



# Knox Mountain Park

## Management Plan 2022



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[kelowna.ca](http://kelowna.ca)

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## 1.0 EXECUTIVE SUMMARY

The City of Kelowna 2022 Knox Mountain Park Management Plan provides sound guidance for the overall management of Knox Mountain Park for the next 10 years. The Management Plan establishes a framework for City decision-making with respect to park operations and maintenance, and it provides a strategic approach to park development and capital investment. The Plan underscores the City's commitment to public involvement and sets out avenues for community partners to participate in park activities.

The Management Plan's Vision clearly and concisely conveys the desired future for this important natural area park; the Vision reads:

**Knox Mountain Park reveals the wonder and diversity of the Okanagan landscape. It is symbol of Kelowna, a place of unique and remarkable natural beauty within our city's park system, a place where nature is able to flourish and evolve. Residents and visitors participate in the life of the park, establishing healthy and sustainable relationships between themselves and the natural environment.**

Strategic Goals – addressing the park's role as “a place for nature”, “a place for people”, and “a place for stewardship” – articulate specific directions necessary to achieve the plan's Vision. The core tools to achieve the intent of the plan include: Park-Wide and Park Zone-Specific Policies, and a Management Concept made up of a Development Plan and an Operations and Maintenance Plan. The document concludes with a proposed Implementation Program, extending out to the year 2031.

The City of Kelowna was motivated to initiate the preparation of the Management Plan to assess the improvements that have been completed since the previous Management Plan and to review the direction of improvements for the next 10 years. New lands (approximately 75 hectares) have been acquired and also need to be incorporated into the strategic planning framework for Knox Mountain Park. The City was also motivated to address a wide range of key issues affecting the park, many of which related directly to the impact of users on the park's environmentally significant areas. There has been a rapid increase of park use over the last decade which is anticipated to continue to grow, as documented in the City's Official Community

Plan growth scenario, which signals an increase of approximately 20,000 people over the next 20 years in the central core of the City. This will inevitably put more pressure of use on the natural systems of the park, while simultaneously being critical to providing spaces for residents and visitors to recreate, exercise, and enjoy the outdoors.

Of central concern was the impact on sensitive forested park areas and grasslands (and the related impacts on wildlife) from the proliferation of unsanctioned hiking and cycling trails. Other key challenges included managing off-leash dog behaviour, illegal dumping, and ensuring consistency between special events and the environmental integrity of the park.

The Management Plan's Park-Wide and Zone-Specific Policies establish a clear direction of park uses and a clear code of conduct for park users. The park's Development Plan and Operations and Maintenance Plan work together with and are supported by park policies.

## The Management Plan includes the following components:

### Development Plan: Capital (CAP) Items

- CAP 1** Vehicular Access to First Lookout: Two Year Pilot
- CAP 2** Undertake Rockfall Mitigation
- CAP 3** Construct Improvements at First Lookout
- CAP 4** Update Outdated and Damaged Interpretive Signage
- CAP 5** Install Information Kiosk and Signage at Ellis Street Gateway
- CAP 6** Develop a Strategy and Enforcement Plan for Off-Leash Dogs
- CAP 7** Renovate Abandoned Repeater Tower Foundation
- CAP 8** Trail Fencing for Conservation Areas
- CAP 9** Develop Staging/Parking Area at Knox Mountain Park East

- CAP 10** Install Knox East Staging Area Signage
- CAP 11** Install Signage on Remaining Trails
- CAP 12** Install Trail Fencing
- CAP 13** Crib Step Replacement throughout Park
- CAP 14** Establish Trail Connections between Knox Mountain Park West and Knox Mountain Park East
- CAP 15** Expand Designated Mountain Biking Trails
- CAP 16** Public Outreach
- CAP 17** Annual Scorecard Assessments
- CAP 18** Host Annual Stakeholder Meeting
- CAP 19** Rehabilitate Mountain Biking Trails
- CAP 20** Update Management Plan and 10 Year Environmental Assessment

### Operations and Maintenance Plan: Operations (OP) Items

- OP 1** Undertake Annual Washroom Maintenance
- OP 2** Maintain a Park Caretaker Position
- OP 3** Trail Maintenance and Decommissioning of Rogue Trails
- OP 4** Maintenance of Trails at Kathleen Lake
- OP 5** Maintain (2) Summer Students
- OP 6** Implement Sustainable Urban Forest Strategy Measures in Knox Mountain Park
- OP 7** Undertake Annual Wildfire Mitigation Activities
- OP 8** Perform General Park Maintenance

Priorities for implementation were determined, high level cost estimates were prepared and tasks were broken down for both capital development and operations and maintenance.

Staff anticipate that the capital development plan will be funded from the City's capital budget that will be implemented over a 10 year time frame. Capital development costs are estimated at \$1.96 million.

In order to support ongoing operations of these capital improvements and all park infrastructure at Knox Mountain Park an operating budget has also been prepared and estimated at \$1.49 million. These estimates for ongoing base operations specific to Knox Mountain Park increase incrementally.

Investment in the full-scale Implementation Program of the Management Plan, including all Development Plan and Operations and Maintenance Plan components is estimated at \$3.45 million, over 10 years.

These budgets will be considered and weighed against other priorities in the long-term capital plan and provisional budget submissions in future years. It should be made clear that funding is not assured, but this information helps to educate everyone on the real cost implications of park stewardship and maintaining the value of our assets. If projects cannot be achieved in the year specified due to budgetary shortfall, specific projects will be deferred to the following year.





## 2.0 INTRODUCTION

The 2022 Knox Mountain Park Management Plan (“the Management Plan”) guides the overall direction for Knox Mountain Park over the next 10 years. The Management Plan provides sound guidance within the City of Kelowna and seeks to engage community partners and individuals in efforts to achieve the Vision for the park.

The Management Plan is a strategic, forward-looking document that provides an integrated and sustainable approach to park planning. It is designed to sustain and improve the environmental health of Knox Mountain Park for future generations while enhancing visitors’ experiences within the park. The Management Plan provides a framework for investment in environmental conservation and reversing environmental degradation, investment in the park’s recreational attributes, and investment in improvements that draw attention to the park’s natural and cultural features and the surrounding landscape of the Okanagan Valley.

Solid groundwork for the 2022 Management Plan was set in 2009 and 2011 through the preparation of the first two Management Plans for Knox Mountain Park (Companion Document 1: 1999 Knox Mountain Park Management Plan and Companion Document 2: 2011 Knox Mountain Park Management Plan). Since that time, the park boundaries have been significantly expanded. Although

the 2011 plan embodied a similar values framework for Knox Mountain Park as the plan within, the update provides an opportunity to breathe new life into the goals and objectives set by the previous plans and to establish current priorities for implementation.

The updated Management Plan benefits from what we have learned since the 2011 plan was prepared, including the rich knowledge of current environmental conditions in the park, the information and direction of studies and plans completed since 2011 and the insights of today’s park users and the public. The Management Plan responds to current pressure on the park from park users and is proactive in planning for the higher volumes of users anticipated in the future.

Parkland acquisitions have occurred since 2011 in the total of 75 acres, inclusive of the 1777 Crosby Road property. The City owned parcels 23 and 24 on Grainger Road have now been designated Knox Mountain Park East.

A range of tools are drawn upon to make the Management Plan a reality. The City of Kelowna, as the property owner, and ultimate manager and steward, retains the primary responsibility on behalf of the citizens of Kelowna to manage park infrastructure, operating and maintenance spending, and to create

and enforce operating regulations. Through the Management Plan process, the City has sought input from stakeholder groups, park users, and the general public on the Management Plan; as part of the direction to implementation the Management Plan emphasizes the key roles these stakeholders need to play as park stewards. As individuals and groups, these stakeholders have the potential to participate in annual meetings, in educational outreach activities and in the restoration and monitoring of the park's ecological health.



## 3.0 VISION AND STRATEGIC GOALS - Where We Want to Be

### 3.1 Introduction

The Vision and Strategic Goals of the Knox Mountain Park Management Plan communicate the direction of the Management Plan. They are the foundation for the Plan's Policies and Management Concept. Through the lens of the Vision and Strategic Goals, and a pragmatic approach to available resources, a realistic 10 year planning framework can be established for the park.

The Vision and Strategic Goals for the Knox Mountain Park Management Plan have been developed based on public involvement, consultation with City of Kelowna representatives, and research on best practices for the management of Natural Area Parks.

Knox Mountain Park reveals the wonder and diversity of the Okanagan landscape. It is a symbol of Kelowna, a place of unique and remarkable natural beauty within our city's park system, a place where nature is able to flourish and evolve. Residents and visitors participate in the life of the park, establishing healthy and sustainable relationships between themselves and the natural environment.

### 3.2 Vision

The vision statement for the Knox Mountain Park Management Plan clearly and concisely conveys the intended direction for the park. It guides decisions affecting the park, motivates those responsible for implementation, and shapes the public's understanding of why they should work to achieve the strategic goals for the park.

### 3.3 Strategic Goals

The Strategic Goals of the Knox Mountain Park Management Plan expand upon the Vision for the park. They build on the strengths of the park and take advantage of opportunities, while addressing weaknesses and warding off threats. They provide a framework for the objectives over the next 10 years.

The Strategic Goals are organized into three categories:

- A Place for Nature,
- A Place for People, and
- A Place for Stewardship.

The remainder of this section sets out the Strategic Goals within each category (goals are not in order of priority; goal numbers are included for reference purposes only).

#### 3.3.1 A Place for Nature

Knox Mountain Park should be a living example of the way ecological values are protected in a place where appropriate kinds and levels of human activity are welcome. The set of Strategic Goals within the Place for Nature category outlines the Management Plan's aim to protect the park's natural systems.

##### Species and Genetic Diversity

Goal 1 - To protect unique, rare, threatened and endangered plant and animal species, including those that are locally, regionally, nationally, and internationally significant.

##### Terrestrial Habitat Quality

Goal 2 - To complete a network of protected areas that represent the diversity of ecosystems within Knox Mountain Park and serve as ecological benchmarks.

Goal 3 - To maintain and restore native bird communities through the protection and management of vegetation.

Goal 4 - To reduce sources of human-caused wildlife mortality and distress that threaten the viability of

wildlife populations in the park, including patterns of avoidance due to disturbance by off-leash dogs.

Goal 5 - To protect and enhance the integrity of wildlife corridors within and beyond the boundaries of the park, with the establishment of the Knox Mountain Ridge Ecosystem Connectivity Corridor.

Goal 6 - To maintain and, where feasible, restore native grassland and vegetation communities and protect rare and at risk plant species.

Goal 7 - To control or eliminate non-native species that threaten the integrity of native plant species and communities.

Goal 8 - To maintain forest health in a manner that is both sensitive to the ecosystem and consistent with sustainable forest management policies through such measures as the removal of pine beetle infested trees and forest fuel management.

##### Aquatic Ecosystem Habitat Quality

Goal 9 - To maintain the biodiversity of the park's aquatic ecosystems.

Goal 10 - To protect the features, functions and conditions of the park's riparian areas for the vital role they play in the natural maintenance of the lake and wetland health and productivity.

##### Geology and Landforms

Goal 11 - To protect geological and physical features.

#### 3.3.2 A Place for People

Knox Mountain Park is a place for people. The park provides inspiration for artists, day use sightseeing and physical recreation opportunities for individuals, families and community groups, as well as other quality of life benefits. Whether one visits the park regularly or merely appreciates the view to it while going about one's daily routine, the mountain is part of Kelowna's physical identity and sense of place.

The set of Strategic Goals within the Place for People

category outlines the Management Plan's aim for the park to continue to offer a range of recreational opportunities while clearly defining the recreational conduct necessary to respect the park's natural setting.

### **Recreational Variety**

Goal 12 - To maintain the existing range of recreational opportunities and enable visitors with varying interests to enjoy the park.

Goal 13 – To create a 'Share the Road' approach, where users of a variety of modes can enjoy, along Knox Mountain Drive and reduce pedestrian, cyclist and vehicle conflicts on the Drive.

### **Recreational Conduct**

Goal 14 – To use communication, education and directional cues and tools to support and encourage the intentions of users to enjoy the park in a manner consistent with respect for the park's natural environment.

### **Designated Recreation Areas**

Goal 15 - To define and clearly communicate to recreational users areas of high environmental sensitivity, and to direct recreational use away from these areas.

