files/plans/mp_western_harvest_mouse_megalotis_e_proposed.pdf">http://sararegistry.gc.ca/virtual_sara/files/plans/mp_western_harvest_mouse_megalotis_e_proposed.pdf</a>
Great Basin gopher snake	Threatened	<ul style="list-style-type: none"> <li>habitat loss, degradation, and fragmentation</li> <li>High road kill mortality</li> </ul>	<ul style="list-style-type: none"> <li>Occupies the Bunchgrass, Ponderosa Pine, and Interior Douglas-fir biogeoclimatic zones. The snakes use a variety of open and semi-open habitat</li> <li>Hibernation occurs underground and is associated with a variety of habitat features including cliff, rock outcrops, talus slopes, road or railroad fill, and rodent burrows. Gopher Snakes often hibernate communally with other</li> </ul>	<a href="http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do?jsessionid=3QTxV0wBL930BGK6TwnBJTTkj06GydW1JL2cl5fyP1qvYJQ4MTCJ!992352579?subdocumentId=7174">http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do?jsessionid=3QTxV0wBL930BGK6TwnBJTTkj06GydW1JL2cl5fyP1qvYJQ4MTCJ!992352579?subdocumentId=7174</a>

		<ul style="list-style-type: none"> <li>Human persecution</li> <li>Pesticides</li> <li>Forest fire suppression</li> </ul>	<p>snake species, but sometimes hibernate singly or in small groups with other Gopher Snakes</p> <ul style="list-style-type: none"> <li>Foraging areas in grasslands, shrub-steppe, meadows, riparian areas, open ponderosa pine, or other open habitats</li> </ul>	
Western Skink	Special concern	<ul style="list-style-type: none"> <li>habitat loss, degradation, and fragmentation</li> <li>gravel and talus rock extraction activities</li> <li>Rock blasting and associated road/utility construction can lead to destruction of important basking and nesting sites, or hibernacula.</li> </ul>	<ul style="list-style-type: none"> <li>Occupies Bunchgrass, Ponderosa Pine, Interior Douglas-Fir, and Interior Cedar–Hemlock biogeoclimatic zones</li> <li>Important habitat attributes include forest canopy openings along south-facing slopes for solar warming of nest sites; loose soil for burrow excavation; herbaceous vegetation cover for foraging and predator avoidance; and, perhaps most important, an abundance of rocks or coarse woody debris for cover</li> <li>Skinks appear to use the same general habitat (talus and rock outcrop) for hibernation and for summer activities such as basking, foraging and nesting. The hatchlings, juveniles, and adults overwinter in hibernacula located in bedrock outcrops, possibly communally with other species of reptiles such as the Western Rattlesnake</li> </ul>	<a href="http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do;jsessionid=Jh0xV2KB1mTcHnLwJjMS7c7Cy5BL0BhPGlpCFNzHXhP4QJQ7xY0F!992352579?subdocumentId=9362">http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do;jsessionid=Jh0xV2KB1mTcHnLwJjMS7c7Cy5BL0BhPGlpCFNzHXhP4QJQ7xY0F!992352579?subdocumentId=9362</a>



## APPENDIX G: LEGISLATIVE BACKGROUND



*\*The BC Ministry of Environment can also produce management plans for species at risk, under the BC Conservation Framework in conjunction with the Federal Ministry.*

Both the provincial and federal governments have jurisdiction over wildlife management particularly, species-at-risk. Local governments do not currently have explicit legislated responsibilities for the conservation of species-at-risk. However, they must ensure they do not violate provincial and federal legislation themselves.

The provincial Conservation Data Centre (CDC) coordinates an assessment process to help identify which species and ecological communities may be rare, at risk, or particularly sensitive to human activities. The CDC ranks species and ecosystems as Red (endangered or threatened), Blue (special concern) and Yellow categories (uncommon, declining), although these designations have no legal consequences. Species-at-risk include amphibians, birds, fish, fungi, invertebrates, mammals, plants, plant communities, and reptiles.

Many of the provincially Red and Blue ranked species are subsequently assessed under federal legislation. The Committee on the Status of Endangered Wildlife in Canada (COSEWIC), an independent review panel, assesses species as extirpated, endangered, threatened, or of special concern. The federal government, under the Species at Risk Act (SARA) can then decide to add the species to the List of Wildlife Species at Risk (Schedule 1 in the Act) as extirpated (no longer in Canada), endangered, threatened or of special concern. Once a species is listed on SARA Schedule 1, the following general prohibitions apply: no person shall kill, harm, harass, capture or take an individual; possess, collect, buy, sell or trade an individual, or any part or derivative; or damage or destroy the residence of one or more individuals.

