

**DATE:** January 30, 2019**FILE:** 6130-20/Seal Bay**TO:** Chair and Directors  
Electoral Areas Services Committee**FROM:** Russell Dyson  
Chief Administrative OfficerSupported by Russell Dyson  
Chief Administrative Officer***R. Dyson*****RE: Seal Bay Nature Park and Forest Management Plan Update**

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**Purpose**

To present the Seal Bay Regional Nature Park and Forest Management Plan update (2019) for the Electoral Areas Services Committee review and to seek support to approve the update as policy.

**Recommendation from the Chief Administrative Officer:**

THAT the Seal Bay Regional Nature Park and Forest Management Plan update dated January 2019 be approved and adopted as a policy.

**Executive Summary**

In accordance with Board approval in October of 2018, the final draft of the plan was referred to First Nations, applicable government agencies, key community stakeholder groups and internal regional district departments for comment. Following this review, the management plan document was amended to reflect comments received.

**Report highlights:**

- The document reflects the input received from the community, key stakeholders and First Nations and the public through numerous public outreach events including in-park and online questionnaires and two public open houses.
- Five principle themes were identified to guide the plan:
  - Environmental Stewardship
  - Visitor Experience
  - Sustainable Trail Network
  - Partnerships and Collaboration
  - Public Safety
- The park is separated into three distinct management zones conservation, nature recreation and facility.
- A trail concept plan was developed to address public safety concerns, ecological integrity and recreational objectives while attempting to minimize user conflict, embrace accessibility, provide meaningful experiences, and meet future needs.
- An implementation strategy was developed to help guide the management of the park in the future. Major infrastructure improvements were identified as necessary to address public safety concerns and meet increased user demands. High-level projected costs over-and-above current operating budgets to cover short, medium and long-term action items identified in the plan are as follows (based on 2018 dollars):
  - Short-term (2019 – 2020): \$320,000 to \$380,000
  - Medium-term (2021 – 2025): \$330,000 to \$350,000
  - Long-term (2026 – 2038): approx. \$1,000,000



Prepared by:

Concurrence:

Concurrence:

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 Community Services
**Stakeholder Distribution (Upon Agenda Publication)**

Ministry of Transportation and Infrastructure	✓
Ministry of Forests, Lands, Natural Resource Operations and Rural Development	✓
Ministry of Environment and Climate Change Strategy	✓
Comox Valley Naturalists Society	✓
Backcountry Horsemen	✓
Comox Valley Road Runners	✓
K'ómoks First Nation	✓

**Background/Current Situation**

The final draft of the management plan as presented in this report (Appendix A) builds upon and updates the July 1998 Seal Bay Regional Nature Park and Forest Master Plan to ensure park management remains current and valid. The process to update the plan began in 2015 and has involved numerous public outreach efforts including in-park and online questionnaires as well as two open houses.

Throughout the planning process local residents, park users and key stakeholders expressed strong support to protect the natural environment and to continue to provide passive recreational use opportunities. Users embrace the nature-oriented focus of the park.

The primary objectives of the management plan update are to:

- identify the key natural features and values of Seal Bay Nature Park and Forest;
- determine appropriate types and levels of use and development;
- guide conservation and management of park ecosystems;
- identify management zones and present a zoning plan;
- present a trail concept plan;
- establish a long-term vision and identify strategic management goals and actions to protect the natural values, cultural values and recreation values for the next 20 years; and
- provide implementation strategies to achieve the management goals and objectives and guide day-to-day park operations.

Seal Bay Nature Park and Forest protects 642 hectares of diverse plant and wildlife habitat and is one of the few remaining contiguous natural areas in the lower elevations of the Comox Valley. It is one of the oldest and most popular regional parks in the Comox Valley and is known for its diversity of landscapes and readily accessible recreational trails. Currently over 40 kilometres of trails exist within the park boundaries, most of which is fairly accessible because of the relatively flat topography. It is also an important area of regional conservation as noted in the Nature Without Borders, 2013 regional conservation strategy.



Seal Bay Nature Park was first leased to the regional district as a park in 1975 after persistent lobbying of the provincial government in the 1970's by the Comox-Strathcona Natural History Society (now known as the Comox Valley Naturalists Society). In the mid 1980's the leased land and an additional 16 hectare parcel were granted to the regional district as fee simple parkland. The remaining lands remained provincial Crown land managed by the CVRD under a lease agreement. This lease was renewed in 2010 and expires in 2040. This lease does not include a 49 hectare land parcel originally set aside to become an ecological map reserve or the unopened road dedications which exist within the boundaries of the Seal Bay Forest.

Under the plan, the park is envisioned as a place where users can escape into the tranquility of nature and where stewardship of the natural environment is embraced. To accomplish this, the park is proposed to be separated into management zones. Each zone has varying degrees of intended visitor use and environmental conservation to help guide use and protect the parks ecological integrity. The three zones are: conservation, nature recreation and facility. Conservation is proposed to make up 28 per cent (189 ha) of the park and nature recreation 64 per cent (438 ha) of the park.

### Policy Analysis

The current park master plan was adopted by the then Comox-Strathcona Regional District in July of 1998.

Goal 4 of the Rural Comox Valley Parks and Greenways Strategic Plan identifies planning and managing parks in a proactive and responsive manner. A key to ensuring proactive management for the region's larger nature parks is to update management plans on a regular basis to ensure they remain current and responsive to social and environmental issues.

### Options

The following options are available for the board's consideration:

1. Approve and recommend Board adoption of the Seal Bay Regional Nature Park and Forest Management Plan update as policy.
2. Recommend the management plan receive another round of review and upon completion of the review be presented to the Board for approval and adoption as policy.
3. Reject the management plan as policy.

Staff recommend option 1.

### Financial Factors

Implementation of the actions outlined within the plan will require substantial capital expenditures over-and-above the current operating budget of \$40,000/year. This is largely because there have not been any major improvements to the parking, trail or wayfinding infrastructure within Seal Bay Park for over 20 years.

Projected costs based on categorization of the action plan items into short, medium and long-term timeframes are outlined in the table below. These figures are high-level planning numbers based on 2018 dollar amounts. These projected costs do not include anticipated year-to-year project costing increases which may add significantly to the longer range costs.

Term	Priority Action Items
Short Term (2019 – 2020)	\$320,000 to \$380,000
Medium Term (2021 – 2025)	\$330,000 to \$350,000
Long Term (2026 – 2038)	Approximately \$1,000,000



A more detailed breakdown of the action item costing can be found in Appendix IX of the management plan.

Funding to implement the maintenance and operations aspects of the plan will come from the parks and greenways service (function 621). Funding for larger capital projects may be raised through community works funds or relevant grant opportunities.

### **Legal Factors**

Pursuant to the *Occupier's Liability Act*, the CVRD has the legal responsibility to manage and operate parks in a manner that they are reasonably safe for public use (Occupiers' duty of care). Any new trails or new infrastructure that may be required as part of this plan will need to be developed to a standard that ensures this duty of care.

The Seal Bay Nature Park and Forest Management Plan dated January 2019 is proposed to be adopted as policy by the regional district board.

### **Regional Growth Strategy Implications**

The management plan presented works towards Goal 2 of the Regional Growth Strategy.

- Goal 2: Ecosystems, Natural Areas and Parks – to protect, steward and enhance the natural environment and ecological connections and systems.

The plan helps ensure a continued balance exists between the human need for recreation and enjoyment with the environmental need to protect and conserve natural areas.

### **Intergovernmental Factors**

The final draft recognizes that Seal Bay Park lies within the traditional territory of the K'ómoks First Nation. The K'ómoks First Nation were notified of the initiation of the Seal Bay Park planning process in 2015. This resulted in the K'ómoks First Nation asking the CVRD to provide updates of the planning process to Chief and Council. The CVRD extended a second opportunity to participate in the planning process in 2017 which resulted in the K'ómoks First Nation providing historical and cultural context for inclusion in the management plan.

Implementation of the action items identified in the plan will involve continued collaboration with the following government agencies and First Nations:

- K'ómoks First Nation;
- Ministry of Forests, Lands, Natural Resource Operations and Rural Development who administer the Seal Bay Forest lease, has authority over the 49 hectare land parcel once set aside for the ecological reserve, and who administer the water licence for the Capes Creek dam;
- BC Wildfire Service which looks after wildfire protection for Seal Bay Park;
- Ministry of Transportation and Infrastructure who manage the road network within and adjacent to Seal Bay Park;
- City of Courtenay which manages land development adjacent to Seal Bay Park.