### **Parking Management**

Goal 16 - To direct parking to locations within the park where recreational use is encouraged and decommission informal parking where recreational use is discouraged.

### **Access Management**

Goal 17 - To provide designated pedestrian and bicycle access points to and from existing and future residential areas (see Figure 4).

Goal 18 - Where possible, to increase universal access opportunities in the park.

Goal 19 - To provide, where possible, appropriate access routes for wildfire management, urban forest management, and park maintenance.

### **Personal Safety**

Goal 20 - To educate park users about physical risks and encourage mindful and prudent behaviour.

Goal 21 - To identify and correct serious hazards to personal safety along designated trails and zones of intensive use.

Goal 22 - To provide safe, clean, potable drinking water facilities through the utility infrastructure within the park.

### **Natural Landscape Aesthetic**

Goal 23 - To protect from human alteration, the beauty of the park's natural landscape as seen from viewpoints around the City and from within the park.

### **Prohibited Activities**

Goal 24 - To take proactive and targeted measures to ensure prohibited activities do not take place in the park (e.g. vandalism, littering, dumping of yard waste or pool water, encroachment of fencing or buildings on parkland, and unauthorized vehicle access).

### **Special Events**

Goal 25 - To support the role of the park as host to special events that are consistent with respect for the park's natural environment.

## **3.3.3 A Place for Stewardship**

The realization of the Management Plan's Strategic Goals within A Place for Nature and A Place for People becomes possible with a commitment to park stewardship by those centrally responsible for managing park operations (i.e. the City of Kelowna), as well as non-government stakeholder groups with an interest in the park. The category of "A Place for Stewardship" includes the Strategic Goals for mobilizing collective resources and encouraging community investment in Knox Mountain Park.

### **Communication and Education**

Goal 26 - To pursue opportunities within existing regional and municipal communication and education programs, and to explore new communication and education methods that will advance the Vision and

Strategic Goals for the park.

Goal 27 - To implement directional signage, educational display material, and physical cues and barriers within the park to advance the park's Vision and Strategic Goals.

#### **Public Engagement**

Goal 28 - To engage user groups, conservation interest groups, and those recreating in the park through a park stewardship program.

#### **Monitoring**

Goal 29 - To monitor and report on the state of Knox Mountain Park regularly and consistently.

#### **Fair and Transparent Processes**

Goal 30 - To ensure management decisions on special events and proposals for new uses in the park consistent with the Management Plan are made in a timely and fair manner and are consistent in their approach.

#### **Enforcement**

Goal 31 - To provide the means necessary for an adequate level of enforcement to occur within the park ensuring that park users are following bylaws (eg. no smoking, dogs on-leash, no motorized vehicles on trail etc.).



## 4.0 PARK IMPROVEMENTS - What We Have Done

### 4.1 Overview

The 2011 Knox Mountain Park Management Plan has been vital in providing direction for the Park improvements over the last 11 years. A number of the Development Plan and Maintenance and Operations Plan items have been implemented.

Development Plan improvements took place throughout the park and include:

- Acquisition of Parkland
- Trail Repairs and Upgrades
- Caretaker's Cabin Facade Renewal
- Environmental Management
- Fencing and Access Management
- New Park Amenities
- Nature and Wayfinding Signage
- Disc Golf Course Improvements
- Overflow Parking Area
- Dog Park Expansion

A comprehensive overview of these items are found on Figure 1: Works Completed Map (2011-2022) and Figure 2: Works Completed List with Images (2011-2022).

#### 4.1.1 Acquisition of Parkland

A number of areas were identified in the previous Management Plan for potential acquisition to expand the Park; one of which was 1777 Crosby Road. This parcel provides an important link for both wildlife and trail connections northwards to the Glenmore Highlands. Furthermore, the addition of these 17 hectares helps to accommodate the increased use and activity the park has experienced so far and may continue to see into the future.

#### 4.1.2 Trail Repairs and Upgrades

A key Strategic Goal of the Management Plan was 'A Place for People'. The trail repairs and upgrades that were undertaken were targeted to areas of high traffic routes and were essential to balancing recreation with the natural setting of the park. For ease of access, steps were replaced on the Ogotopogo Trail and the Paul's Tomb trail was realigned and widened for emergency vehicle access.

Trail enhancements included the creation of the Lochview Trail connection and mountain bike trails and hiking trails within the Knox Mountain East parcel.

Finally, a pedestrian walkway was provided alongside Knox Mountain Drive to improve interactions between differing user groups along this corridor.

#### **4.1.3 Caretaker's Cabin Facade Renewal**

The Caretaker's Cabin underwent a much-needed facade renewal. It also functions as a FireSmart™ demonstration home, adhering to FireSmart guidelines and principles. FireSmart priority zones around the Cabin have also been addressed to mitigate potential wildfire fuel, including the removal of brush and other combustible materials, as well as removing hazard trees.

#### **4.1.4 Environmental Management**

Various environmental management initiatives have been undertaken throughout the park over the last several years. These include preventative and proactive measures such as mitigation of wildfire fuels, forest health interventions, and removal of hazard trees (for both wildfire and fall concerns).

#### **4.1.5 Fencing and Access Management**

Fencing has been added to specific park locations that have high potential for encroachment into sensitive ecosystem areas. The areas of focus included exclusion fencing at the Rocky Knoll at the Second Lookout and access management fencing along the Apex trail. A gate was installed just past the First Lookout on Knox Mountain Drive.

#### **4.1.6 New Park Amenities**

New park amenities have been installed to benefit park users, including vault toilets in the spring of 2022, and a park sign. These improvements will tie into further improvements that have been identified as a priority within this Management Plan.

#### **4.1.7 Nature and Wayfinding Signage**

Signage has been incorporated throughout the park to identify high-value natural elements, provide educational or interpretive opportunities and to assist with wayfinding for park users. These were installed within minimal impact to the environment and utilize natural materials where possible. Additionally, the mountain biking trails received fibreglass composite posts.

#### **4.1.8 Disc Golf Course Improvements**

Improvements were made for the existing Disc Golf Course at the base of Knox Mountain Park in partnership with the Kelowna Disc Golf Association. This included the installation of concrete pads at tee boxes to assist in wayfinding for each hole of the course.

#### **4.1.9 Overflow Parking Lot**

The Ellis Street Entry is the primary vehicle, bicycle, and pedestrian access point for the park. The existing parking lot at the base of Knox Mountain Drive has been known to be quite busy in the high-use warm seasons. An overflow parking lot was established along Poplar Point Drive to accommodate additional users and ease congestion for those driving to/from the park.

#### **4.1.10 Dog Park Expansion**

The off-leash dog park at the base of Knox Mountain was expanded to promote and encourage appropriate dog activity within the boundaries of the park. Mitigation measures for unsanctioned off-leash dogs within the uphill areas of Knox Mountain will continue to be utilized and monitored as part of a larger management strategy.



Figure 1: Works Completed Map (2011-2022)



**WORKS COMPLETION MAP**



**LEGEND**

- Very High Environmental Sensitivity
- High Environmental Sensitivity
- Moderate Environmental Sensitivity
- Low Environmental Sensitivity
- Park Boundary
- Road
- Sanctioned Trails

- 1 Ogoopogo Trail – Step Replacement
- 2 Added 1777 Crosby Road (17 hectares)
- 3 Paul’s Tomb – Widened for Improved Access
- 4 Caretakers Cabin Façade Renewal
- 5 Knox East Trail Improvements
- 6 Wildfire Fuel Mitigation
- 7 Rocky Knoll Exclusion Fencing and Monitoring
- 8 Apex trail – Access Management
- 9 Vault Toilets
- 10 Nature/Wayfinding Signage
- 11 Disc Golf Improvements (Partner KDGA)
- 12 Overflow Parking Area
- 13 New Park Sign
- 14 Pedestrian Walkway
- 15 Mountain Biking Trail Improvements
- 16 Dog Park Expansion
- 17 Installed Gate
- 18 Lochview Trail Connection
- 19 Traffic Calming Measures

Figure 2: Works Completed List with Images (2011-2022)



1. Ogoogo Trail – Step Replacement



2. Added 1777 Crosby Road (17 hectares)



3. Paul's Tomb – Widened for Improved Access



4. Caretakers Cabin Façade Renewal



5. Knox East Trail Improvements



6. Wildfire Fuel Mitigation

Figure 2: Works Completed List with Images (2011-2022)



7. Rocky Knoll Exclusion Fencing and Monitoring



8. Apex Trail – Access Management



9. Vault Toilets



10. Nature/Wayfinding Signage



11. Disc Golf Improvements (Partner KDGA)



12. Overflow Parking Area

Figure 2: Works Completed List with Images (2011-2022)



13. New Park Sign



14. Pedestrian Walkway



15. Mountain Bike Trail Improvements



16. Dog Park Expansion



17. Installed Gate



18. Lochview Trail Connection



## 5.0 CURRENT SITUATION - Where We Are

### 5.1 Introduction

Knox Mountain Park is the City of Kelowna's largest Natural Area Park. The park is 385 hectares (952 acres) in size (inclusive of the Knox Mountain East parcel) and is located immediately north of Kelowna's downtown at the north terminus of Ellis Street (Fig. 3: Location Map).

Mount Knox has a single summit with a number of secondary summits and ridge lines. The peak of Mount Knox rises approximately 640 metres above sea level, and approximately 300 metres above the high water mark of Okanagan Lake. While the shoreline of Okanagan Lake borders almost 1400 metres of the western park boundary, much of the remaining boundary is surrounded by residential development. The size, height, central location and natural amenities make this natural area a highly desirable destination for residents and tourists alike.

The majority of the park is composed of natural areas including coniferous woodlands, grasslands, bedrock outcrops, cliffs and gullies, and small riparian areas primarily along Okanagan Lake. Two wetlands exist

in the park, including Kathleen Lake (a 2.0 hectare permanent water body), and a discharge basin in a topographic low point, both in Knox Mountain Park West.

The park supports numerous activities, including: walking, running, hiking; mountain biking; nature appreciation and sight-seeing (Fig. 5: Current Land Use, Road and Trail Network). In the winter, park users can cross-country ski along Knox Mountain Drive. The gateway to the park, at the north terminus of Ellis Street, features recreation activities including tennis, disc golf and an off-leash dog run. Sutherland Park, a City-wide park at the base of Knox Mountain along Okanagan Lake's waterfront, includes grassy fields, picnic areas, a playground, a boat launch, and washrooms.

Knox Mountain Drive is the only road within the park that is accessible by private vehicle. It extends from the base of the park entrance near Sutherland Park, past the First Lookout and trail head to Paul's Tomb, and up to the Pioneer Pavilion and caretaker's residence at the park apex. In November 2021, Council recommended a 'Share the Road' approach to manage user conflicts

along Knox Mountain Drive. A two-year trial was established, starting in the spring of 2022, with vehicle access open to the First Lookout from noon to 8pm daily. The trial includes traffic calming measures and signage.

Knox Mountain Park can be seen at great distances, from many vantage points around the region. Views to the park provide an aesthetic dimension to Kelowna's landscape, and views from the park allow park visitors to appreciate the stunning scenery of the region's farms, orchards, vineyards, natural areas, and Okanagan Lake. The trails that wind through the park give visitors a close-up view of the flora and fauna, typical and symbolic of the Okanagan region and some rare within the region. The park makes an ideal location to express and share the tangible and intangible natural and cultural resources that define Kelowna's identity and sense of place.

The natural environmental value of Knox Mountain Park has been well documented in Kelowna's planning studies, including the recent baseline biophysical inventory and environmental overview update conducted as part of the Management Plan process (Figure 5: Environmentally Sensitive Areas and Companion Document 4: 2021 Biophysical / Environmental Overview, Knox Mountain Park). The park is an important part of the natural systems that help cool the city's neighborhoods, filter the city's water, clean the city's air, and sequester the carbon produced by cars, homes, and industries.