Critical habitat for rare and endangered species is identified as part of the Recovery Strategy or Action Plan (Critical habitat is defined the habitat needed for the survival or recovery of a threatened

or endangered species listed on Schedule 1 of SARA). At this time, policy on SARA critical habitat protection is not fully developed. However, given the possibility of federal requirements for protecting species at risk, it is in the best interests of local governments to initiate long-term strategies for protecting sensitive ecosystems, with particular attention to preserving the integrity of wildlife habitat. It is therefore vital that park management plans are consistent with the recovery strategies for SARA- listed threatened/endangered species or management plans for species of special concern and protect critical habitats wherever they are identified.

The BC Ministry of Environment can also produce management plans for species at risk, under the BC Conservation Framework in conjunction with the Federal Ministry. Their website is a valuable source of management information (<http://www.env.gov.bc.ca/wld/recoveryplans/rcvry1.htm>).

## APPENDIX H: SUMMARY OF PROVINCIAL SHORELINE MANAGEMENT

With a goal to ensure lakes are managed sustainably, many lake management projects in the province follow a three step process to support collaborative lake planning and management including: Foreshore Inventory and Mapping, Aquatic Index Habitat Ranking and the development of Shoreline Management guidelines. This process has been applied to the entire Okanagan Lake showing significantly modified shoreline through both historic and current uses. Approximately 47% of the shoreline has had substantial substrate modification from groynes, beach grooming or construction of retaining walls. These impacts, along with riparian vegetation disturbance, are considered the most significant habitat degradations observed around the lake and recommendations have been developed to reverse the trend.

The province has also adopted the Ministry of Environment's Okanagan Shuswap Land and Resource Management Plan. The Okanagan Large Lakes Foreshore Protocol provides strategic direction for the management of large lake shorelines and associated fish habitat<sup>1</sup>. Shorelines are categorized into 4 zones, based on development activity risk, using kokanee spawning data, other fish habitat data, and known occurrences of species at risk:

- i. BLACK = critical habitat
- ii. RED = high to very high value habitat
- iii. YELLOW = generally moderate, with some high value habitat
- iv. NO COLOUR = unclassified or low value habitat

It is important to note that the assessment and recommendations for treatment of shoreline areas in these two processes refers mostly to shoreline development rather than recreational use.

## **APPENDIX I: DRAFT CONCEPTS**



## What Kind of Park is Goats Peak?

- Goats Peak Regional Park was acquired as the site for a Natural Park in Fall 2014 that would become a “Destination of Regional Significance” serving the region as a whole.
- Goats Peak Regional Park is a new Natural Park within the Regional District of Central Okanagan Parks network.
- It is located between West Kelowna and Peachland and features a steep rocky outcrop landscape of grassland and open woodland rising up from the shores of Lake Okanagan.
- This park represents a significant number of sensitive ecosystems and is potentially home to a number of rare and endangered birds, butterflies, snakes and other wildlife including spawning habitat for Kokanee salmon along its shores.
- Regional Natural 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.
- Regional Natural Area Parks contain a variety of uses and areas of preservation, conservation and recreation. These lands are generally maintained in their natural state but may include parkland development which reflects environmental sensitivity.

## The Role of the Park

- To conserve waterfront and upland ecosystems.
- To fill a significant gap in the Regional Active Transportation Network for a continuous recreational trail between the Bennett Bridge and Peachland.
- To preserve accessible areas along the Okanagan Lake shoreline for the enjoyment of all Central Okanagan residents.
- To preserve the long term sustainability and character of the Okanagan Valley.
- To save this land for the enjoyment of future generations.