### **Interdepartmental Involvement**

Mapping for the plan was provided by GIS services.

Implementation of the plan will involve continued support from CVRD communications, financial services, GIS services and legislative services.



**Citizen/Public Relations**

Public consultation efforts are summarized below (a full summary of the results from the public consultation process can be found in Appendix III of the plan):

- Initial public input was gathered by the CVRD in 2015 and 2016 through in-park and online questionnaires. A total of 290 responses were received.
- First open house was held on January 20<sup>th</sup>, 2016 at the Huband Park Elementary School to generate additional public input. The open house questionnaire generated 70 responses. Small focus group discussions also took place.
- Second open house was held on May 16<sup>th</sup>, 2018 at the Huband Park Elementary School to gather public input on the key points in the preliminary draft. A questionnaire created for the open house and made available online gathered 182 responses.

Attachments: Appendix A – “Seal Bay Regional Nature Park and Forest Management Plan Update 2019”



A photograph of a dirt path winding through a forest. The trees are covered in moss, and the ground is covered in green ferns and other vegetation. The path leads into the distance, flanked by tall, moss-covered trees.

# Seal Bay Nature Park and Forest Management Plan

February 2019



Comox Valley  
REGIONAL DISTRICT

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





Photo credit: Mark Harrison



## Acknowledgements

The Comox Valley Regional District (CVRD) would like to acknowledge that Seal Bay Nature Park and Seal Bay Forest lie within the traditional territory of the K'ómoks First Nation. Many thanks to the members of the K'ómoks First Nation and the Guardian Watchmen for participating in the development of this management plan.

This plan could not have been completed without valuable input, insight and suggestions from many individuals including:

Mark Harrison, Parks and Active Transportation Planner, CVRD  
Doug DeMarzo, Manager of Parks, CVRD  
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Heather Follis, Senior GIS Analyst, CVRD  
Howie Siemens, Emergency Program Coordinator, CVRD  
Karin Albert, Parks Planner, CVRD (former)  
Jesse Morin, Archeologist  
Catherine Siba, Assistant Curator, Courtenay and District Museum  
Jim Boulter, Comox Valley Naturalists Society  
Helen Robinson, Comox Valley Naturalists Society  
Sharon Pickthorne, Backcountry Horsemen  
Geoff Crawford, Comox Valley Economic Development Society

The CVRD would also like to acknowledge and thank the Electoral Area Directors and all the government agency representatives who took the time to review and provide comments on the plan. Also a big thank-you to Charles Schilling and Lindy Oddleifson at School District 71 for providing access to Huband Park Elementary School for the public open house events.

Finally, the CVRD would like to thank the many park users and local residents who participated in the planning process and provided feedback. This feedback and local engagement was instrumental in forming and shaping the content of this plan. The CVRD hopes this plan captures your vision for the future of this wonderful community park.



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## Executive Summary

The following management plan builds upon and updates the July 1998 Seal Bay Regional Nature Park and Forest Master Plan. The process to update the plan began in 2015 and has involved numerous public outreach efforts including in-park and online questionnaires and two open houses.

Seal Bay Park is situated within the traditional territory of the K'ómoks First Nation and is comprised of Seal Bay Nature Park, which is owned and managed by the Comox Valley Regional District (CVRD) as parkland, and Seal Bay Forest, which is provincial Crown forest managed by the CVRD through a lease agreement.

The park lies within a highly threatened biogeoclimatic zone and is comprised of many sensitive ecosystems that were once abundant on the east coast of Vancouver Island. It is a regionally significant area of conservation and includes mature second growth coniferous and mixed forest; rare hardhack wetlands; riparian areas; inter-tidal and marine foreshore; and coastal bluffs. Recreationally, the park offers a well-developed, passive, non-motorised trail system that respects the natural environment and provides access to the various natural ecosystems.

The park is envisioned as a place where users can escape into the tranquility of the natural environment. It is also envisioned as a place where stewardship of the land is embraced and opportunities are available to foster an appreciation and understanding of the natural environment.

To achieve the park vision, a set of management themes, goals and actions were developed. The following five principle themes and corresponding goals were identified to guide the plan:

1. Environmental stewardship
  - a. Protect the park's rare and sensitive ecological communities
  - b. Manage the park's natural assets with a focus on the preservation of natural ecosystems
2. Visitor experience
  - a. Maintain the park's current sense of place
  - b. Provide educational opportunities to learn about the park's diverse natural environment
  - c. Recognize and protect cultural values within the park
  - d. Improve wayfinding in the park
  - e. Improve the connectivity of the park with the surrounding community
  - f. Provide sufficient visitor services amenities to meet users' needs
3. Sustainable trail network
  - a. Provide a trail network that is environmentally sustainable and supports low impact recreation activities
  - b. Ensure the trail system is inclusive for a range of users



4. Partnerships and collaboration
  - a. Work with government agencies, local municipalities, stakeholders and the K'ómoks First Nation to protect and enhance the park's natural, social, cultural and recreational values
  - b. Be responsive to community needs by working with the local community to facilitate conservation, restoration and recreation goals within the park
5. Public safety
  - a. Ensure public safety within the park
  - b. Coordinate emergency response planning

To help protect the natural environment and help inform both management and the public of park objectives, the park has been separated into management zones. Each zone has varying degrees of intended visitor use and environmental conservation to help guide use and protect the parks ecological integrity. The three zones are: conservation, nature recreation and facility.

Finally, a trail concept plan was developed to work within the guidelines of the management zones and meet the needs of the park users. Efforts were made to address public safety concerns, environmental concerns and recreational objectives while attempting to minimize user conflict, recognize historical uses, embrace accessibility, provide meaningful experiences, and meet future needs.



# 1.0 Introduction

## 1.1 Purpose of the Management Plan

The purpose of this management plan is to describe the park's natural environment; cultural and social history; and recreational, cultural and social uses. It also aims to help guide the long-term future management of Seal Bay Nature Park and the Seal Bay Forest.

Specifically, the primary objectives of the management plan are to:

- identify the key natural features and values of Seal Bay Nature Park and Forest;
- determine appropriate types and levels of use and development;
- guide conservation and management of park ecosystems;
- identify management zones and present a zoning plan;
- present a trail concept plan;
- establish a long-term vision and identify strategic management goals and actions to protect the natural values, cultural values and recreation values for the next 20 years; and
- provide implementation strategies to achieve the management goals and objectives and guide day-to-day park operations.

## 1.2 Park Description

Seal Bay Nature Park and Forest (herein referred to as Seal Bay Park or the park) protects 642 hectares (1586 acres) of diverse plant and wildlife habitat and is one of the few remaining contiguous natural areas in the lower elevations of the Comox Valley. The K'ómoks First Nation refer to the park as Xwee Xwhya Luq (pronounced Zway Why Luck), a Salish name which translates to “a place that has beauty, beauty that is not only seen but also felt” (Morin, 2018). It is one of the oldest and most popular regional parks in the Comox Valley and is known for its variety of landscapes and readily accessible recreational trails.