The park is made up of numerous ecosystems, most of which are rare, fragile, and regionally and nationally important. In addition to enhancing visitors' experiences in the park, these ecosystems support numerous plant and wildlife species, both those that are rare/at-risk and those that are typical to the region. The interface of grassland, coniferous woodland and lacustrine ecosystems collectively provide a unique habitat mix that supports a diverse species group, including species at risk. Species at risk that have been documented in the park include the American Badger, Flammulated Owl, Great Basin Gopher Snake, Northern Rubber Boa, Western Yellow-bellied Racer, Swainson's Hawk, Great Blue Heron and Barn Swallow. It is probable that

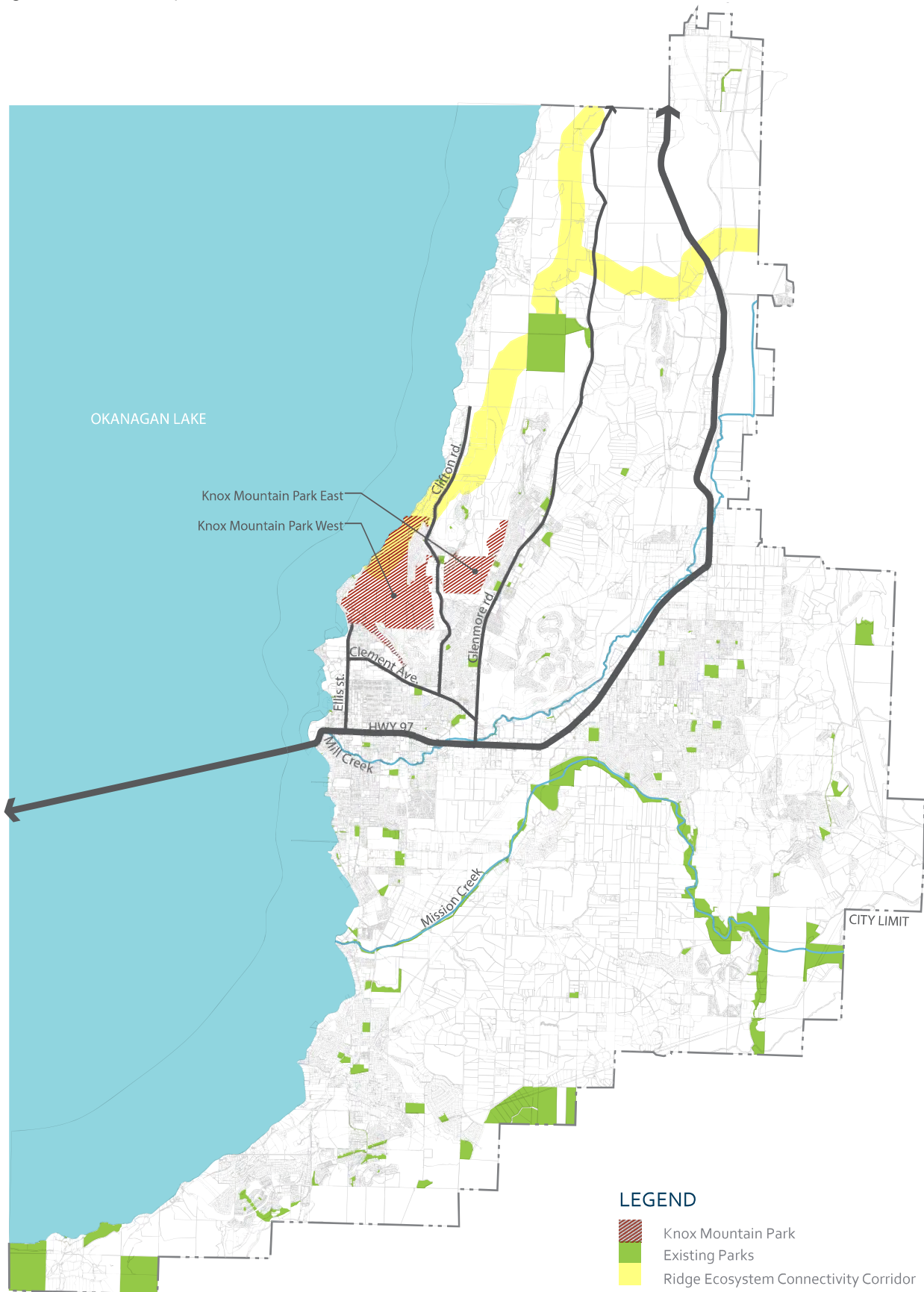
even more species at risk are likely to occupy Knox Mountain Park (Figure 6: Recorded or Potential Species at Risk). In addition, Slender Hawksbeard, a Red-listed plant species has been documented in the park (2011 Management Plan).

Almost ninety-two percent of the park is classified as having either "High" or "Very High" levels of environmental sensitivity. The park's steeply sloping mature coniferous woodland and open grassland ecosystems account for much of the "Very High" sensitivity. Other areas of special concern include sparsely vegetated rock outcrops, Kathleen Lake, and 1400 meters of Okanagan Lake shoreline (including Yellow, Red and Black Kokanee Shore Spawning Zones). The Okanagan Lake foreshore, riparian fringe and wetland communities do not occupy a significant land mass in the park; however, these unique ecosystems are extremely important to the overall biodiversity of the park.

The condition of most of the ecosystems within the park is classified as "Good" or "Excellent". Significant human-made disturbances to former natural areas (other than the cut banks required to accommodate Knox Mountain Drive) are generally minimal throughout most of the park and includes disturbances such as unsanctioned trail development, general refuse, fire pits, and biking obstacle courses. Invasive plant species are low to absent depending on the area assessed. Invasive plants, for the most part, are limited to areas adjacent to roads and trails.

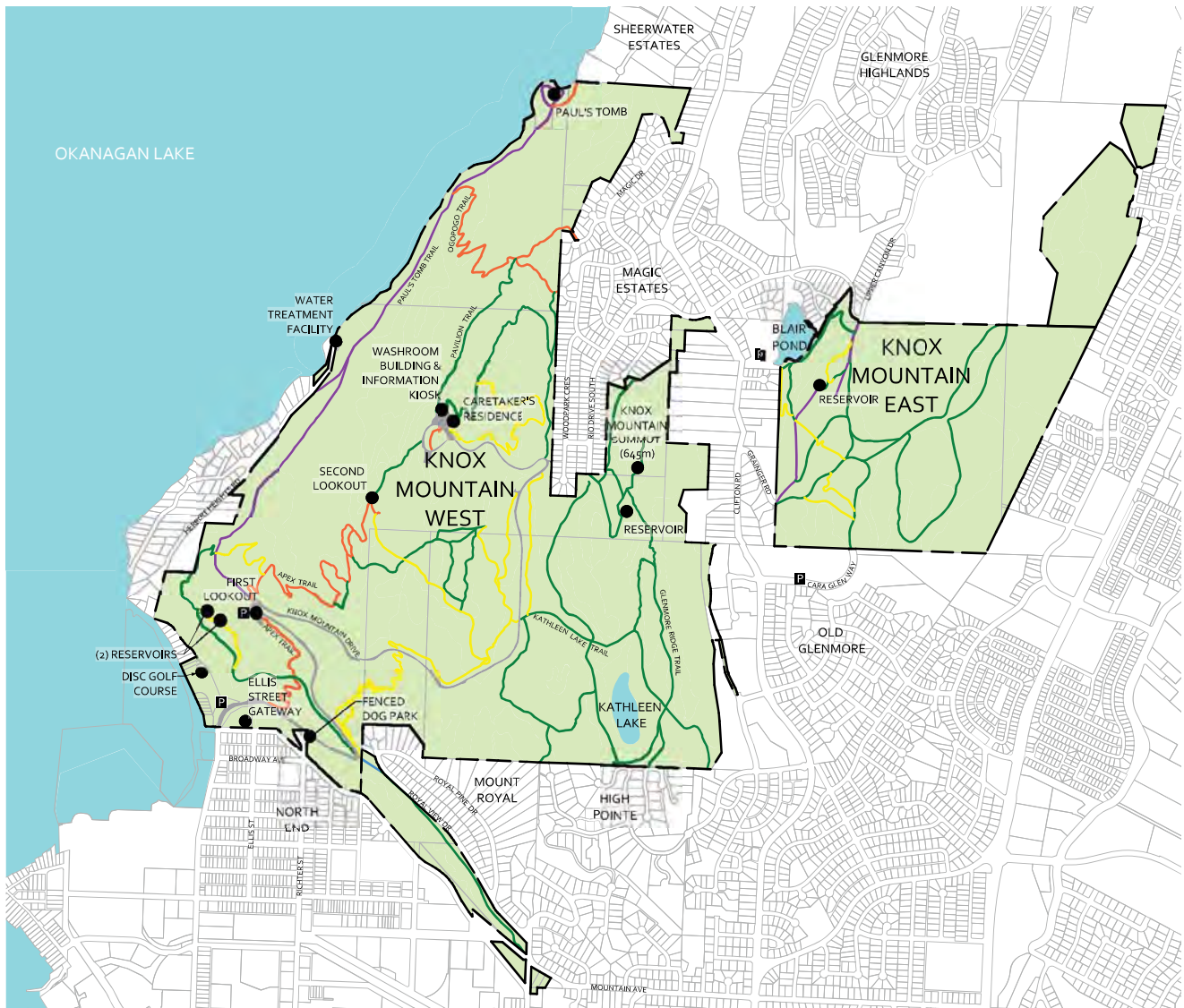
The park's intact grasslands, with minimal historic evidence of grazing by livestock, are especially noteworthy, as they are a rarity within the Okanagan. Central risks and challenges to the environmental integrity of the park are fire prevention, forest health issues, such as disease, human-wildlife conflicts, and pest infestations (such as the western and mountain pine beetle), and the proliferation of unsanctioned trails across sensitive grassland ecosystems.

Figure 3: Location Map



LOCATION MAP  
N

Figure 4: Current Land Use, Road, and Trail Network



CURRENT LAND USE, ROAD & TRAIL NETWORK

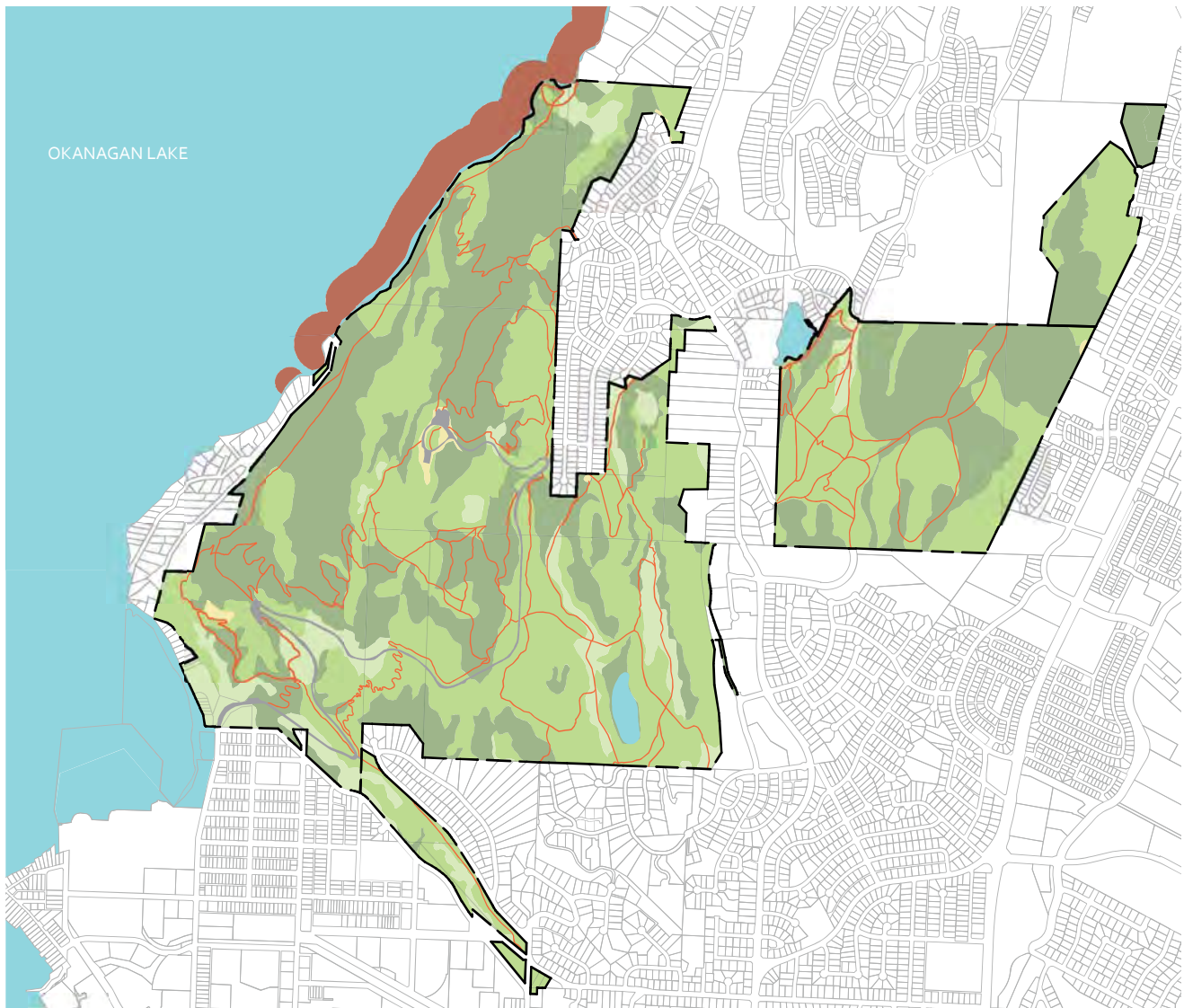


LEGEND

- Park Boundary
- Road
- Major Multi-Use Trail
- Standard Multi-Use Trail
- Narrow Multi-Use Trail
- Nature Trail
- Mountain Bike Only Trail
- Point of Interest
- Parking