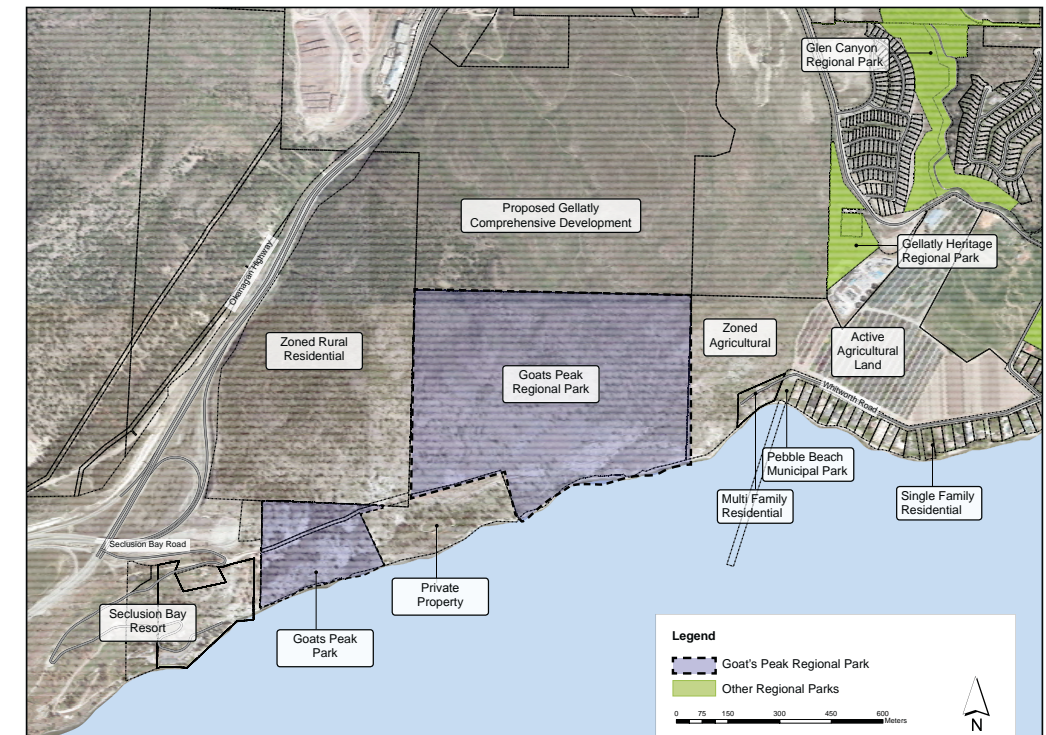
## What is this Park Management Plan For?

- To guide any future development, maintenance, operations and stewardship of the Regional Park.

Goats Peak Regional Park Key Map



Goats Peak Park

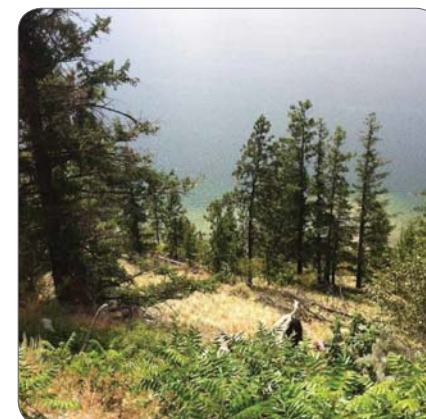
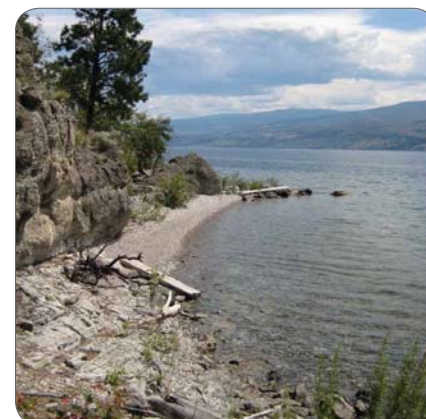
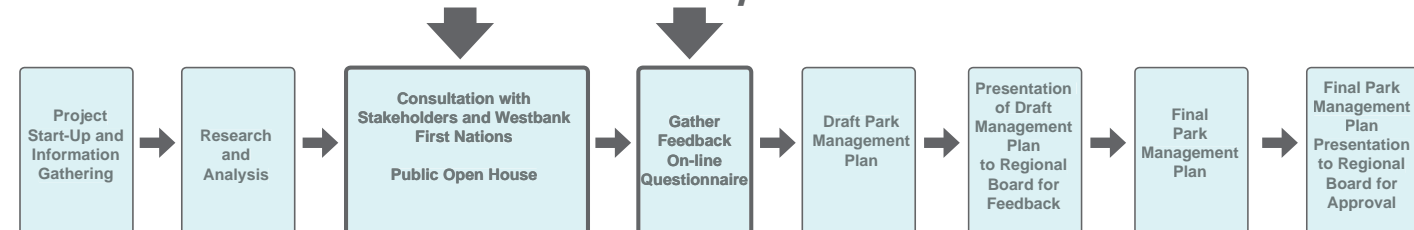


Goats Peak Park Site

### YOUR FEEDBACK IS IMPORTANT TO US!

Please complete the questionnaire online at 1 or in hard copy at the open house registration table.