Figure 1: Location

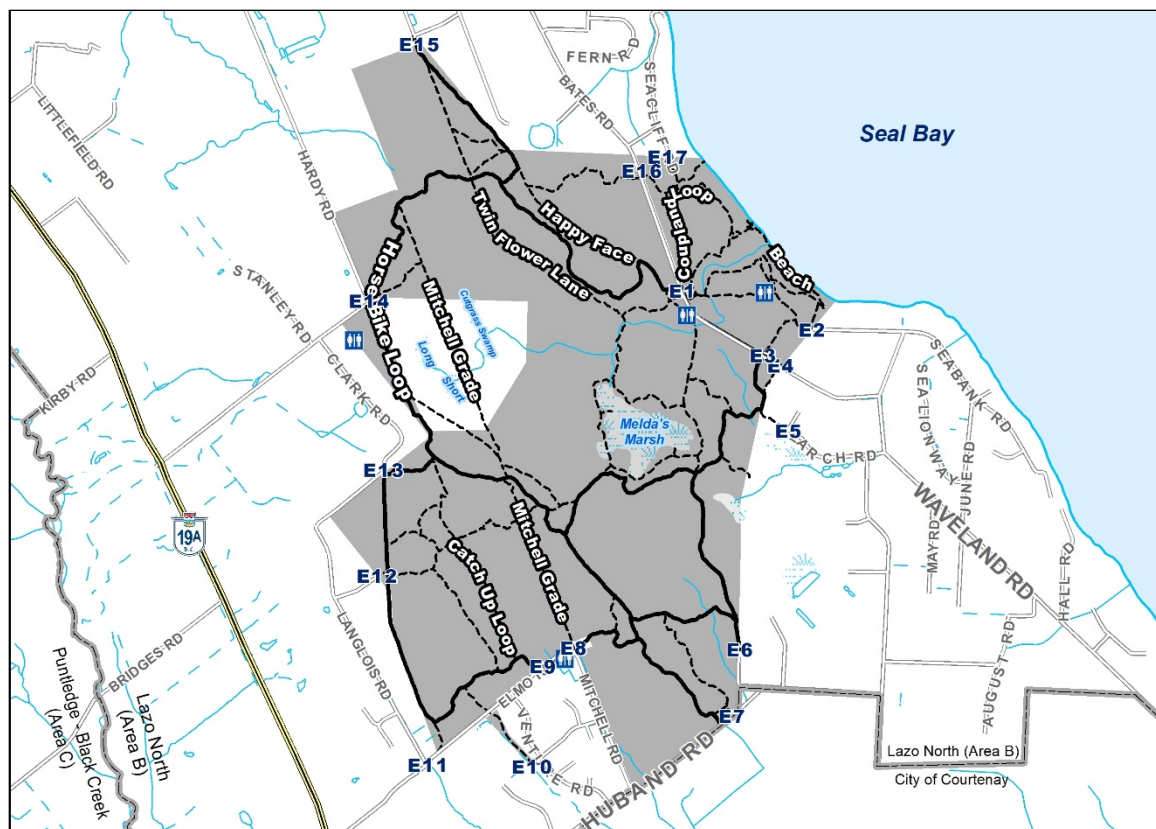
The park is located on the east coast of Vancouver Island within Electoral Area B (Lazo North) of the Comox Valley Regional District (CVRD). It lies in close proximity to the City of Courtenay and the Town of Comox and is also readily accessible from the Old Island Highway (Highway 19A) and the Comox-Powell River ferry terminal. This makes the park a popular destination for locals and visitors alike.



It is surrounded to the north and west by rural lots, rural acreages and larger farms/hobby farms. To the south is largely rural lots as well as a large block (Block 71) of undeveloped land that resides within the City of Courtenay municipal boundary. To the east lies a mixture of rural lots and rural acreages and nearly one kilometer of Pacific Ocean shoreline.

Bates Road bisects the park into two rather distinct areas. The area to the east of Bates Road (ocean side) is comprised of deep ravines, second growth Douglas-fir forest, steep coastal bluffs and a rocky shoreline. This area falls entirely within the boundaries of Seal Bay Nature Park. Here visitors are treated to views of the ocean and the marvels of the marine ecosystem. To the west of Bates Road lies a large second growth Douglas fir and mixed forest and a series of wetlands. This area is partly within the Seal Bay Nature Park, but is largely within the boundaries of the Seal Bay Forest. Here visitors are drawn to the large trail system, Melda's Marsh, and the quiet and serenity of the forest.

There are several points of entry into the park, making it readily accessible to the community. The primary vehicular parking area is located on Bates Road. Formalized vehicular parking is also available on Hardy Road, Seabank Road and Mitchell Road. Besides the parking access points, an additional 13 park trailheads exist along the park boundaries (see figure 2).



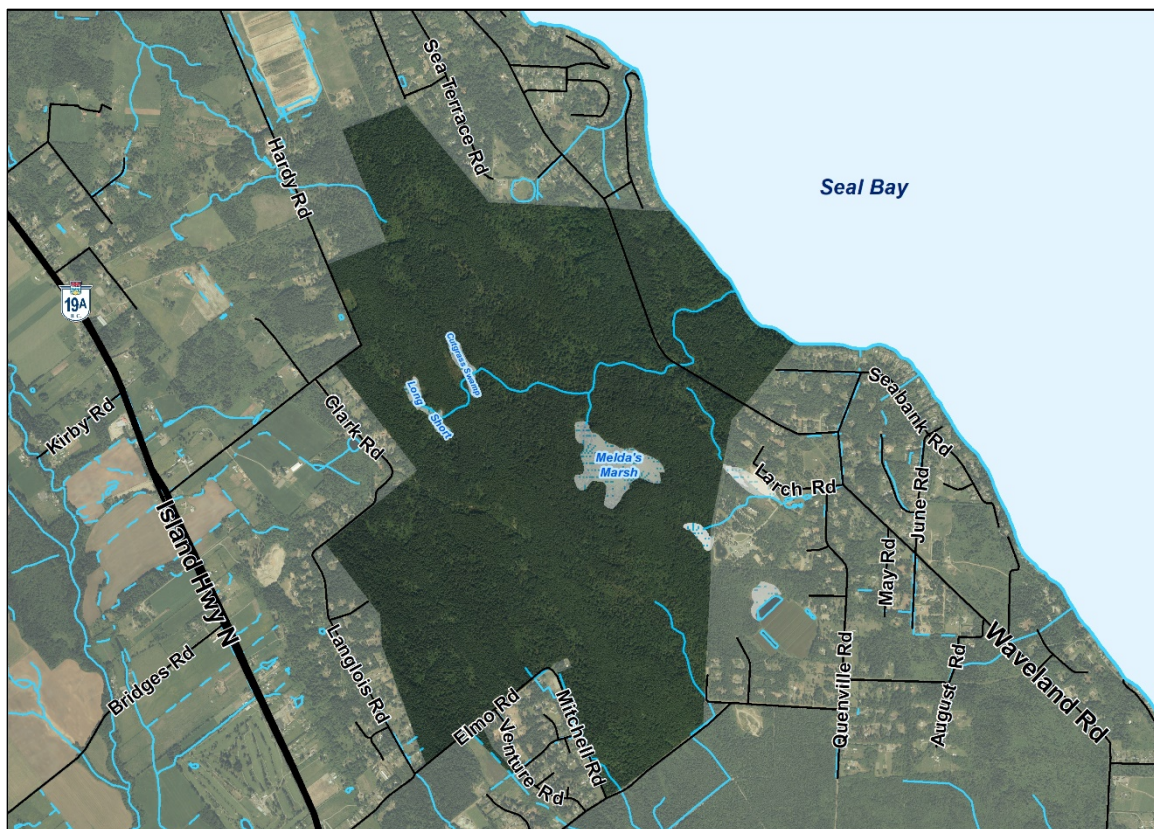
**Figure 2: Existing trail system**

First Nations people have traditionally used Seal Bay Park for resource harvesting and as a campsite for those traveling through the area by canoe (Morin, 2018).



Ecologically, the park contains a wealth of natural ecosystems including 80 to 90 year old second growth Douglas-fir and mixed forests, rare hardhack wetlands, riparian areas, as well as marine foreshore and coastal bluffs. Wildlife of particular significance include over 70 species of birds and a variety of large and small mammals including black bears. Along the marine foreshore one can observe seals, birds, intertidal invertebrates and occasionally whales.

Within the park several kilometres of trails exist. Recreationally, the park provides opportunities for hiking, wildlife viewing, photography, horseback riding, cycling, jogging and dog-walking.



**Figure 3: Aerial Imagery**



### **1.3 Park Governance**

Management of the park is guided by the regulations, policies and bylaws of the CVRD; the policies and regulations as outlined in the Seal Bay Forest Licence of Occupation; and the policies and regulations of the individual provincial ministries and federal departments with a vested interest in the lands. Additionally, the CVRD continues to work in partnership with the K'ómoks First Nation to ensure indigenous park values are respected and upheld.

#### **Seal Bay Nature Park**

Seal Bay Nature Park was first leased to the regional district as a park in 1975 after persistent lobbying of the provincial government in the 1970's by the Comox-Strathcona Natural History Society (now known as the Comox Valley Naturalists Society (CVNS). In the mid 1980's the leased land and an additional 16 hectare parcel were granted to the regional district as fee simple parkland.

Seal Bay Nature Park encompasses a total area of 153.3 hectares (379 acres). This includes the Grieve Trail, a small 1.45 hectare (3.6 acre) piece of fee simple parkland that was dedicated to the regional district at the time of subdivision and connects into the southwestern side of Seal Bay Forest. Legal descriptions of the fee simple lots within Seal Bay Nature Park can be found in Appendix I.