Figure 5: Environmentally Sensitive Areas



### ENVIRONMENTALLY SENSITIVE AREAS



#### LEGEND









-  Very High Environmental Sensitivity
-  High Environmental Sensitivity
-  Moderate Environmental Sensitivity
-  Low Environmental Sensitivity
-  Kokanee Sensitivity
-  Park Boundary
-  Road
-  Sanctioned Trails

Figure 6: Recorded or Potential Species at Risk

Group	Common Name	Scientific Name	BC List	COSEWIC
Amphibian	Western Toad	Anaxyrus boreas	Yellow	Special Concern
	Great Basin Spadefoot	Spea intermontana	Blue	Threatened
Birds	Great Blue Heron, Herodias subspecies	Ardea Herodias herodias	Blue	
	American Bittern	Botaurus lentiginosus	Blue	
	Swainson's Hawk	Buteo swainsoni	Red	
	Evening Grosbeak	Coccothraustes vespertinus	Yellow	Special Concern
	Olive-sided Flycatcher	Contopus cooperi	Blue	Special Concern
	Horned Lark, merrilli subspecies	Eremophila alpestris merrillie	Blue	
	Barn Swallow	Hirundo rustica	Blue	Special Concern
	California Gull	Larus californicus	Blue	
	Lewis's Woodpecker	Melanerpes lewis	Blue	Threatened
Flammulated Owl	Otus flammeolus	Blue	Special Concern	
Invertebrates	Lance-tipped Darner	Aeshna constricta	Blue	
	Emma's Dancer	Argia emma	Blue	
	Vivid Dancer	Argia vivida	Blue	Special Concern
	Common Sootywing	Pholisora catullus	Blue	
Mammals	American Badger	Taxidea taxus	Red	Endangered
	Townsend's Big-eared Bat	Corynorhinus townsendii	Blue	
	Western Small-footed Myotis	Myotis ciliolabrum	Blue	
	Little Brown Myotis	Myotis lucifugus	Yellow	Endangered
	Fringed Myotis	Myotis thysanodes	Blue	Data Deficient
	Western Harvest Mouse	Reithrodontomys megalotis	Blue	Endangered
Reptiles	Northern Rubber Boa	Charina bottae	Blue	Special Concern
	Western Painted Turtle – Intermountain -Rocky Mountain Population	Chrysemys picta pop. 2	Blue	Special Concern
	Western Yellow-bellied Racer, Mormon subspecies	Coluber constrictor mormon	Blue	Threatened
	Western Rattlesnake	Crotalus oreganus	Blue	Threatened
	Gopher Snake, deserticola subspecies	Pituophis catenifer deserticola	Blue	Threatened
	Western Skink	Plestiodon skiltonianus	Blue	Special Concern

### BC List Definitions (Source: <http://www.env.gov.bc.ca/cdc>)

**Yellow:** Not at Risk

**Blue:** Of Special Concern (Formerly Vulnerable)

**Red:** Extirpated, Endangered, or Threatened

### Committee on the Status of Endangered Wildlife in Canada (Cosewic) Definitions

(Source: <https://www.cosewic.ca/index.php/en-ca/assessment-process/wildlife-species-assessment-process-categories-guidelines/status-categories.html>)

**Special Concern:** A wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats.

**Endangered:** A wildlife species facing imminent extirpation or extinction.

**Threatened:** A wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.

**Data Deficient:** A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.

## 5.2 Key Issues

There are a number of key issues related to the effective management of Knox Mountain Park. Many issues relate to concern about the impact of park users on environmentally sensitive areas (ESA). Key issues include:

- Park-Wide User Access
- Proliferation of Unsanctioned Trails
- Human/Wildlife Conflicts
- Off-Leash Dog Impacts
- Biking Impacts
- Park Rental and Special Events
- Perimeter Access Management
- Utility Impacts

### 5.2.1 Park-Wide User Access

All areas of the park are currently accessible to users (Fig. 4: Current Land Use and Trail Network). However, park users seem unaware of the impacts of unfettered access on the park's terrestrial and aquatic environmentally sensitive areas. These areas are sensitive to alteration by human actions and are generally slow to recover from disturbance.

### 5.2.2 Proliferation of Unsanctioned Trails

The park contains 29 km of sanctioned trails (Fig. 4: Current Land Use and Trail Network). The proliferation of unsanctioned trails has contributed to the overall degradation of the terrestrial environment of the park.

Since 2011, the trail network within Knox Mountain Park West has increased by approximately 17% overall, yet the total unsanctioned trail networks has decreased by approximately 26%. However, of the total existing trail network across the entire park, approximately 46% of trails are unsanctioned. Although there has been success in decommissioning previously unsanctioned trails in Knox Mountain Park West, nearly 50% of all trails through the park are unsanctioned. This indicates that unwarranted trail development is most likely the single greatest environmental issue within the park and requires ongoing evaluation and management.

Figure 7: Existing Trail Network in Knox Mountain Park

Type of Trail	Knox Mountain Park West Length (m)	Knox Mountain Park East Length (m)	Knox Mountain Park Total Length (m)
Sanctioned	24,428	4,342	28,770
Unsanctioned	31,489	3,373	34,862
Rehabilitated	7,698	0	7,698
Road	4,077	477	4,554
Total	67,692	8,192	75,884

### 5.2.3 Human/Wildlife Conflicts

Human-wildlife conflicts have been documented in Knox Mountain Park, with common recurrent interactions from humans, domestic pets (dogs and cats) and vehicles on Knox Mountain Drive. Wildlife most at risk from vehicles include deer and several species of reptiles, most of which are rare or endangered. Additionally, human-wildlife conflicts have occurred between people and snakes. Many people fear snakes and therefore snakes are often persecuted by humans. Given the imperiled state of BC's reptiles, it is critical that parks such as Knox Mountain are a safe place for reptiles. Outdoor cats that roam and hunt within the park are also a concern. Cat predation is the largest single source of human-caused mortality of mammals and birds in North America, with typical free roaming cats preying on 14-100 prey items annually. The most effective stewardship practices to mitigate cat predation is to promote keeping cats indoors and spaying and neutering. In Knox Mountain Park, the most commonly encountered human-wildlife conflict is from off-leash dogs, which will be discussed separately below.

### 5.2.4 Off-Leash Dog Impacts

The City of Kelowna looks for opportunities to provide dogs and their owners with areas in the park system in which to exercise and socialize with other dogs and owners. There are currently 115 parks that allow dogs and eleven are sanctioned off-leash parks. Within Knox Mountain Park dog owners are currently restricted to exercising their dogs on trail, on-leash and off-leash in a off-leash dog exercise area. Although the City of Kelowna has a leash law within

the park, this regulation is frequently not followed, and off-leash dog activity is negatively impacting the ecology of the park.

Of particular concern are: injury to wildlife caused from being chased by dogs off-leash; disturbance and damage to small wildlife such as ground nesting birds, amphibians, rare reptiles, and small mammals; plant life and ecosystem impacts; the potential damage to Kokanee spawning areas along the Okanagan Lake shoreline; plant impacts, including the spread of invasive species; public health issues when dog owners do not pickup after their dogs; and low compliance with dog licensing requirements.

From an ecological standpoint, dog-wildlife interactions are the biggest concern regarding off-leash dogs. Interactions of concern include chasing deer causing injury and death, disturbance of small mammals, and off-leash dogs entering wetlands and chasing waterfowl, as well as disturbance to ground nesting sites.

### 5.2.5 Biking Impacts

Three forms of biking occur in the park: downhill mountain biking, road biking (on Knox Mountain Drive) and cross-country mountain biking. Since the 2011 plan, mountain biking trails have been designed and built, such as the Shale Trail. The Shale Trail is maintained by the Mountain Bikers of Central Okanagan (MTBCO). Trail braiding and rogue trails remain an issue through the park.

### 5.2.6 Park Rental and Special Events

The park hosts numerous single and recurring active and passive recreational events. There are currently five key booking areas in Knox Mountain Park (no events are booked at Paul's Tomb due to access and liability issues):

- First Lookout
- Second Lookout
- Disc Golf Course
- Pioneer Pavilion
- Knox Mountain Drive

The following are examples of events in the park that require bookings:

- Easter Sunrise
- Weddings
- Knox Mountain Hill Climb
- Film Productions
- Hungry Hungry Half Marathon
- Disc Golf Tournament
- Expedition Canada

The City of Kelowna's Event Services Department manages park rentals and special events bookings. Rental fees and damage deposits are charged according to the Recreation Fees and Charges Bylaw #9609. Events are authorized through outdoor event and park rental permits and bookings are granted following consultation with the Event Services Committee. As a minimum, the City's Parks Community Relations Coordinator is responsible for conducting pre-event and post-event inspections of parks to assess potential hazards and risk management concerns for public events, ensuring timely follow-up with corrective measures to minimize public safety risks and protect park assets.

### 5.2.7 Perimeter Access Management and Interface Conflicts

Knox Mountain Park West has one primary vehicle and pedestrian entrance and 9 secondary public pedestrian entries around the perimeter. A future pedestrian access is planned to connect this parcel to the East park parcel. Knox Mountain Park East has one current primary maintenance vehicle and pedestrian entrance. Trail improvements will facilitate access from Blair Pond Park. There are 3 secondary public pedestrian and cyclist access points to this area as well.

Regulating access along this frontage and sustaining the park boundary is a challenge, as is the ability to manage negative impacts, such as illegal dumping, encroachment by abutting private property, illegal access into the park by motorized vehicles at unsanctioned locations, and trespassing on private properties.

### 5.2.8 Utility Impacts

The Poplar Point water intake, located outside the park's west boundary, is the City's main water supply. Both water and sewer utilities surround the park boundary. Over the years, buried reservoirs, buried transmission mainlines, overhead power lines and communications towers have been installed with varying degrees of impact to sight lines and the terrestrial environment. Ideally, utility infrastructure in parcels and properties zoned for parks should be minimized, and not infringing on the beauty or benefits of the park.

A watermain upgrade is planned to connect both Poplar Point, Knox Reservoirs and areas east. The alignment and complexity of this work in the park will depend on the future location of a water filtration facility in the City's north end. Compensation and mitigation measures will be required on utility projects to ensure net park and / or environmental gain achieved.



## 6.0 PARK MANAGEMENT PLAN - How We Get There

### 6.1 Introduction

The Park Management Plan is designed to achieve the Knox Mountain Park Vision and Strategic Goals, and is made up of Policies, both those that are park-wide and those that are zone-specific, including a Knox Mountain Park Development Plan and an Operations and Maintenance Plan.

### 6.2 Policies

#### 6.2.1 Park-Wide Policies

The following policies largely apply to the ongoing management and operations of the park, however, some provide specific direction to the construction and restoration activities proposed by the Development Plan (Fig. 11: Development Concept Map).