## Where are we in the process?





## A DRAFT Vision for Goats Peak Regional Park

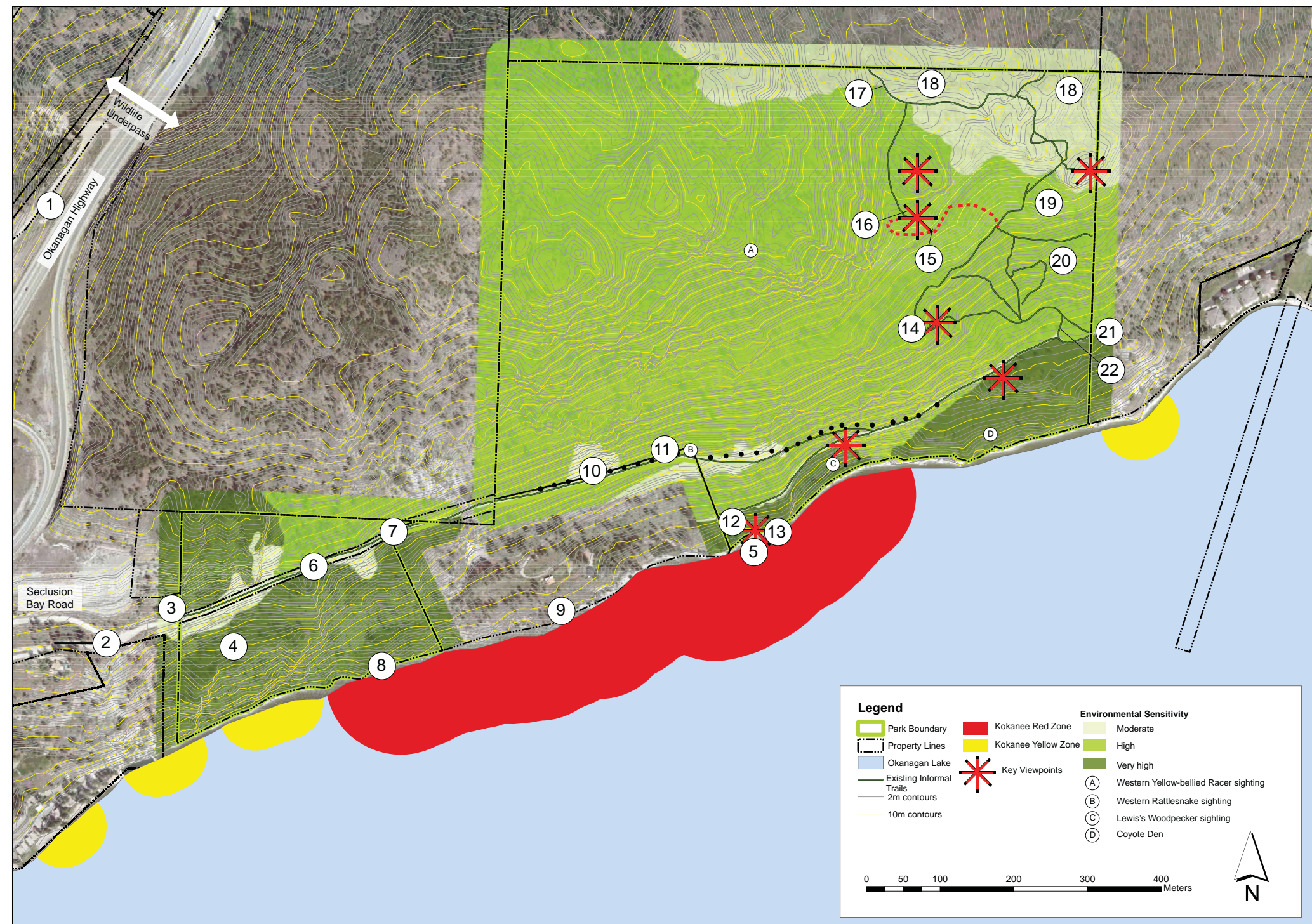
*Goats Peak Regional Park will conserve regionally significant natural resources, while sensitively integrating and managing low impact outdoor activities that respect the Park's long term ecological and cultural integrity. The Park will facilitate interpretive and educational opportunities that increase awareness and appreciation of current and historic natural and cultural features for visitors of all ages to enjoy for years to come.*

The following Goals have been proposed to support the Vision for Goats Peak Regional Park.