Seal Bay Nature Park is bisected by Bates Road, which is under the jurisdiction of the Ministry of Transportation and Infrastructure (MOTT).

#### **Seal Bay Forest**

Seal Bay Forest is provincial forest Crown land managed by the CVRD for park purposes under a lease agreement from the Ministry of Forests, Lands, Natural Resource Operations, and Rural Development (FLNRO). This Licence of Occupation (Licence No. 114010) was renewed in October of 2010 and is set to expire in October of 2040.










Seal Bay Forest encompasses a total area of 488.4 hectares (1207 acres). Legal descriptions of the fee simple lots within Seal Bay Forest can be found in Appendix I.

The lease granted by FLNRO does not include the 49 hectare land parcel originally set aside to become an ecological map reserve or the unopened road dedications which exist within the boundaries of the Seal Bay Forest.



## Seal Bay Park Management Plan

### Legend

-  Ditch
-  Stream
-  Wetland
-  Property Line
-  Provincial Crown Land\*  
(not included in the park license)
-  Seal Bay Regional Nature Park
-  Seal Bay Forest
-  Administrative Boundary
-  Agricultural Land Reserve (ALR)

\* Note: This land parcel was originally set aside by the province for conservation purposes.

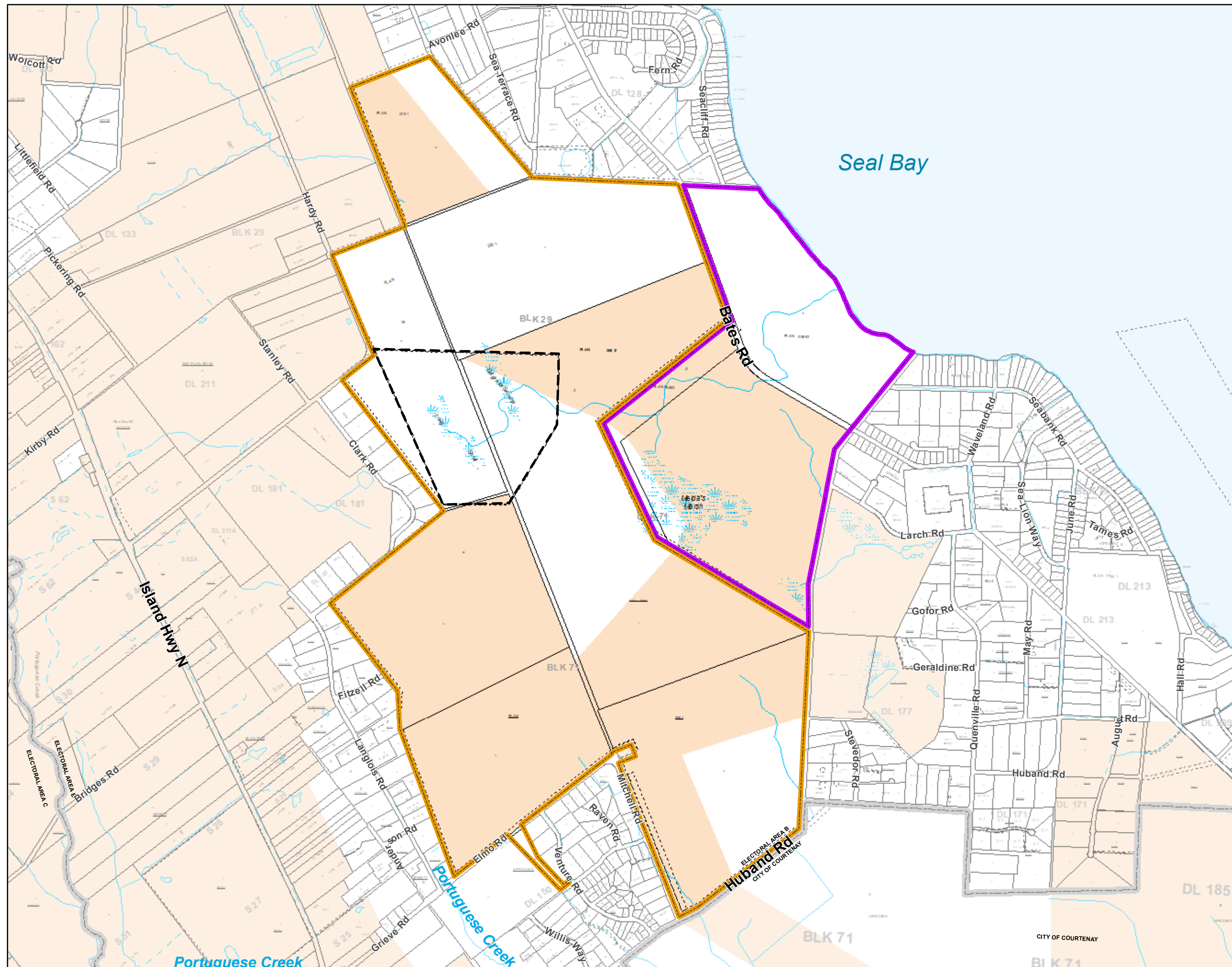


Scale 1:17,230

0 0.25 0.5 0.75 1 Kilometres

### Map 1 Cadastral

This map was prepared by the CVRD for planning purposes only and is not a legal document. This map is a composite of different datasets that were developed from different methods and dates. This map should be used with caution. The CVRD is not responsible for any damages resulting from any omissions, deletions or errors.





## Land-Use Zoning

The CVRD does not have a park land-use zone, rather parks are permitted in all land use zones. Seal Bay Park is currently zoned either RU-20, RU-8 or RU-ALR. According to the Comox Valley Zoning Bylaw No. 2781, 2005, RU-20 refers to Rural Twenty, RU-8 refers to Rural Eight and RU-ALR refers to Rural ALR.

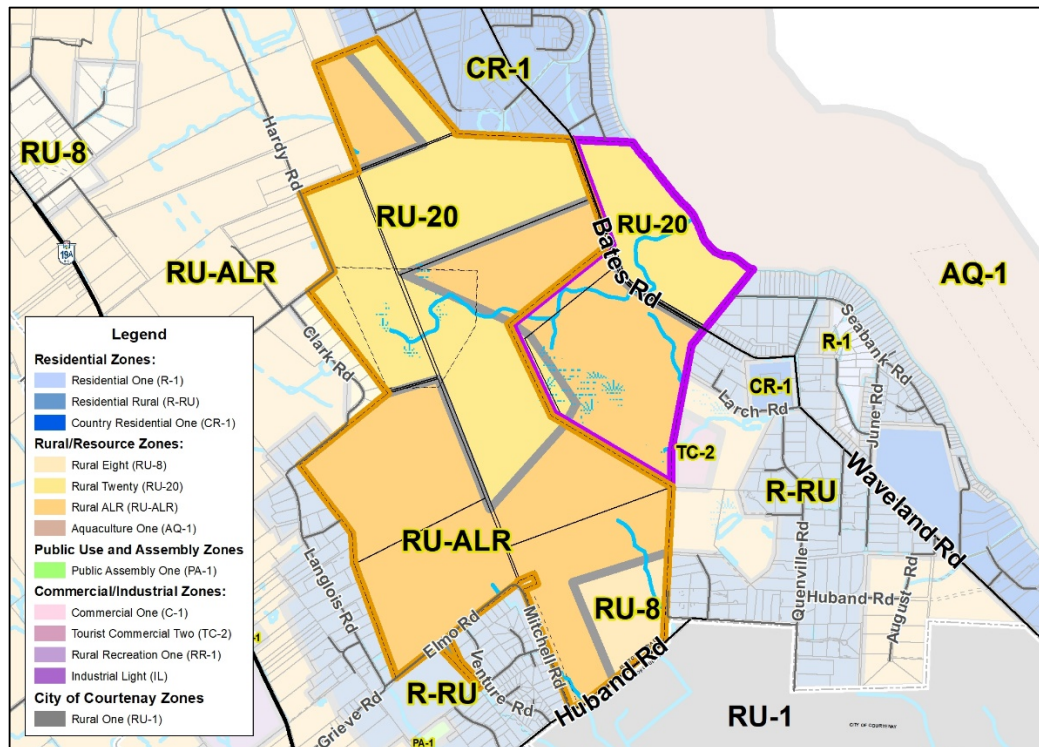


Figure 4: Zoning

## CVRD Parks and Greenways Service

Seal Bay Park lies within the boundaries of Electoral Area B (Lazo North) of the CVRD. The CVRD's authority to establish and operate parks is set out in the *Local Government Act*, Section 263 (1) (d). The Act allows regional districts to acquire land for parks and to further enact regulatory bylaws with respect to managing those park lands.