1. Dogs are permitted in the park on-leash, and on sanctioned and designated trails only. The only exception is within the park's designated off-leash dog exercise area near the Ellis Street Entrance.
2. Knox Mountain Drive will to vehicles during the frost-free season to the First Lookout between

the hours of 12:00PM and 8:00PM, seven days a week. Closures may occur during the summer when the fire hazard reaches extreme levels for more than three consecutive days. Vehicles may be allowed for special events with the appropriate permit.

3. Mountain biking will be permitted on designated trails only.
4. Waterfront access infrastructure will be set back a minimum of 15 metres from the 343 metre level of Okanagan Lake.
5. All new utility installations will:
  - a) ensure net benefit to the park and consistent with the Strategic Goals of this Management Plan
  - b) be subject to an environmental development permit approval process, including the preparation of an environmental management and monitoring plan
  - c) require the retention of qualified environmental professionals to monitor construction practices

- d) locate associated structures on existing disturbed areas only and route linear utilities under existing roads and paved surfaces only
  - e) locate and design structures to have no negative visual impact from sight lines within and to the park
  - f) ensure complete landscape restoration of any disturbed areas to include long-term plant viability, without erosion issues or noxious weeds
  - g) include a public consultation component
6. All special events within the park will be subject to a special event permit process, including the preparation of an environmental management plan, and will provide a meaningful damage deposit, with specific terms and conditions that include restoration should damage occur.
  7. Safe maintenance access to the wildland urban interface will be provided where possible and will be constructed in a manner that utilizes existing circulation routes and limits the access footprint to areas rated as moderate or low environmental sensitivity (Fig. 5: Environmentally Sensitive Areas).
  8. The removal of wildfire fuel materials will follow best management practices and wildfire fuel prescriptions developed by forest professionals to mitigate wildfire risk.
  9. Where trails are upgraded or where new trails are constructed, implementation will meet the trail classification system requirements of the City of Kelowna Linear Park Masterplan, consider opportunities for universal accessibility and be constructed of natural and permeable trail surfacing materials.
  10. Visitor access to the park is restricted only to sanctioned points of access (including the designated main entry and the secondary entries).
  11. Shared vehicles under the Micromobility Permit Program are permitted on Knox Mountain Drive only. Shared e-scooters are permitted from the Ellis Street Entry to Royal View Drive only. Privately owned e-scooters, electric skateboards, and other electric micromobility devices are also permitted from the Ellis Street Entry to Royal View Drive only. In all other than specified areas, e-scooters, electric skateboards and other electric micromobility devices are prohibited in Knox Mountain Park East and West.
  12. Visitor motor vehicle access through the park or into the park from adjacent private property, excluding the existing main access road, is prohibited.
  13. Signage installed within the park will be sympathetic to the natural environment in the choice of materials, sign frequency, colours and other design elements, and will comply with the Natural Area Park Sign Guidelines.
  14. The Paul's Tomb cultural feature will be featured through use of interpretive signage but will remain protected through the existing soil cover.
  15. Park bylaws and code of conduct will be clearly communicated and enforced through visitor education, signage and fines.
  16. Signage to enhance and aid users' experiences in the park will incorporate a family of signs including:
    - a) Entry Sign
    - b) Current Fire Risk and Trail Condition Sign
    - c) Kiosk
    - d) Trailhead
    - e) Simple Trail Junction
    - f) Complex Trail Junction
    - g) Trail Marker
    - h) Interpretation Sign
  17. Prohibited and Restricted Activities  
Please refer to Fig. 8 for a list of prohibited and restricted activities in the park.

Figure 8: Prohibited and Restricted Uses

**PROHIBITED ACTIVITIES**

Prohibited Activity	Conditions of Use
ATV, Dirt Bike Use	City maintenance vehicles permitted
Equestrian Use	
Camping	
Dumping and Disposal	
Fire, Barbeques, Stoves	Approved prescribed burns by City staff permitted
Off-Road Vehicle Use	City maintenance/emergency vehicles permitted
Overnight Parking	
Hunting, Trapping	Hazard animals (i.e. coyotes, bears) by authorized staff
Parties	Events authorized by City permit
Rock Climbing	
Smoking	
Snowmobile Use	
Utilities and Infrastructure	Only within REC-1 zone, or as existing in other zones. New utilities not of benefit to park are not permitted.
Boats	

**RESTRICTED ACTIVITIES**

Restricted Activity	Conditions of Use
Bicycle Races	As approved by City, on designated routes only
Commercial Uses	Temporary and event-related only with a valid permit
Field Trips	School, community and naturalist groups
Knox Mountain Hill Climb	Permitted once per year, subject to damage deposit, City impact assessment and approval
Orienteering	Permitted once per year, subject to damage deposit, City impact assessment and approval
Non-Disruptive Research	Only as approved by City
Social Events	Subject to City impact assessment and approval
Tour Buses	Only permitted access to First Lookout with a permit
Weddings	As approved by City, in designated locations only with a permit
X-Country Foot Race	As approved by City, on designated trails only with a permit
Mountain Biking	As approved by City, on designated trails only (except Nat. Area Park Coordinator)
Dogs	On-leash only, unless in the designated off-leash dog park near the Ellis Street/Royal Ave Entry
Swimming	As approved by City, in designated locations only



## 6.2.2 Zone-Specific Policies

### Park Zoning Concept

Knox Mountain Park is made up of different ecosystems with varying degrees of sensitivity, ecological importance and existing disturbance. The park also has established built infrastructure and utilities and an existing pattern of recreational access and use.

The Knox Mountain Park Zoning Concept is based on what is known about the park's natural and built environment, pattern of use, and the Vision and Strategic Goals of the Management Plan. The Zoning Concept provides direction to the management, use, and development of the park on an area-specific basis; as a whole, the Zoning Concept enables the preservation of environmentally sensitive areas while focusing existing and future recreational use, access infrastructure, and further alteration of the natural environment to less sensitive areas and areas with existing disturbance. The Knox Mountain Park Development Concept Map (Fig. 11: Development Concept Map) is based on, and reinforced through, the direction of the Zoning Concept.

The Zoning Concept delineates four management zones (Fig. 9: Park Management Zones). Each zone has a different objective and a series of associated policies. The zones are detailed in the following sections include:

- Conservation Zone (CON Zone)
- Nature Zone (NA Zone)
- Access Zone (AC Zone)
- Recreation Zone (REC Zone)

### Conservation Zone (CON Zone)

The Conservation Zone (CON Zone) includes areas of high environmental sensitivity that are both highly fragile and sensitive to human disturbance. Specifically, this Zone includes: the South-West Slopes Grasslands (CON-1), the North-West Slopes Coniferous Woodlands (CON-2), Kathleen Lake (CON-3), Kokanee Spawning Area along Okanagan Lake (CON-4), and Grasslands Plateaus and Open

Coniferous Woodland in Knox Mountain Park East (CON-5).

The objective for this zone is to protect provincially significant natural ecosystems for their intrinsic value, their contribution to the park's biodiversity and for long-term public appreciation. The following policies provide direction to management of the natural environment within the CON zone.

### CON Zone Policies

CON Policy 1: Public access to or through this zone is only permitted on a limited network of sanctioned trails. Non-disruptive scientific research may be allowed through designated controlled access points with prior authorization by the City.

CON Policy 2: No further alteration of the natural landscape is permitted except as required for human safety, monitoring and maintaining the environmental integrity of the area, or restoring unsanctioned trails to reflect the natural condition of the surrounding landscape.

CON Policy 3: Mature trees including those that are dead and/or decaying are to be left standing unless they pose an immediate public safety hazard.

CON Policy 4: Habitat enhancements for Rare and Endangered species (e.g. construction of nesting platforms, nest boxes, etc.) are permitted.

CON Policy 5: No overland stormwater is to be directed to these areas from future urban development.

### Nature Zone (NA Zone)

The Nature Zone (NA Zone) is inclusive of the open coniferous woodland and other natural landscapes that exist outside of the Conservation Zones. The NA Zone includes the park's sanctioned trail network.

The objectives for this zone are to:

- a) provide for passive, recreational opportunities in a manner that will have minimal impact on the natural environment

of the park and will serve to enhance users' experiences or understanding of the park's natural environment

b) maintain specific trails for mountain biking

#### **NA Zone Policies**

NA Policy 1: Public access to this zone is permitted at sanctioned points only; access through and within this zone is permitted on sanctioned trails only.

NA Policy 2: Landscape alteration is limited to sanctioned trails, signage for route identification, and minimal interpretative facilities to support recreational use; no construction of new roads, parking areas, utilities, or large-scale infrastructure is permitted.

NA Policy 3: New routes for trails are not to be established except as required for human safety or for maintaining environmental integrity.

NA Policy 4: Mountain biking is permitted in the NA zone on sanctioned mountain biking trails and shared use trails only.

NA Policy 5: When evaluating trails for decommissioning, realigning trails or designing new trails, consideration will be given to:

- a) maintaining critical wildlife habitat and connectivity (i.e. wildlife trees with potential nest cavities and perches, mule deer winter range)
- b) avoiding hazard trees and the related need for removal of hazard trees or other management practices that have high environmental impact
- c) protecting cultural features from potential negative impacts

NA Policy 6: Public access may be temporarily closed to decommission trails and to facilitate restoration activities.

#### **Access Zone (AC Zone)**

The Access Zone includes: Knox Mountain Drive extending from the park entrance to the Apex, the First Lookout parking area, the Pioneer Pavilion, parking areas along the Drive (A-1); and reservoir sites together with their access drives (A-2 and A-3).

The objective for this zone is three-fold, as follows:

- a) to focus visitor use and special events within the park to access roads and staging areas with existing investment in supporting visitor, recreation, and transportation infrastructure
- b) to acknowledge the locations of existing utilities and those that are planned in the near future.

#### **AC Zone Policies**

AC Policy 1: Special events and uses as defined by the City of Kelowna Park Services Manager are permitted subject to conditions determined by the Park Services Manager.

AC Policy 2: Vehicle access will be permitted on Knox Mountain Drive in accordance with Council approved hours of operation.

AC Policy 3: Utilities existing at the time of completion of the Management Plan and a potential future cell-phone tower in the Knox Mountain East parcel are permitted within the A zone.

AC Policy 4: New utilities and utility corridors are permitted in the park within disturbed areas and areas hidden from public views, if they demonstrate public park benefit and a net environmental gain. If exceptions are required for greater overall City benefit they must be approved by the Director of Partnerships and Investments.

#### **Recreation Zone (REC Zone)**

The Recreation Zone includes the parkland adjacent to the Ellis Street Gateway (REC-1). The following

policies provide direction to management, use, and development within the Recreation Zone.