Conservation	Interpretation & Education	Outdoor Experiences	Stewardship & Partnerships
<ul style="list-style-type: none"> <li>Conserve, restore, and enhance rare and unique ecosystems and habitats within the park.</li> <li>Conserve habitats for rare and endangered wildlife that are likely to occur in the park.</li> <li>Maintain the diversity of native species and ecosystems within the park.</li> <li>Maintain the park's function as a 'green node' within a regional system of ecosystems and migratory corridors.</li> <li>Contribute to the conservation of a regionally significant natural and cultural landscape.</li> </ul>	<ul style="list-style-type: none"> <li>Develop and deliver ongoing nature interpretation programs that promote public awareness and appreciation for the unique landscape.</li> <li>Establish the park as a teaching model of best practices for natural areas within close proximity to urban centres.</li> <li>Increase awareness and appreciation of local culture and history and tell the stories of First Nations who settled in this area.</li> <li>Conserve important historic cultural features unique to the park and within the larger regional context.</li> </ul>	<ul style="list-style-type: none"> <li>Provide opportunities for low impact, passive, activities that support opportunities for appreciation of the natural environment for all ages and abilities.</li> <li>Provide opportunities for low impact water access to and from Okanagan Lake.</li> <li>Provide low impact trail access through appropriate areas identified within the park.</li> <li>Create opportunities within the Park to connect with regional trail initiatives that promote active and healthy lifestyles.</li> <li>Maintain the unique scenic qualities and views of Okanagan Lake and its watershed.</li> </ul>	<ul style="list-style-type: none"> <li>Establish an early relationship with education institutions and environmental organizations to further research the implementation of this newly created natural park.</li> <li>Create meaningful opportunities for ongoing public involvement in park, stewardship and maintenance.</li> <li>Be consistent with the Regional District of Central Okanagan's mandate and mission for Natural Area Parks.</li> <li>Establish First Nations as key partners and integrate their perspective in ongoing stewardship and park management issues.</li> </ul>