In April 2006, the three electoral areas within the CVRD amalgamated their parks service into a combined Electoral Areas A, B, and C parks and greenways service. This allows the electoral areas to pool their resources for park operations, management and acquisition.

The mandate of the regional district's park and greenways service is to:

- establish a network of parks and greenways that protect the natural diversity of the Comox Valley from coastal sand ecosystems to estuaries to mature forests; and
- provide opportunities for outdoor recreation and activities that foster appreciation and enjoyment of the natural environment.



While in many areas the two components of the regional district's mandate are complementary, at times they may conflict. In such cases, environmental protection will be prioritized.

### *Nature Parks*

Nature parks are established to conserve natural features of regional significance and provide opportunities for passive recreation activities such as hiking, biking, horseback riding and nature study. Seal Bay is currently one of the region's largest nature parks.



**Figure 5: Seal Bay forest**

### **CVRD Permits and Authorizations**

Permits are issued annually by the CVRD to groups for events, outdoor recreation, research, and other related activities. The Comox Valley Road Runners annual Jingle Bell Run is one example of a permitted activity.

### **Nature Without Borders Regional Conservation Strategy**

The continued loss and fragmentation of sensitive natural areas within the Comox Valley led to the development of a regional conservation strategy that seeks to protect, restore and maintain biodiversity in the valley through a variety of means including landscape connectivity and ecosystem conservation.



This regional strategy, endorsed by the Board of the CVRD, has identified Seal Bay Park as an important piece of this conservation strategy. The park functions as a significant ecological patch that serves as part of a linked conservation corridor that helps protect the safe passage of wildlife and helps preserve regional biodiversity. Upland habitat corridors which include Seal Bay Park that have been identified in the strategy include the Strathcona Park to Seal Bay Corridor and the Lazo to Oyster River Corridor. Seal Bay thus forms part of a vital linkage connecting sensitive habitats and facilitating wildlife movement in both the east/west and north/south directions.

## **1.4 Government and Associated Regulatory Authorities**

Seal Bay Nature Park and Forest is regulated by all applicable existing licenses and government authorizations having jurisdiction. The following regulatory bodies have authorizations within Seal Bay Park:

### **Ministry of Forests, Lands, Natural Resource Operations and Rural Development**

FNLRO is responsible for the stewardship of Provincial Crown land and natural resources as well as the protection of B.C.'s archeological and heritage resources. FNLRO is the governing body which manages the Licence of Occupation under which the CVRD leases the Seal Bay Forest lands. This licence allows the CVRD to use and occupy the Seal Bay Forest lands for park purposes only. It does not grant the CVRD exclusive use and occupancy of the land.

FLNRO is also the governing body responsible for issuing tree cutting permits on provincially owned Crown lands, which includes unopened road dedications. Any timber cutting would need to be approved through the FLNRO district office in Campbell River.

### ***BC Wildfire Service (BCWS)***

In case of a wildfire in Seal Bay Park, the BC Wildfire Service would respond. The BCWS is under the jurisdiction of FLNRO and is guided by the *Wildfire Act and Wildfire Regulation*

BC Wildfire Service's Vancouver Island operations are based out of the Coastal Fire Centre in Parksville with the North Island Mid Coast Fire Zone out of Campbell River responsible for the Seal Bay Park area.

A 'Community Wildfire Protection Plan' is currently being developed for the region and, once released, will provide high level strategies for wildfire protection in Seal Bay Park.

### ***Ecosystems Section***

Within the Seal Bay Forest Crown lands, a 49 hectare area was previously set aside for the establishment of a Section 12 ecological map reserve (map reserve No. 901011). The reserve was filed by the provincial government on February 23, 1990 on behalf of the then Ministry of Parks to conserve a unique ecological habitat. Although filed, this map reserve was never formally classified as an Ecological Reserve. In 2014, BC Parks provided notice to the lands



department of FLNRO that it wished to cancel the map reserve notation. To date, this process to cancel the map reserve has not been concluded.

This 49 hectare land parcel contains three small hardhack wetlands with fringes of trembling aspen (*Populus tremuloides*). These hardhack wetlands are of provincial significance and are of limited distribution, being restricted to the southeastern lowlands of Vancouver Island and the Gulf Islands.

The hardhack wetlands have an unusual combination of species and although similar groups exist elsewhere on the eastern coast of Vancouver Island most of these sites are now developed and otherwise alienated. Preservation of these wetlands has provided an unaltered, permanent benchmark of this ecosystem.

Since this land parcel is not included in the Licence of Occupation for Seal Bay Forest, the CVRD does not have the ability to use these lands for park purposes. Currently, portions of the Mitchel Grade and a connector trail exist within its boundaries. Releasing this land to the CVRD for park purposes would require the authorization of the lands department of FLNRO.

### *Water Authorizations Section*

The Crown owns all water in British Columbia. Authority to divert surface water is granted by means of a licence or approval in accordance with the *Water Sustainability Act* and the *Water Protection Act*.

Within Seal Bay Nature Park, the CVRD has a water licence (Licence No. 116875) for the dam on Capes Creek. This licence is managed by the Water Authorizations Section of FLNRO.

The dam is referred to locally as the Horseshoe Swamp Dam or Melda's Marsh Dam. Horseshoe Swamp was originally dammed by beavers in the early 1940's. In 1985 a concrete wall dam was constructed for the purpose of maintaining water levels. In 2001 the CVRD cleared vegetation and excavated soils in the marsh to maintain the open water areas.

In 2011 approval to slightly alter the concrete dam was approved by the then Ministry of Environment. This allowed a culvert to be installed that connects to the inlet of the concrete dam. This was constructed to ensure the continual outflow passage of water which at the time was being disrupted by a beaver dam.

The ecological impacts of the dam and subsequent high water levels in the swamp are not fully understood at this time.

All planned stream crossings within Seal Bay Park that would be considered 'changes in and about a stream' as defined by the *Water Sustainability Act*<sup>1</sup> would likely require notification to a provincial habitat officer as per Part 3 of the *Water Sustainability Regulation*.

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<sup>1</sup> 'Changes in and about a stream' means (a) any modification to the nature of the stream, including any modification to the land, vegetation and natural environment of a stream or the flow of water in a stream, or



## **Ministry of Transportation and Infrastructure (MOTI)**

MOTI is responsible for the establishment and maintenance of the roads and associated transportation services within the electoral area (these are the roads outside municipal boundaries). This includes authority over Bates Road, which bisects Seal Bay Nature Park. It also includes authority over the surrounding road system that encircles Seal Bay Nature Park and Forest (ie. Hardy Road, Clark Road, Elmo Road, Mitchell Road and most of Huband Road).

MOTI is also the provincial authority responsible for the unopened road dedications which exist within and alongside the park boundaries. This includes several unopened road dedications along the boundaries of Seal Bay Forest (portions of Loxley Road, Stoneham Road, Mitchell Road, Attree Road and March Road); and three unopened road dedications which bisect Seal Bay Forest (Stoneham Road, Mitchell Road and Apollo Road).

Any works or improvements proposed within a provincial road dedication, whether the road is established or unopened, requires the approval of MOTI.

## **Agricultural Land Commission (ALC)**

Within Seal Bay Park, approximately 380 hectares is designated as lands within the Agricultural Land Reserve (ALR). The ALR is administered by the ALC.

The principle objectives of the ALC is to preserve agricultural lands for farm use and encourage the establishment and maintenance of farms.

## **Department of Fisheries and Oceans**

The federal government has jurisdiction over offshore waters (from the low water mark out to twelve nautical miles). Under the *Fisheries Act*, the department of Fisheries and Oceans manages and protects the fish and fish habitat. This includes shoreline riparian habitats.

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(b) any activity or construction within a stream channel that has or may have an impact on a stream or a stream channel



## 1.5 Relationship with First Nations

The CVRD is aware that the provincial government recognizes Seal Bay Park as being within the consultative areas of the K'ómoks, Xwemalhkwu (Holmaco), We Wai Kai (Cape Mudge), Wei Wai Kum (Campbell River) and Tla'amin First Nations.