**REC Zone Policies**

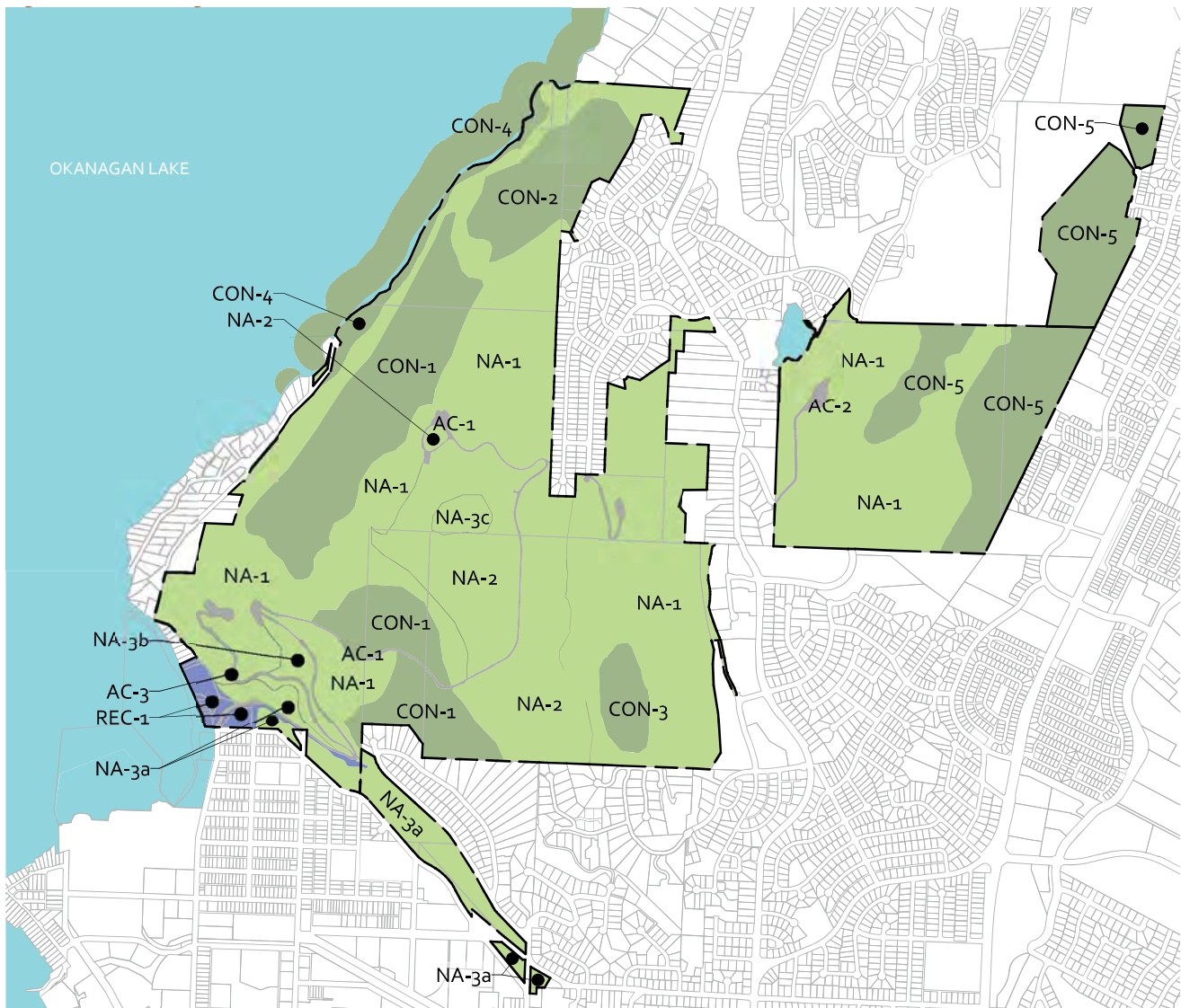
REC Policy 1: Intensive recreational activities, including tennis, disc golf and off-leash dog areas, are permitted within the REC-1 subzone in designated areas.

REC Policy 2: Development may include visitor information and educational structures (e.g. signage and fencing), day-use facilities (e.g. playground picnic areas), multi-use trails and supporting infrastructure for permitted recreational activities.

REC - Policy 3: Commercial uses are permitted on a temporary and event-related basis, according to required licensing and permitting by the City of Kelowna.

REC - Policy 4: Existing utilities within the park that pre-date preparation of this Management Plan are permitted within the REC zone; new utilities proposed that do not directly benefit the park will not be permitted in this zone.

Figure 9: Park Management Zones



**PARK MANAGEMENT ZONE**



**LEGEND**

- Access (AC)
- Conservation (CON)
- Nature (NA)
- Recreation (REC)
- Park Boundary

**PARK ZONE DEFINITIONS**

- CON-1: South and Southwest Slopes Grasslands
- CON-2: Northwest Slopes Coniferous Woodlands
- CON-3: Kathleen Lake
- CON-4: Kokanee Spawning area along Okanagan Lake
- CON-5: Grassland Plateaus and Open Ponderosa Pine Woodlands
  
- NA-1: Relatively steep, good condition landscapes
- NA-2: Relatively flat, good condition landscapes
- NA-3: Sites in need of restoration
  - (a) south facing slopes near the southern boundary of park
  - (b) areas downslope of the first lookout
  - (c) isolated playground area/discharge basin wetland
  
- AC-1: Knox Mountain Drive extending from the park entrance to the second lookout
- AC-2: Knox Mountain East access routes provide access to the water reservoirs and monopole in the northwest quadrant, and access/parking for the future recreation site.
- AC-3: Access roads to water reservoirs within Knox Mountain West
  
- REC-1: Day-use Parkland at Park's Entrance

Figure 10: Park Zoning Concept - Acceptable Uses

**PARK ZONING CONCEPT - Acceptable Uses**

Activity	Conservation (CO) Zone	Nature (NA) Zone	Access (AC) Zone	Recreation (RE) Zone	Comments
Dog Walking, Off-Leash				●	In fenced, designated area only
Dog Walking, On-Leash		●	●	●	On-leash, on-trail only
Hiking/Walking/Running	●	●	●	●	On designated trails only
Mountain Biking		●	●		On designated mountain biking trails only
Micro-Mobility Devices (Electric Bikes)			●		On Knox Mountain Drive Only
Micro-Mobility Devices (Electric Scooters & Skateboards)			●		On Knox Mountain Drive Only (Ellis Street Entry to Royal View Drive only)
Nature Appreciation	●	●	●	●	Info structures in REC or NA zones only
Outdoor Education	●	●	●	●	Info structures in REC or NA zones only
Picnicking		●	●	●	In shelters and on benches only
Playground				●	
Road Cycling			●		On Knox Mountain Drive only
Snow-Shoeing		●	●	●	On designated trails only
Swimming, Unsupervised					Unsupervised; Paul's Tomb only
Disc Golf				●	In designated disc golf course only
Tennis				●	Designated area at Ellis entry only
Vehicle Parking			●	●	In designated areas only
X-Country Skiing			●		On Knox Mountain Drive only
Special Events			●	●	According to permit only

## 6.3 Development Plan

The Development Plan forms one part of the Park Management Plan. Another part consists of the Operations and Maintenance Plan, described later in this chapter. The Development Plan describes the development work that is recommended to achieve the Vision and Strategic Goals of the Management Plan. Implementation practices are to conform to the Policies prescribed in previous sections of this report.

There are twenty major interrelated items to the Development Plan. These capital (CAP) items are categorized consecutively; however, the interrelated nature of the improvements should be stressed.

Furthermore, there are seven main objectives for park improvements, including: Environmental Protection, Recreational Amenities, Gateway and Staging Area Improvements, Maintenance Infrastructure and User Services, Capacity Building and Public Involvement, Operations and Maintenance Planning, and Monitoring. Each of the 20 capital improvement items has been designated into one of these categories.

The items are detailed in the following sections and the specifics of each component are referenced in Fig. 11: Development Concept Map. The items are as follows:

**CAP 1** Vehicular Access to First Lookout: Two Year Pilot

**CAP 2** Undertake Rockfall Mitigation

**CAP 3** Construct Improvements at First Lookout

**CAP 4** Update Outdated and Damaged Interpretive Signage

**CAP 5** Install Information Kiosk and Signage at Ellis Street Gateway

**CAP 6** Develop a Strategy and Enforcement Plan for Off-Leash Dogs

**CAP 7** Renovate Abandoned Repeater Tower Foundation

**CAP 8** Trail Fencing for Conservation Areas

**CAP 9** Develop Staging/Parking Area at Knox Mountain Park East

**CAP 10** Install Knox East Staging Area Signage

**CAP 11** Install Signage on Remaining Trails

**CAP 12** Install Trail Fencing

**CAP 13** Crib Step Replacement throughout Park

**CAP 14** Establish Trail Connections between Knox Mountain Park West and Knox Mountain Park East

**CAP 15** Expand Designated Mountain Biking Trails

**CAP 16** Community Outreach

**CAP 17** Annual Scorecard Assessments

**CAP 18** Host Annual Stakeholder Meeting

**CAP 19** Rehabilitate Mountain Biking Trails

**CAP 20** Update Management Plan and 10 Year Environmental Assessment

### **CAP 1: Vehicular Access to First Lookout: Two Year Pilot**

**Objective: Operations and Maintenance Planning**

Due to the increased use of this road by all user groups (i.e. vehicles, cyclists, pedestrians, and long boarders), the City undertook a survey in the spring of 2021, which provided five options for public consideration. The overall highest rated option was to keep vehicular access open to the First Lookout.

This resulted in the development of The Knox Mountain Drive Multi-Modal Access Strategy with consideration to safety, accessibility and operations and maintenance. The Strategy takes into account management and use restrictions to reflect the unique context and constraints of the park. A 'Share the Road' approach was proposed and endorsed by Council in November 2021.

A two year pilot has been introduced to allow vehicular access to the First Lookout from noon to 8pm daily during the frost free season. For special events with appropriate permits, a staff led pilot car

will be utilized. The road will continue to be closed fully to vehicles during the winter months and periods of extreme fire danger. Staff will monitor vehicle, pedestrian, and cyclist counts at select park locations, special event permits, and receive public feedback and operations feedback during this time.

Vehicular access to the First Lookout was chosen for a number of reasons:

- Views over the City are immediately available from the First Lookout parking area and are most accessible for all users
- A parking lot currently exists in this location
- There are multiple options for alternative hiking and cycling routes at the First Lookout
- This option was most favoured in the public engagement survey

The two year pilot includes traffic calming measures, signage, and improvements to trails and accessibility supports at the First Lookout .

### **CAP 2: Undertake Rockfall Mitigation**

#### **Objective: Maintenance Infrastructure and User Services**

There are various natural rock outcroppings within the boundaries of Knox Mountain Park. These shall be assessed on an annual basis to identify potential public safety hazards. Any serious hazards will be prioritized and budgets brought forth for Council consideration.

Rock scaling will be undertaken on an as-needed basis to remove unstable or potentially unstable areas of rock near recreation areas/trail routes. Geotechnical engineers and environmental professionals should be retained to assess the rock outcropping and to monitor potential habitat disturbance.

### **CAP 3: Construct Improvements at First Lookout**

#### **Objective: Gateway and Staging Area Improvements**

The First Lookout has been identified as an area to improve park amenities for users to facilitate better flow of traffic and parking configuration, amenities for users and elements to facilitate better accessibility for mobility challenged individuals.

### **CAP 4: Update Outdated and Damaged Interpretive Signage**

#### **Objective: Maintenance Infrastructure and User Services**

Some signage within the boundaries of the park is outdated and/or damaged and needs to be replaced. Priority should be given to areas of high-use, where environmental encroachment is known to occur, critical trail intersections for wayfinding purposes, and interpretive, historical and educational opportunities.

The format of signage should be upgraded to match current precedent established in the park to create a comprehensive look and feel throughout the park.

A variety of sign types will be installed on new and remaining trails within the park and shall incorporate interpretive and historical, and indigenous content. Interpretive signage with information on local floral, fauna, rarity and vulnerability will be developed through consultant with local consulting professionals and historical groups. Indigenous content will be developed and provided by local indigenous partners. The style of signage will be consistent with that already established in the park. The City will work with our indigenous partners to include the Nsyilxcən names and language, cultural history and traditional practices in the signage at Knox Mountain Park.

### **CAP 5: Install Information Kiosk and Signage at Ellis Street Gateway**

#### **Objective: Gateway and Staging Area Improvements**

Visitor amenities at the Ellis Street gateway to Knox Mountain Park will be upgraded to include a main park gateway sign; identification plaque for existing public art piece ("Levels", 1986 by Judson Beaumont); and a permanent information kiosk that includes directional, regulatory, and emergency contact information, with rotating/changeable educational panels.

### **CAP 6: Develop a Strategy and Enforcement Plan for Off-Leash Dogs**

#### **Objective: Operations and Maintenance Planning**

Off-leash dogs have been identified as one of the current issues most impactful to local wildlife and plant survival. A comprehensive program to address

the impact of off-leash dogs within the park will be developed. Strategies will include public awareness, signage, and bylaw enforcement.

### **CAP 7: Renovate Abandoned Repeater Tower Foundation**

#### **Objective: Recreational Amenities**

There is utility infrastructure East of Kathleen Lake in the form of a repeater tower foundation that is no longer used. This provides an ideal opportunity to provide additional recreation amenities to park users in the footprint of this infrastructure. An existing narrow access road is situated within an easement that will be converted into a trail. This will terminate at the repeater tower foundation and include a new seating area lookout over the Lake.

### **CAP 8: Trail Fencing for Conservation Areas**

#### **Objective: Environmental Protection**

Conservation zones have been identified as areas for minimal disturbance, though the boundaries of these sensitive environmental zones can often be unclear to users. Regular monitoring of interface areas can help identify and assess impacts. Fencing along trail routes is to be installed at specific interface zones; where there is not the occurrence of steeply sloped topography to naturally deter encroachment into these areas. Priority locations for fencing include: the Shale Trail downslope of Knox Mountain Drive, and the Roundabout Trail in Knox Mountain Park East where it provides access to viewpoints and grassland plateaus. Fencing at the First Lookout should also be prioritized to prevent access to the sensitive grassland ecosystem. The fencing will allow for the free passage of wildlife and will be constructed of 1.2 metre height natural area fencing to match already established precedents within the park.