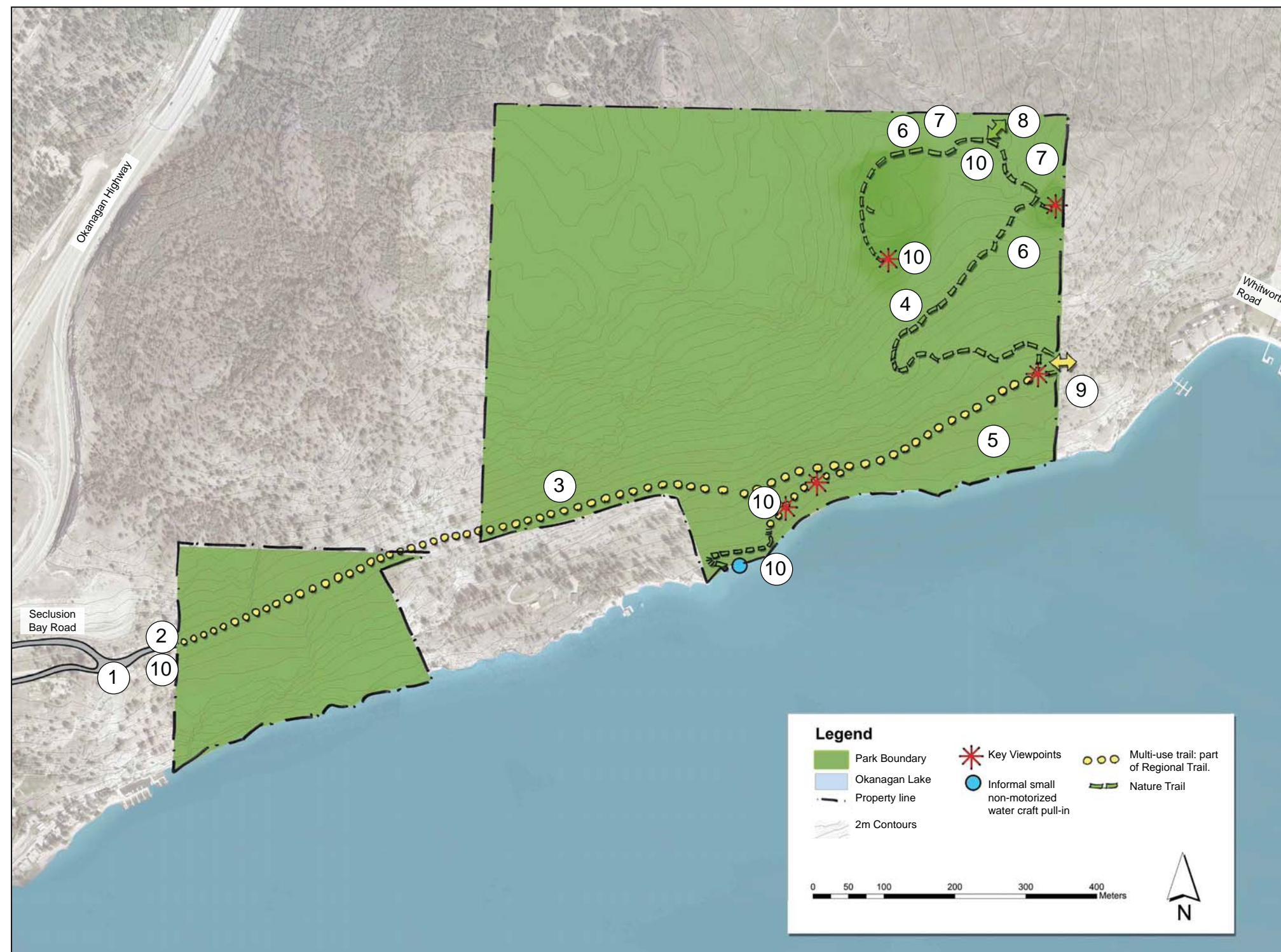


- The park is comprised of two parcels, 52 hectares in total size, bisected by a private property.
- The park consists of a mixture of ecosystem habitat types – grasslands, sparse forests, shrub-steppe, riparian foreshore and rugged steep rocky slopes.
- Some rare and endangered ecosystems in the park are considered to be high to very high environmentally sensitive habitats – red and blue-listed ecosystems with the potential for red and blue listed plants and wildlife to occur within them.
- Species at risk have potential to occur in the park and some species at risk, such as the Lewis' woodpecker and western rattlesnake, are known to occur in the park.
- 520 meters of the 900m shoreline has been designated Kokanee Red Zone, important aquatic habitat for kokanee spawning, by the Ministry of Forests, Lands and Natural Resource Operations.
- Evidence of First Nations historical use of the land.

- 13 Trail design (by others) to provide trail access to waterfront.
- 14 Trail provides access to higher areas of the park.
- 15 Opportunity to formalize intermittent informal trail to provide a loop trail.
- 16 Remnants of a campfire and litter found. Opportunity to remove debris and restore.
- 17 Existing trail connects to an area shown as Environmentally Sensitive within adjacent property's Comprehensive Development Plan.
- 18 Opportunity for further restoration and interpretation of forest fire burn sites.
- 19 Potential conflict between hikers and mountain bikers on steep secondary trails.
- 20 Steep and eroded trails should be rebuilt or decommissioned.
- 21 Access to the site is currently constrained. Future park entry desired.
- 22 Trail is challenging to locate. If retained, the trail should be formalized.

- 1 Opportunity for entry signage and entry identification along Highway 97.
- 2 Opportunity for trailhead parking in consultation with City of West Kelowna.
- 3 Trailhead kiosk and signage (by others) will create a formalized park entry.
- 4 Future use in this zone is restricted by steep slopes and very high environmental sensitivity.
- 5 Opportunity as a potential kayak pull in. No structures to be installed, due to Kokanee red zone. Other sites may be available seasonally when water levels are lower.
- 6 Trail design (by others) to provide multi-use trail access across the site via existing access road. Opportunity for directional and wayfinding signage.
- 7 Steep drop off is hazardous. Opportunity for a combination of fencing, education and signage.
- 8 No opportunity for waterfront trail due to steep terrain, and high environmental sensitivity including Kokanee red zone.
- 9 Lack of continuous park property further limits potential for connection.
- 10 Rockfall hazard area. Areas of natural rockfall and past over blasting create a potential hazard for trail users.
- 11 Presence of noxious invasive weeds along roadway.
- 12 Opportunity to formalize or decommission existing trail desire lines.

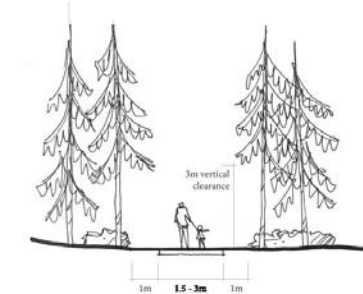




1 Small parking area with washroom.

2 Primary park entry including kiosk.

3 2km multi-use cycling and hiking trail formalized on existing access road. Part of the Regional Active Transportation Network.