Section 35 of the federal *Constitution Act*, stipulates that First Nations peoples have the right to participate in traditional activities that are integral to their distinctive cultures. These activities include resource harvesting, such as fishing, hunting, or gathering plants within their territory.

Discovery of any archeological materials within the park would result in the notification of FLNRO, the Ministry responsible for the protection of archeological materials. Under the *Heritage Conservation Act*, all known and unknown archaeological materials found on or under the land is protected.

This management plan encourages relationship building between the CVRD and K'ómoks First Nation community to ensure that the management of the park recognizes and protects First Nation history and cultural values within the park.

### K'ómoks First Nation

Seal Bay Park lies with the traditional territory of the Kakekt group of the K'ómoks First Nation.

'Xwee Xwhya Luq' (Seal Bay Park) contains cultural and natural values that are important to the K'ómoks First Nation and consequently, future park developments should recognize these values and seek to protect the cultural heritage that exists within the park.

The K'ómoks First Nation is currently in treaty negotiations with the Federal and Provincial Governments. An agreement in principle was signed by the three parties on March 24, 2014. This agreement in principle establishes topics that will form the basis of the final treaty. This management plan will be reassessed and if required updated upon completion of the treaty.

### Tla'amin First Nation

Seal Bay Park lies within the traditional boundaries of the Tla'amin First Nation as per the Tla'amin Final Agreement.<sup>2</sup> The K'ómoks First Nation and the Tla'amin First Nation have a Shared Area Protocol (2008) agreement for the lands on which Seal Bay Park is located.<sup>3</sup>

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<sup>2</sup> The Tla'amin Final Agreement was signed April 11, 2014 and the Tla'amin Treaty came into effect April 5, 2016.

<sup>3</sup> As per personal communication with Ron Frank, KFN, July 2017.



## 1.6 Relationship with the Community

Seal Bay Park is a treasured piece of regional parkland that is highly valued by local residents and visitors to the Comox Valley. The community has continually expressed a deep commitment to the protection and conservation of the area while accommodating passive, non-motorized outdoor recreational use.

The Comox-Strathcona Natural History Society, a local community group, worked hard to petition various levels of government to protect the park from continual forestry practices. The chronological history of the conservation efforts in the area is detailed in Appendix II.

The park's close proximity to the urban centre of the valley and the fact that the park is encircled by residential development has led to a strong feeling of community ownership for the park space. A number of entrance points exist along the perimeter of the park, affording easy access for adjacent residents. The park offers the community a close escape into the natural environment, a place away from the hustle and noise of urban life.

In the spirit of the original efforts of the Comox-Strathcona Natural History Society, many organized community groups continue to work with the regional government to help preserve the natural environment and the recreational opportunities in Seal Bay Park.



Figure 6: Seal Flipper loop



## 2.0 Management Planning Process

This management plan has been created as an update to the 1998 Seal Bay Regional Nature Park and Forest Master Plan.

### 2.1 Public Outreach Approach

Beginning in the summer of 2015, the CVRD began public outreach efforts to gather input from park users on their vision for the park and their priorities for future park improvements. Public outreach included in-park and online questionnaires and two public open houses.

The first questionnaire, made available to the public in 2015, sought to gauge visitor use patterns, frequency of use and user preferences. A total of 290 in-park and online questionnaire responses were received. These responses helped formulate additional survey questions that were presented to the community through a series of information panels at the first public open house.

The first open house was held on January 20, 2016 at the Huband Park Elementary School and a total of 70 surveys were gathered during this public event. Small focus group discussions were also held. These focus groups discussed key topics including park amenities, trail use, wayfinding and strategies to protect the environment. Information gathered from the surveys, the first open house and the focus group discussions were used during the development of the draft management plan.

A second open house was held on May 16, 2018 at the Huband Park Elementary School. This open house enabled the community to provide feedback on the key elements of the draft management plan including: the park vision statement, the management goals and action items, the management zones, and the trail concept plan. A total of 64 participants attended this open house. At this open house a survey was presented to gather feedback. This survey was also made available online from May 16, 2018 to July 3, 2018. A total of 182 survey responses were received. This feedback helped further refine the draft management plan.

A summary of the results from the user survey, the first open house survey, and the second open house survey can be found in Appendix III.

### 2.2 User Survey

Although not statistically significant, the results from the user survey are indicative of general park use and user preferences of the public at large.

The survey results suggest the majority of park users tend to be residents of the Comox Valley and over the age of 50. Most users visit Seal Bay Park to get exercise for either themselves or their pets. Many respondents also indicated they visit the park to escape into the natural environment, observe wildlife and to socialize with family and friends.

Most of the park visitors are using the trails for walking, either with or without a pet. This is followed by jogging, then cycling and finally horseback riding.





**Figure 7: Trail users**

### **Park Access**

The large majority of park users access the park by vehicle, with most using the Bates Road parking area. When asked if visitors have problems finding parking, most users indicated that they did. The difficulties around parking appear to be most problematic during weekends and during special events. Of note, a third of the survey respondents indicated they access the park by means of bicycle or by foot.

### **Desired Park Improvements**

The survey results indicated a strong overall satisfaction with the park in its current state. Of the improvements deemed the most desirable, wayfinding topped the list.

## **2.3 First Public Open House (2016)**

Building upon the results of the user survey, a series of information panels were assembled for the first public open house. Open house participants were asked to reflect on a variety of ideas and discussion points that were generated from the feedback garnered from the user survey. Specifically, the open house sought to clarify community park values and gather additional input regarding conservation, education, trail use, wayfinding and park amenities.





**Figure 8: Open House 2016**

Roughly half the open house participants indicated they walked in the park either with or without a dog. To a lesser degree, others indicated they jogged, biked or rode horses. These responses mirrored the results from the user surveys suggesting that walking is the most common form of recreation in the park.

### **Wilderness Conservation**

Open house participants supported the idea of a dedicated wilderness conservation zone within Seal Bay Park.

### **Trail Use**

Respondents were evenly split when asked if they wanted to see additional multi-use trails in the park. Some respondents suggested upgrades to the trail system would be desirable, while others indicated that a good balance of trails already exists in the park. Impacts to the trail surface from horses and bikes was a concern.

The construction of a new section of trail close to the inland side of Bates Road was considered desirable by the majority of respondents.

### **Wayfinding**

Open house participants identified new directional signage (with trail names and distances) at trail junctions as the top priority to improve wayfinding in the park. Trail maps at key trail intersections within the park and the replacement of old maps in the park were deemed desirable.

Participants emphasized that signage should be kept to a minimum and be as visually unobtrusive as possible to ensure the wilderness feel of the park is maintained.

### **Park Amenities**

Engagement with MOTI to explore a reduction in the speed limit on Bates Road was indicated as the highest priority item of the listed potential park improvements.

Generally, respondents wanted to see funding allocation directed towards maintaining the trail system, habitat protection and restoration, wayfinding, park entrance improvements and interpretive opportunities.



## **2.4 Inventory and Mapping**

The biophysical, cultural and park infrastructure attributes were inventoried and mapped as part of the management plan process. This mapping was critical to understanding the park's physical landscape and its recreational capacity. It also helped in the development of the landscape units and management zones as presented in this management plan.

## **2.5 Second Public Open House and User Survey (2018)**

In May of 2018, a second open house was conducted at the Huband Park Elementary School. This open house sought public input on the park Vision Statement; the management goals and action items; the management zones; and the trail concept plan as developed based on the initial public input.

Feedback from residents and park users was gathered at the open house and through an online survey.

## **2.6 First Nation Consultation**

In December of 2015, the K'ómoks First Nation were notified of the initiation of the planning process and were asked to participate in the management plan update for the park. In February of 2016, the K'ómoks First Nation informed the CVRD to proceed with the planning process and to provide the Chief and Council with updates at critical times in the process.

Prior to the second open house, the CVRD extended a second opportunity to participate in the planning process. This resulted in CVRD parks staff meeting with a representative of the K'ómoks First Nation to discuss First Nation input and ultimately working with the K'ómoks First Nation to provide historical and cultural context for inclusion in the management plan.

In November of 2018, the K'ómoks First Nation provided final comments related to the plan. Other First Nations within the consultative area were also asked to provide final comments, but none were received.