### **CAP 9: Develop Staging/Parking Area at Knox Mountain Park East**

#### **Objective: Gateway and Staging Area Improvements**

The main entrance to Knox Mountain Park East will be from the existing Blair Pond parking lot. A permanent vault toilet will be installed at Blair Pond Park to accommodate users entering Knox Mountain Park

East from this location and those that are travelling between Knox Mountain Park East and West.

A new parking lot and staging area for Knox Mountain Park East will be developed off of Cara Glen Way. The design and implementation of this critical infrastructure will be undertaken in coordination with the adjacent private residential development. The footprint of on-site parking will be fairly small with additional off-site street parking available for users. This staging area will reduce pressures of increased use from the western park parcel.

Amenities will take care to reduce impacts on sensitive environmental areas, and include wayfinding, interpretive and regulatory signage, and a vehicle access gate.

### **CAP 10: Install Knox Mountain Park East Staging Area Signage**

#### **Objective: Gateway and Staging Area Improvements**

Similar to the Ellis Street Entry, signage should be incorporated at the primary staging areas of Knox Mountain Park East. This could include a gateway sign, and a permanent information kiosk that includes directional, regulatory, and emergency contact information, with rotating/changeable educational panels.

### **CAP 11: Install Signage on Remaining Trails**

#### **Objective: Recreational Amenities**

Signage is a critical piece of any park's infrastructure as it can be used for wayfinding, preventing encroachment into sensitive ecosystem areas, and education of park users. The installation of signage on remaining trails will focus on wayfinding and regulatory signage where required and follow the existing templates for natural area park signage.

### **CAP 12: Install Trail Fencing**

#### **Objective: Environmental Protection**

Fencing may be desirable at road ends, for example, to discourage illegal dumping or similar activities. Generally, fencing adjacent to private property is installed on the private property by the private



property owner. Fencing materials are to be consistent with that already utilized within the park.

### **CAP 13: Crib Step Replacement throughout Park**

#### **Objective: Recreational Amenities**

Various trails within the park include timber crib steps which are degrading and require replacement. These will be replaced with concrete crib steps, which provide better longevity and require less maintenance.

### **CAP 14: Establish Trail Connections between Knox Mountain Park East and Knox Mountain Park West**

#### **Objective: Recreational Amenities**

The single family residential areas along Clifton Road separate Knox Mountain Park West from Knox Mountain Park East. A safe pedestrian and cycle corridor is planned to be established to connect these two areas. This will provide a corridor for users but also help to relieve pressures of use on the existing park for both current and future increases in park activity.

### **CAP 15: Expand Designated Mountain Biking Trails**

#### **Objective: Recreational Amenities**

The Knox Mountain Park East parcel provides new opportunities for both downhill and cross-country mountain biking trails that will help to ease pressures of high use within the main western parcel of the park. The mountain has special value to the mountain biking community due to its central locations within the City. Consideration is to be given to how these trails interact with trails for other user groups so to minimize potential conflicts.

### **CAP 16: Community Outreach**

#### **Objective: Capacity Building and Public Involvement**

A number of community outreach initiatives will be explored for Knox Mountain Park. This will include:

i) Dedicated Park Web Page: continue the on-line information page describing current Park management initiatives will be posted on the City web site and be updated to correspond with the annual external stakeholder meetings. The Knox Mountain Park web page is expected to serve as an online

source of information pertaining to the park and its management and could contain information about events, the hours that the Drive is open, the location of sanctioned trails and access points, park regulations, natural and cultural history, invasive species, typical plant and animal species, and hazardous conditions.

ii) Adopt-a-Trail Program: initiate an adopt-a-trail program whereby members of the public would commit to regular maintenance of the trail in the form of litter pick-up; removal of sticks, rocks and debris; recording and reporting of vandalism, hazards, and illegal activity; cleaning of signage. Terms could be for a two year minimum with trail maintenance once per month between April and October and volunteers would get name recognition on a sign.

iii) Annual Monitoring and Population Counts: community led (e.g., volunteers) development and implementation of an ongoing monitoring program for bird, amphibian, reptile and plant species to identify population trends and to measure water levels of Kathleen Lake in order to ensure that the strategic goals and policies are contributing positively to ecological protection. The information will be recorded in the Annual Scorecard report.

iv) Annual Festivals: support community-led festivals meeting the intent of the Vision and Strategic Goals for the park will be considered. These must be coordinated with the Parks Community Relations Coordinator or Parks Services to ensure authorized use of the park and its amenities. Examples of such festivals may include:

- An Annual Kokanee Awareness Festival: a fall festival in the park during spawning season (September and October) to increase public awareness and associated with protecting the fish that use the park's shoreline. The park is one of few stretches of undeveloped shoreline on Okanagan Lake and it is classified as a "Black Zone" or critical habitat for shore spawning Kokanee.
- An Annual Okanagan Sunflower Festival: a springtime festival in the park to celebrate the

annual re-emergence the City's official flower, Arrowleaf Balsamroot (*Balsamorhiza sagittata*). The bright yellow flowers bloom in late April or early May and have a particular resonance in the cultural identity of many residents. A festival to celebrate this phenomenon could become a valuable opportunity to promote and communicate the uniqueness of and reasons for protecting the ecosystems in Knox Mountain Park.

v) Consider support of educational Initiatives proposed by local groups (i.e. First Nations, Naturalist Clubs, Museums, etc) or summer students that provide nature walks or other activities available to the public at regularly scheduled intervals. This would increase awareness and provide education opportunities of the historical, environmental, and First Nations significance and traditional uses within Knox Mountain Park.

vi) Invite local indigenous partners to participate as a stakeholder in activities for Knox Mountain Park, as in the annual stakeholder meeting. Work with indigenous partners to include the Nysiyilxcn language, place names, history, and cultural practices in signage in the park.

vii) Encourage community involvement in educational and cultural opportunities within the park. Encourage local experts in natural history or indigenous culture to participate in sharing knowledge with residents and visitors in the park.

### **CAP 17: Annual Scorecard Assessments**

#### **Objective: Monitoring**

The implementation of annual scorecard assessments was established with the 2011 Knox Mountain Park Management Plan to assess the ongoing effectiveness of the document. Baseline measurements were taken with the first scorecard assessment which now provide a template against which future conditions and trends are measured (i.e. improving, declining, or stable).

Measurements include frequency and type of outdoor events, vehicular traffic, wildlife mortality, bylaw infractions and monitoring of several location specific

plots against predetermined environmental criteria. The annual scorecard assessments will continue to be conducted at the same time each year (late spring) by City staff familiar with Knox Mountain Park (i.e the Parks Planner and/or the Natural Area Park Coordinator) and a Qualified Environmental Professional, supported by qualified community volunteers. The annual scorecard assessment will be presented at the annual stakeholder meeting.

### **CAP 18: Host Annual Stakeholder Meeting**

#### **Objective: Capacity Building and Public Involvement**

City staff will continue to formally engage interested stakeholder groups at least once per year. A spring external stakeholder meeting will focus on projects under consideration for upcoming annual budget submissions. Parks and Building Planning will budget for, host and coordinate these stakeholder meetings, with participation by Design and Construction and Parks Services.

### **CAP 19: Rehabilitate Mountain Biking Trails**

#### **Objective: Maintenance Infrastructure and User Services**

Dedicated downhill and cross-country are an important recreational amenity within Knox Mountain Park. Management of these specific use trails may require signage, education, and enforcement to ensure safety and reduce potential conflict of users. These will be monitored throughout the life of this Management Plan and unsanctioned routes will be decommissioned and re-naturalized. The biking restrictions to single-use designated trails will allow Knox Mountain Park to continue as a convenient, local destination for off-road mountain biking, while also limiting conflicts, disturbance and erosion in more ecologically sensitive areas within the park.

### **CAP 20: Update Management Plan and 10 Year Environmental Assessment**

#### **Objective: Operations and Maintenance Planning**

The Knox Mountain Management Plan will be reviewed and updated every ten years to ensure that annual projects undertaken meet the established Strategic Goals and to confirm that the actions taken contribute to a net park benefit.

## 6.4 Operations and Maintenance Plan

This section describes the Operations and Maintenance Plan that is recommended as part of the effort to achieve the Vision and Strategic Goals of the Management Plan.

There are seven major interrelated items to the Operations and Maintenance (OP) Plan. Furthermore, there are two main objectives for operations and maintenance, including: Environmental Protection, and Maintenance Infrastructure and User Services. Each of the 7 operations and maintenance items have been designated into one of these categories.

The items are categorized consecutively and are detailed in the sections below:

**OP 1** Undertake Annual Washroom Maintenance

**OP 2** Maintain a Park Caretaker Position

**OP 3** Trail Maintenance and Decommissioning of Rogue Trails

**OP 4** Maintenance of Trails at Kathleen Lake

**OP 5** Maintain (2) Summer Students

**OP 6** Implement Sustainable Urban Forest Strategy Measures in Knox Mountain Park

**OP 7** Undertake Annual Wildfire Mitigation Activities

**OP 8** Perform General Park Maintenance

### **OP 1: Undertake Annual Washroom Maintenance**

**Objective: Maintenance Infrastructure and User Services**

Portable washrooms or vault toilets are a cost-effective option to provide necessary park amenities for users around the park, where permanent utility infrastructure is not available or practical. Rentals of these elements will be undertaken on an annual basis with arrangements made for maintenance and servicing.

### **OP 2: Maintain a Park Caretaker Position**

**Objective: Maintenance Infrastructure and User Services**

The Knox Mountain Park caretaker presently lives year-round in the caretaker's residence adjacent to the Pioneer Pavilion near the summit of Knox Mountain Drive. The caretaker is responsible for providing a presence in the park to deter unauthorized activities, and for monitoring the Park to ensure that it is safe for all to enjoy. Park caretaker duties are decreased in the winter off-season. The park caretaker position will be maintained for the duration of the Management Plan period and the Caretaker will continue to perform currently assigned duties.

### **OP 3: Trail Maintenance and Decommissioning of Rogue Trails**

**Objective: Maintenance Infrastructure and User Services**

Trail maintenance should be planned comprehensively within the park and identify priority projects based on a variety of factors (i.e. intensity of use). Where possible, it shall be undertaken in tandem with the decommissioning of unsanctioned trails as budget allows. Trail maintenance may include upgrades or enhancements such as trail resurfacing, installation of concrete crib steps, and/or minor realignments to address steep grades and to improve the user experience.

Unsanctioned trails are to be decommissioned and restored. Damaged areas will be repaired through careful soil remediation, erosion control, fencing as required to eliminate access to rogue trails, and replanting with ecosystem-appropriate native plants, with the objective that the footprint of these trails will slowly be erased over time. Trail restoration and maintenance priorities include mountain biking and walking trails where shortcuts exist and where trails have become excessively widened (i.e. Shale Trail, Pavilion South Trail).

### **OP 4: Maintenance of Trails at Kathleen Lake**

**Objective: Maintenance Infrastructure and User Services**

The Kathleen Lake trails are somewhat remote, similar to the Paul's tomb trail, and will be upgraded

to provide better accessibility for both daily users and emergency vehicle access.

**OP 5: Maintain (2) Summer Students**

Objective: Maintenance Infrastructure and User Services

Maintain two summer student positions for noxious weed removal and as park ambassadors.

**OP 6: Implement Sustainable Urban Forest Strategy Measures**

Objective: Environmental Protection

Forest Management strategies will be implemented throughout Knox Mountain Park per the City's Sustainable Urban Forest Strategy. Areas of focus will be identified with recommendations for restoration, which will be prioritized into key actions to assist with implementation. A schedule for ongoing monitoring and review will be required to assess the past and current states of sensitive ecosystems within the park. Learning about and investigating Indigenous cultural and ecological practices will be explored.

**OP 7: Undertake Annual Wildfire Mitigation Activities**

Objective: Environmental Protection

Wildfire mitigation will be undertaken within the park, as required to protect both park users and the natural ecology. This may include fuel reduction treatments within natural areas to meet wildlife needs but also reduce wildfire risk.