4 Intermediate hiking trail: formalized existing informal trail.



5 Restore and fence sensitive area.

6 All other existing informal trails decommissioned and restored.

7 Burn sites restored.

8 Possible future park entry in conjunction with future adjacent development.

9 Future desired park entry.

10 Opportunity for interpretive information and signage.

## Key Concept Features

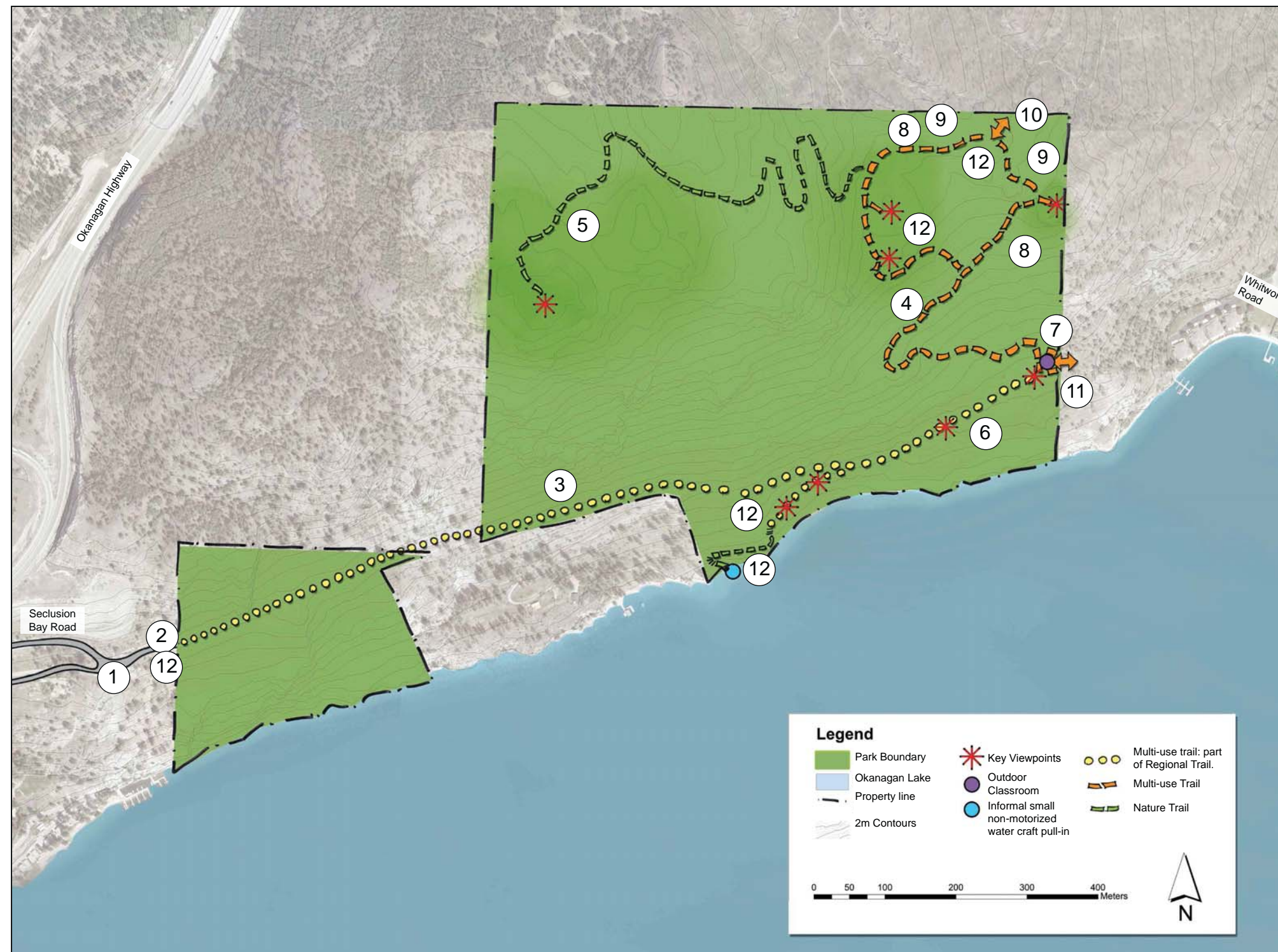


- Greater land area dedicated exclusively to restoration and conservation.
- Conservation enhancement strategies, as shown on board 6.

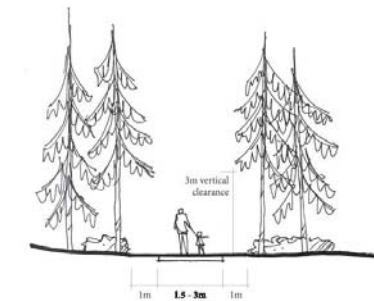


- 1.6km of formalized existing trails, to be constructed with sustainable trail construction standards.
- Cycling and mountain biking restricted to the cross-park multi-use trail on the existing access road (Part of the Regional Active Transportation Network).