## **2.7 Final Stakeholder Review**

Upon review and approval from the CVRD Electoral Areas Services Committee in September of 2018 and the CVRD Board in October of 2018, the final draft of the management plan update was referred to key stakeholders, government agencies and First Nations for final review and comment. During this period, the management plan was also posted on the CVRD website for public review. Following this final review, the management plan document was amended to reflect comments received.

The final plan was then brought forth to the CVRD Electoral Areas Services Committee for final review, then to the CVRD Board for adoption as policy in February 2019.



## 3.0 Park Context

### 3.1 Regional Context

Seal Bay Park is located approximately 12 kilometres from the city centre of Courtenay and approximately 11 kilometers from the town centre of Comox. This close proximity to the urban cores of the valley allows residents and visitors to easily access a quasi-wilderness environment without arduous travel.

#### Regional Conservation

In 2008, the CVRD Board endorsed the concept of regional conservation through the *Nature Without Borders* strategy. This strategy calls for a regional approach to the protection of biodiversity and habitat connectivity in the valley.

This conservation approach is important given the large amount of private land holdings in the valley (see figure 9).

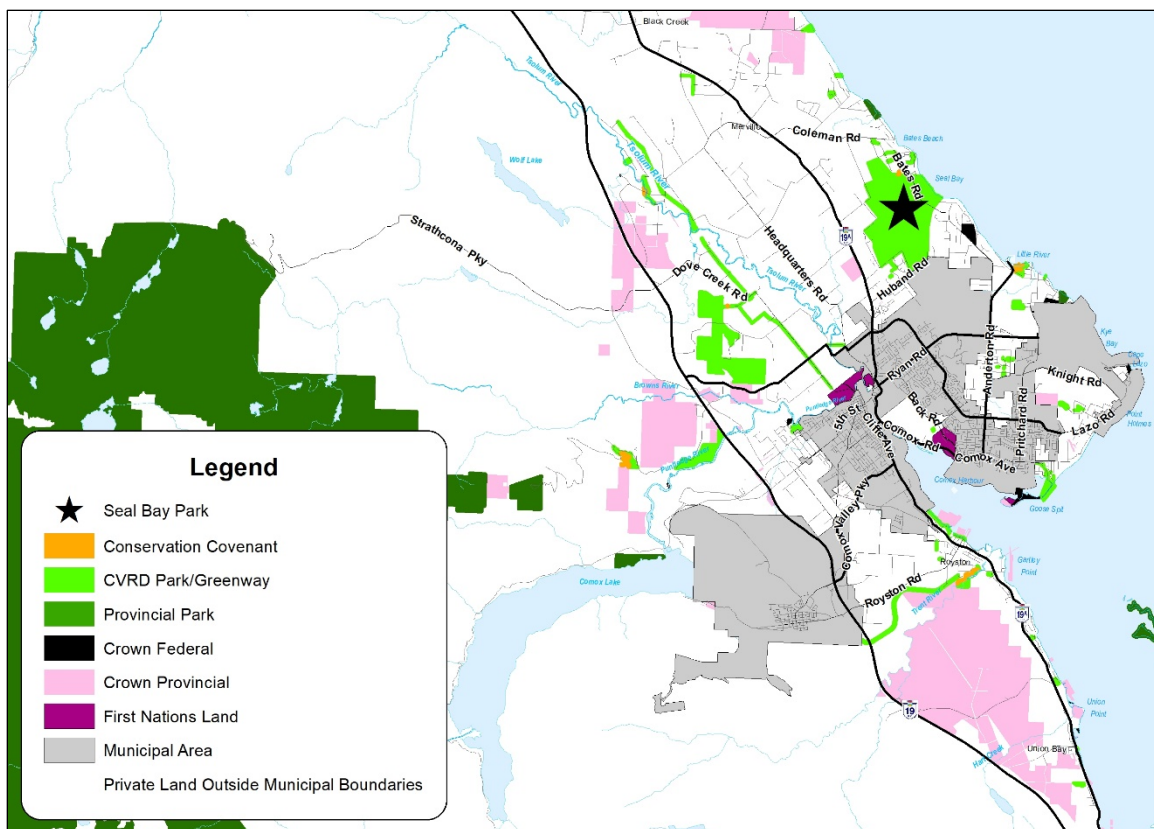


Figure 9: Landscape patches



## Regional Demographics

The population in the Comox Valley continues to grow. Population projections suggest that by 2030 the population of the Comox Valley will grow to 88,500. This continued population growth in the region will result in increased pressures on the valley's natural areas and increased user demand on park lands.

According to the 2016 BC Census data, the Comox Valley had a median age is 50.8 years and 25.6% of the population reported as being over the age of 65. This older demographic needs natural areas that are readily accessible and offer relatively easy trail opportunities.

## Regional Trail Connectivity

The regional active transportation plan developed as part of the Comox Valley Regional District Transportation Road Network Plan (2014) references plans for human-powered forms of transportation adjacent to and passing through Seal Bay Park. Opportunities to link the park to adjacent neighbourhoods and communities through improved human-powered forms of transportation will help decrease the pressure on parking within the park while providing healthy lifestyle choices for valley residents.

To the south of Seal Bay Park and towards the urban core of the valley, improved connections to the City of Courtenay, the Little River ferry terminal and the Department of National Defense are possible (see figure 10). Specifically, building upon a planned City of Courtenay greenway linkage from Veterans Memorial Parkway to Anderton Road could help improve Seal Bay Park's community connectivity. This is possible via a roadside greenway on Waveland and Larch Roads or through a potential future City of Courtenay trail.

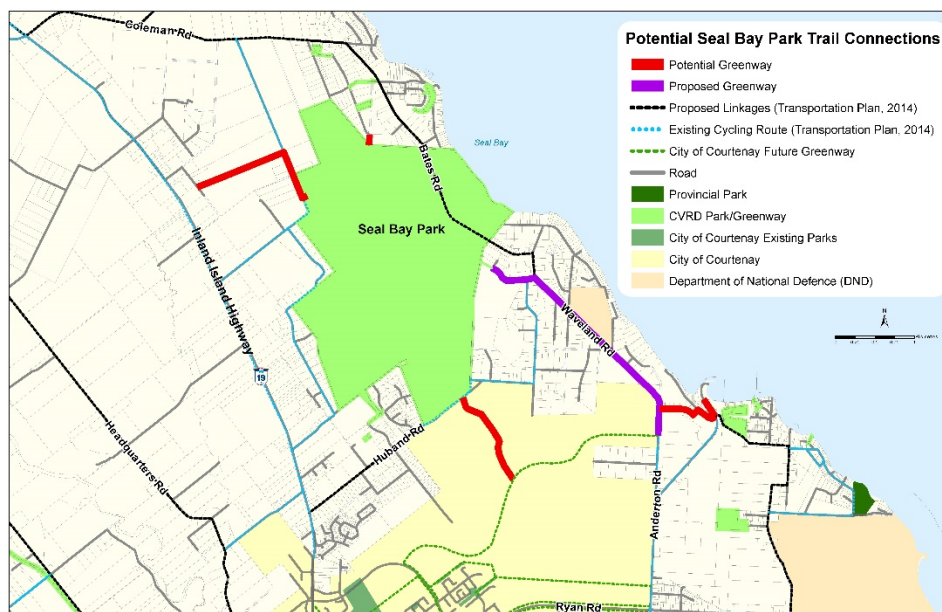


Figure 10: Adjacent active transportation connections



## 3.2 History of Land Use

### K'ómoks First Nation History<sup>4</sup>

Prior to the arrival of European settlers in the area, Seal Bay Park was part of the traditional territory of the K'ómoks First Nation. Specifically, the park is located within the traditional territory of the Kakekt or Qāq'ēcht group of the K'ómoks First Nation. The Kakekt merged with the K'ómoks group around AD 1775.

Although little is known of the area's specific use by First Nations, the park was likely used for resource harvesting and as a campsite by the K'ómoks people traveling from villages located at Little River, Kye Bay or elsewhere. Shell midden sites located within the park provide evidence of this historical use.

### European History<sup>5</sup>

The area comprising the park was first logged around 1913 and then again in the 1920's. All the old growth fir and cedar was cut and either removed or left lying on the ground. Many stumps with spring board cuts remain visible in the park harking back to these days.