**OP 8: Perform General Park Maintenance**

Objective: Maintenance Infrastructure and User Services

General park maintenance duties, including: snow clearing and road sweeping, mowing (roadside and formal), large bin garbage disposal, and miscellaneous infrastructure amenity maintenance, will occur on an annual basis.



## 7.0 IMPLEMENTATION PROGRAM

### 7.1 Introduction

The Strategic Plan focuses and defines the implementation items within the Development Plan and the Operations and Maintenance Plan.

Working closely together with Park Services, this management plan has quantified costs for what an appropriate level of maintenance specific to Knox Mountain Park should be.

For both capital development and operations & maintenance items priorities for implementation were determined, high level cost estimates were prepared.

Staff anticipate that the capital development plan will be funded from the City's capital budget implemented over a 10 year time frame. Capital development costs are estimated at \$1.96 million.

In order to support ongoing operations of these capital improvements, and all park infrastructure at Knox Mountain Park, and operating budget has also been prepared and is estimated at \$1.49 million. These

estimates for ongoing base operations specific to Knox Mountain Park increase incrementally and include one time operating requests for such items as rock fall mitigation.

The locations of the Development Plan items are identified comprehensively in Figure 11 - Development Concept Plan. The Implementation Program is summarized in Fig. 12 - Phasing and Costing Chart. Priorities are listed in descending order of importance on both the Development Concept Plan and in the Phasing and Costing Charts.

Investment in the full scale Implementation Program of the Management Plan, including all Development Plan and Operations and Maintenance Plan components is estimated at \$3.45 million, over 10 years with \$1.49 million attributed to ongoing Operations and Maintenance.

Parks and Building Planning is the city department responsible for submission of capital budget requests. Requests for operations and maintenance budget will be the responsibility of the departments identified on

the Phasing and Costing Chart.

These budgets will be considered and weighed against other priorities in the long-term capital plan and provisional budget submissions in future years. It should be made clear that funding is not assured, but if projects cannot be achieved in the year or phase specified due to budgetary allocations, specific projects will be deferred to the following year.

A full description of projects can be found in Section 6.3 - Development Plan. The numbers assigned here are listed in order of priority and correspond with those shown in the Phasing and Costing Chart (Figures 12).

Figure 11: Development Concept Plan



**DEVELOPMENT CONCEPT MAP**



**LEGEND**

- Very High Environmental Sensitivity
- High Environmental Sensitivity
- Moderate Environmental Sensitivity
- Low Environmental Sensitivity
- Park Boundary
- Road
- Sanctioned Trails

\* Note: only items with specific locations are noted on the map.

- CAP-1 Vehicular Access to First Lookout - Two Year Pilot
- CAP-2 Undertake Rockfall Mitigation
- CAP-3 Construct Improvements at First Lookout
- CAP-4 Update Outdated & Damaged Interpretive Signage
- CAP-5 Install Information Kiosk & Signage at Ellis Street Gateway
- CAP-6 Develop a Strategy & Enforcement Plan for Off-Leash Dogs
- CAP-7 Renovate Abandoned Repeater Tower Foundation
- CAP-8 Trail Fencing for Conservation Areas
- CAP-9 Develop Staging/Parking Area at Knox Mountain Park East
- CAP-10 Install Knox East Staging Area Signage
- CAP-11 Install Signage on Remaining Trails
- CAP-12 Install Trail Fencing
- CAP-13 Crib Step Replacement Throughout Park
- CAP-14 Establishment of Trail Connections between Knox West & Knox East
- CAP-15 Expand Designated Mountain Biking Trails
- CAP-16 Community Outreach
- CAP-17 Annual Scorecard Assessments
- CAP-18 Host Annual Stakeholder Meeting
- CAP-19 Rehabilitate Mountain Biking Trails
- CAP-20 Update Management Plan & 10 Yr Environmental Assessment
- OP-1 Undertake Annual Washroom Maintenance
- OP-2 Maintain a Park Caretaker Position
- OP-3 Trail Maintenance and Decommissioning of Rogue Trails
- OP-4 Maintenance of Trails at Kathleen Lake
- OP-5 Maintain (2) Summer Students
- OP-6 Implement Sustainable Urban Forest Strategy Measures in Knox
- OP-7 Undertake Annual Wildfire Mitigation Activities
- OP-8 Perform General Park Maintenance

Figure 12: Phasing and Costing Chart

Item #	Development Plan Item	Objective	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Yr. 1-10 Total
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
CAP-1	Vehicular Access to First Lookout - Two Year Pilot (PBP/PS)	OMP	\$2,000	\$2,000									\$4,000
CAP-2	Undertake Rockfall Mitigation (ID)	MIUS	\$50,000		\$50,000		\$50,000						\$150,000
CAP-3	Construct Improvements at First Lookout (PBP/ID/PS)	GSIA	\$25,000	\$150,000	\$75,000								\$250,000
CAP-4	Update Outdated and Damaged Interpretive Signage (PBP/ID/PS)	MIUS	\$50,000	\$70,000	\$70,000								\$190,000
CAP-5	Install Information Kiosk and Signage at Ellis Street Gateway (PBP/ID)	GSAI			\$35,000								\$35,000
CAP-6	Develop a Strategy and Enforcement Plan for Off-Leash Dogs (PBP)	OMP			\$5,000	\$10,000							\$15,000
CAP-7	Renovate Abandoned Repeater Tower Foundation (Stair Access / Seating) (PBP/ID)	RA				\$5,000	\$75,000						\$80,000
CAP-8	Trail Fencing for Conservation Areas (ID/PS)	EP				\$22,000				\$22,000			\$44,000
CAP-9	Develop Staging / Parking Area at Knox Mountain Park East (PBP/ID/PS)	GSAI					\$25,000	\$140,000	\$145,000				\$310,000
CAP-10	Install Knox East Staging Area Signage (PBP/ID/PS)	GSAI								\$25,000		\$50,000	\$75,000
CAP-11	Install Signage on Remaining Trails (Regulation and Wayfinding) (ID)	RA	\$20,000				\$20,000				\$20,000		\$60,000
CAP-12	Install Trail Fencing (at Road Ends / Interface Areas) (ID/PS)	EP				\$30,000		\$30,000		\$30,000		\$30,000	\$120,000
CAP-13	Crib step replacement throughout park (e.g. Apex, Lochview, Ogopogo) (ID/PS)	RA	\$15,000	\$15,000	\$16,000	\$16,000	\$16,500	\$16,500	\$17,000	\$17,000	\$17,500	\$17,500	\$164,000
CAP-14	Establish Trail Connections between Knox West and Knox East (PBS/ID)	RA							\$50,000		\$65,000		\$115,000
CAP-15	Expand Designated Mountain Biking Trails (ID/PS)	RA				\$75,000				\$75,000			\$150,000
CAP-16	Community Outreach (Stakeholder Engagement etc.) (PBP)	CBPI	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$20,000
CAP-17	Annual Scorecard Assessments (PBP)	MO	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$20,000
CAP-18	Host Annual Stakeholder Meeting (PBP/ID/PS)	CBPI	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$15,000
CAP-19	Rehabilitate Mountain Biking Trails (ID/PS)	MIUS				\$35,000					\$35,000		\$70,000
CAP-20	Update Management Plan and 10 Yr Environmental Assessment (PBP)	OMP										\$75,000	\$75,000
			<b>\$167,500</b>	<b>\$242,500</b>	<b>\$256,500</b>	<b>\$198,500</b>	<b>\$192,000</b>	<b>\$192,000</b>	<b>\$217,500</b>	<b>\$174,500</b>	<b>\$143,000</b>	<b>\$178,000</b>	<b>\$1,962,000</b>

Item #	Operations and Maintenance Plan Item	Objective	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Yr. 1-10 Total
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
OP-1	Undertake Annual Washroom Maintenance (PS)	MIUS	\$27,500	\$29,000	\$30,500	\$32,000	\$33,500	\$35,000	\$37,000	\$38,500	\$40,500	\$42,500	\$346,000
OP-2	Maintain a Park Caretaker Position (PS)	MIUS	\$31,000	\$31,500	\$32,000	\$32,500	\$33,000	\$33,500	\$34,000	\$34,500	\$35,000	\$35,500	\$332,500
OP-3	Trail Maintenance and Decommissioning of Rogue Trails (PS)	MIUS	\$10,000	\$10,500	\$11,000	\$11,500	\$12,000	\$12,500	\$13,000	\$13,500	\$14,000	\$14,500	\$122,500
OP-4	Maintenance of Trails at Kathleen Lake (PS)	MIUS				\$20,000				\$22,000			\$42,000
OP-5	Maintain (2) Summer Students (Weed Removal/Park Ambassadors - half time) (PS)	MIUS	\$15,000	\$15,500	\$15,500	\$16,000	\$16,000	\$16,000	\$16,500	\$16,500	\$17,000	\$17,000	\$161,000
OP-6	Implement Sustainable Urban Forest Strategy Measures in Knox (PS)	EP			\$35,000	\$20,000							\$55,000
OP-7	Undertake Annual Wildfire Mitigation Activities (PS)	EP		\$40,000				\$50,000				\$50,000	\$140,000
OP-8	Perform General Park Maintenance	MIUS	\$28,500	\$28,500	\$28,500	\$29,000	\$29,000	\$29,000	\$29,500	\$29,500	\$29,500	\$29,500	\$290,500
			<b>\$112,000</b>	<b>\$155,000</b>	<b>\$152,500</b>	<b>\$161,000</b>	<b>\$123,500</b>	<b>\$176,000</b>	<b>\$130,000</b>	<b>\$154,500</b>	<b>\$136,000</b>	<b>\$189,000</b>	<b>\$1,489,500</b>

Objective Legend
Maintenance Infrastructure and User Services - MIUS
Recreational Amenities - RA
Environmental Protection - EP
Operations and Maintenance Planning - OMP
Gateway and Staging Area Improvements - GSAI
Capacity Building and Public Involvement - CBPI
Monitoring - MO

<b>Total</b>	<b>\$3,451,500</b>
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## 8.0 FUTURE AREAS OF INTEREST FOR PARK ACQUISITION

In order to facilitate improved connections between Knox Mountain Park, Knox Mountain Park East and other trail systems, acquisitions of additional properties are desirable.

The City's Official Community Plan provides guidelines to direct future land use and potential areas of interest where connections for both wildlife and trails are desirable.

Designation of areas of interest does not commit the City of Kelowna to acquire these or any other lands, but merely establishes a desired planning direction for City of Kelowna parks. More detailed planning and construction will be required.



## 9.0 CONCLUDING COMMENTS

This update to the 2011 Knox Mountain Management Plan was initiated in the fall of 2021. With input from city staff, external stakeholder groups and the public, preparation of this updated plan has been a flexible process that has evolved over its course.

The City of Kelowna 2022 Knox Mountain Park Management Plan provides sound guidance for the overall management of Knox Mountain Park for the next 10 years. The Management Plan establishes a framework for City decision-making with respect to park operations and maintenance, and it provides a strategic approach to park development and capital investment.

It is envisioned that the list of developed priorities will form the basis for annual capital budget submissions, and that the Operations and Maintenance Plan items will form the basis for annual operational budget submissions by the individual city departments identified as the lead in the Phasing and Costing Chart.

It is also envisioned that this Management Plan, together with the Biophysical / Environmental Inventory, will be reviewed and updated in ten years (2031) or less and the Development Plan items will be further refined at

that time. This will be an opportunity to confirm that the annual projects being undertaken in Knox Mountain Park are meeting the goals and objectives of the Management Plan.

The Management Plan provides a solid framework, enabling the City of Kelowna to showcase Knox Mountain Park as an outstanding natural area within City boundaries. The park is a living example of the way ecological values are protected in a place where appropriate kinds and levels of human activity are welcome; the policies of the Management Plan aid those who manage it in achieving the careful balance between environment and recreation.

The Plan underscores the City's commitment to public involvement and sets out avenues for community partners to participate in park activities.

## **10.0 APPENDICES** - *Refer to Appendices Document*

Companion Document 1: 1999 Knox Mountain Park Management Plan

Companion Document 2: 2011 Knox Mountain Park Management Plan

Companion Document 3: 2010 Biophysical Inventory/Environmental Overview, Knox Mountain Park

Companion Document 4: 2022 Biophysical Inventory/Environmental Overview, Knox Mountain Park