- 1 Small parking area with washroom.
- 2 Primary park entry including kiosk.
- 3 2km multi-use cycling and hiking trail formalized on existing access road. Part of the Regional Active Transportation Network.
- 4 Intermediate hiking and mountain biking shared-use trail: formalized existing informal trail. Short sections re-routed to avoid the need for stairs. Short extension to form a complete loop.



- 5 Single track "advanced" nature hiking trail to Goats Peak.



- 6 Restore and fence sensitive area.

- 7 Low infrastructure outdoor classroom constructed with natural materials such as logs, boulders.



- 8 All other informal trails decommissioned and restored.
- 9 Burn sites restored.
- 10 Possible future park entry in conjunction with future adjacent development.
- 11 Future desired park entry.
- 12 Opportunity for interpretive information and signage.

## Key Concept Features



Conservation enhancement strategies as shown on Board 6.



2km of formalized existing trails, to be constructed with sustainable trail construction standards.  
Extension of existing trails to complete trail "loops" (approximately 200m additional).

New advanced hiking trail to Goats Peak (approximately 1.3km).  
Small picnic area and low infrastructure outdoor classroom (using natural materials i.e. logs, boulders).

Mountain biking permitted as part of extended multi-use trail system.



The following are ancillary enhancement strategies that could be incorporated into the final concept and management recommendations.

## STRATEGY

### Conservation Planning

- Implement **ongoing research** with academic institutions, government organizations and Not-For-Profit societies to inventory species presence to **support science-based decision making**.
- Implement an **ongoing partnership program to monitor impacts to ecological communities**, with academic institutions, government organizations and Not-for-Profit societies. Establish objectives for key indicator species.
- During future residential development surrounding the park, **ensure adequate buffers** are adopted to maintain essential ecological process and offset edge effects.
- Work with neighbouring municipalities to **ensure future development plans incorporate adequate buffers and wildlife corridors**.



### Conservation of Plant Communities

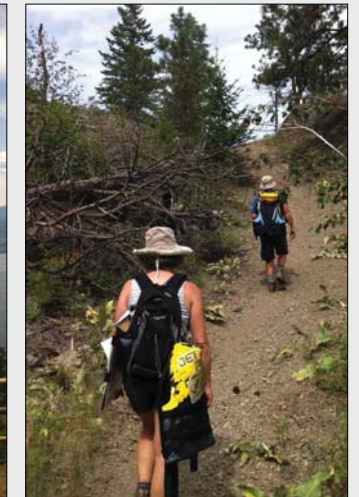
- Develop and implement an **integrated pest management program** for invasive weeds particularly, diffuse knapweed and cheatgrass.
- Facilitate **community weed removal and restoration projects** and celebrate success.
- Provide information to the community about **pine beetle management options** to help reduce the spread.
- Develop and implement a **long term forest management plan**.
- Continue to **monitor** the introduction of **new invasive plant species and forest pests** on an ongoing basis and develop appropriate control measures.
- **Monitor successional changes** in grassland ecosystem and develop long-term plans for **tree/shrub removal either by controlled wildfires or selective tree thinning**.



## STRATEGY

### Managing Recreation Impacts

- Implement a **strong public information and awareness program** highlighting the sensitivity of the park and appropriate recreational uses.
- **Monitor the levels of recreational use** through observation of users, installation of trail counters at all park entry ways and the development of informal trails, particularly in the grasslands.
- Install **low-key fencing and information signage** adjacent to pathways and viewpoints within the grasslands ecosystem.
- Seek the **assistance of user groups to monitor** recreational use and changes in environmental conditions.
- Require **dogs to be on-leash** at all times in all locations throughout the park.



### Conservation of Wildlife

- **Initiate ongoing science-based research into the presence/absence of species at risk** in conjunction with community groups, educational institutions, conservation societies, provincial and federal wildlife authorities.
- Undertake a **habitat assessment** and possible habitat improvements for the **3 confirmed species at risk**.
- Adopt **strict conservation measures** for the Ecosystem Zone including the grasslands, rocky slopes and riparian fringe.
- Wherever possible, **preserve old veteran trees and snags**; create wildlife trees if tree removal is planned.
- Adopt a **ban on the use of all pesticides** in the park.
- Implement an **interpretive program with emphasis on species at risk** to raise public awareness of the sensitivity of the habitats.
- **Monitor for possible impacts** from **recreational use of the waterfront** to ensure activities do not diminish the productive capacity of biophysical resources including **Kokanee shore spawning numbers**.