In 1917 much of the forest was offered, as part of the Soldier Settlement lands by the Land Settlement Board, to returning World War I soldiers. At the time the land was a smoldering clear cut and although some of the area was homesteaded (e.g. the Bailey family), and later abandoned, most of the land was never claimed.

Following the last logging effort on the land, a period of natural regeneration of the forest began. In the 1940's Christmas trees were cut from the site at a price of \$0.01 per tree. In 1942 beavers created 'Horseshoe Swamp' which later become known as 'Melda's Marsh' in memory of Melda Buchanan, a long-time volunteer at Seal Bay Park. In 1985, after the beavers departed and the beaver dam no longer held back the water, a concrete dam was constructed in this location to restore water to the swamp and to regulate the volume of water that cascades over the Capes Creek waterfall. Over the ensuing years the Forest was used, primarily by local residents, for hunting and small scale timber/firewood removal.

Beginning in the early 1970's members of the Comox-Strathcona Natural History Society recognized the forested lands as both a beautiful place and a unique opportunity worthy of long term preservation and started lobbying the Regional District and the Provincial Government to set aside the entire area as a park. The following is a quote of that experience as written by Phil Capes in 1988:

“The park got its start one summer evening in 1970 when some members of the Comox-Strathcona Natural History Society “discovered” the area. They wandered along overgrown railway grades, pushed their way through tangled underbrush, they zigzagged through the woods along a ravine to the edge of the bluffs, saw brown

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<sup>4</sup> Based on research completed by archeologist Morin, J. in 2018.

<sup>5</sup> Extracted from the July 1998 Seal Bay Regional Nature Park and Forest Master Plan.



creepers spiraling up trees, were scolded by winter wrens and chattered to be inquisitive squirrels. They found the swamp with fresh evidence of beaver and they saw a 'nature park'.

From that summer evening the struggle to preserve the area in its natural state has been ongoing. The perseverance of the Society has been partly rewarded, as thanks to the support of the Regional Board, about 325 acres has been given park status. In 1983 a further 100 acres was set aside as an ecological reserve. Efforts to persuade the Ministry of Forests to release its hold on the remaining acreage, that surrounds the swamp and reserve, are still being made.

To go back to 1970 - the Society was given permission, by the then Minister of Lands, to make trails throughout the whole area which covers about 1500 acres. The original trails were mapped out by two members, a grant was received and six men were employed to construct them. Over the years three other grants have been received and Society members have spent hundreds of hours upgrading and maintaining the trails on a volunteer basis.

The area, formerly under the jurisdiction of the Land Settlement Board, became Crown lands in April 1968. From records available it is probable that it was first logged in 1913 when Canadian Western Lumber Co. Ltd. of Vancouver was issued a permit. It seems logging ceased in the early twenties and since that time natural regeneration has taken place resulting in a lush and varied growth of plant life.<sup>6</sup>

Due to the continuous efforts of the Society and considerable support within the Comox Valley, two parcels of land were leased to the Regional District in 1975 for use as a Regional Park. In 1985, the leased area was Crown granted to the Regional District with an additional small parcel added in 1988.

Agreement about the status of the remaining Crown land (Seal Bay Forest) was difficult to reach. In 1984, a multi-use management plan was prepared by the Ministry of Forests (Campbell River) for the area. The plan included logging as well as recreation uses. The overwhelming response during the public meeting and in correspondence that followed was that the plan was unacceptable. The plan was considered vague in its description of forestry techniques, failed to recognize all land uses and overemphasized forestry above all other land uses. In any case the remainder of the forested lands (approximately 564 hectares or 1394 acres) become a Provincial Forest in 1985.

In 1989, the Regional District and School District #71 jointly completed a Conceptual Plan for the Seal Bay Forest. The plan included small scale, selective forestry wherein any resources harvested would be manufactured on site into materials required for the development of facilities within the park. The implementation of the plan required that the Forest be removed from the Provincial Forest and crown granted to the Regional District.

In 1990, the Provincial Government began the Protected Area Strategy with a goal of protecting thirteen percent of each biogeoclimatic zone within the province. As part of

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<sup>6</sup> Seal Bay Regional Nature Park and Forest Master Plan, July 1998, page 6.



sensitive ecosystems mapping that coincided with this strategy, the then Ministry of Parks set aside 49 hectares of land within the Seal Bay Forest for a future Ecological Reserve. At the same time, over 3,000 letters were sent from Comox Valley residents requesting that Seal Bay Forest be protected and added to Seal Bay Nature Park.

In 1996, the provincial government announced that the Seal Bay Provincial Forest would be granted to the Regional District for use as a regional park under the Protected Area Strategy. Subsequently, the regional board accepted the offer, submitted an application for a Licence of Occupation (the first of three steps in obtaining the forest as parkland) and completed the required master plan.

In 1999, the provincial government changed course and suggested that the lands remain as Crown land tenured under a lease or licence of occupation. After persistent lobbying by the regional district, a ten-year licence of occupation was granted in 2000.

As part of the public consultations process for the Rural Comox Valley Parks and Greenways Strategic Plan (2011 – 2030), Comox Valley residents identified securing the ownership or a long-term tenure for Seal Bay Forest as the number one park priority. In 2010, the CVRD obtained a new 30-year licence of occupation for the Seal Bay Forest.



Seal Bay Park Management Plan

Legend

1. First Bailey house site

2. Bailey Field

3. Second Bailey house site

4. Driveway to second house

5. Murray/Ball cedar road

6. Split rails from Bates/Milligan cattle pasture


7. Steel wheels from Humburgen Railway to lower logs into Bay


8. Humburgen Rock


9. Old skid logs


10. Water hole (wet all year)


11. Abandoned gravel pit


12. Waterfall
-  Midden Sites


 Historical Railway Track  
(Comox Logging and Railway Company c.1917)


 Ditch

 Stream

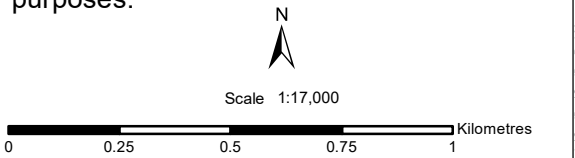
 Wetland

 Provincial Crown Land\*  
(not included in the park license)

 Seal Bay Regional Nature Park

 Seal Bay Forest

\* Note: This land parcel was originally set aside by the province for conservation purposes.



Map 2  
European and First Nation History

This map was prepared by the CVRD for planning purposes only and is not a legal document. This map is a composite of different datasets that were developed from different methods and dates. This map should be used with caution. The CVRD is not responsible for any damages resulting from any omissions, deletions or errors.



## 4.0 Park Values

These following natural, economic, recreational, cultural and social values were crucial to the development of the vision, goals and objectives as presented in this management plan.

### 4.1 Natural Values

The diverse natural environment within Seal Bay Park offers a number of natural values. These include the large contiguous stand of regenerated second growth Douglas-fir forest, the mature mixed forests, the rare hardhack (*Spirea douglasii*) wetland plant community, the stream and ravine riparian areas, the coastal bluffs and the stone beach. Each of these natural environments offer biodiversity and unique wildlife habitat. To maintain these natural environments and their value, it is important that the land remains unfragmented and that the area is disturbed as little as possible.



**Figure 11: Seal Bay foreshore**

The 1998 Park Master Plan proposed a wilderness conservation zone that encompassed the map reserve and extended to the northern park boundary. To date, this area has not been managed in a different way from the rest of the park. As the population of the region grows and the use of the park intensifies, it is important to re-affirm conservation areas and places of refuge for wildlife within the park.



## Biogeoclimatic Zone

Seal Bay Park is located within a highly threatened biogeoclimatic zone; the eastern very dry maritime subzone variant (CWHxm1) of the Coastal Western Hemlock biogeoclimatic zone in the Nanaimo Area Lowland ecosection of eastern Vancouver Island. The Nanaimo Area Lowland is characterized by its mild climate, long growing season and variety of ecosystems. It houses many rare species of plants and animals.

This biogeoclimatic zone is very limited in size and experiences ongoing pressures from urbanization. For this reason, the province identifies the zone as a rare and special region of Canada. The Provincial government has attempted to protect a minimum of 13% of each biogeoclimatic zone within British Columbia. Protection of the Coastal Western Hemlock forest present in the Seal Bay Forest is part of that goal to preserve the bank of genetic biodiversity of this zone.

In the 1990's the provincial government conducted a Sensitive Ecosystem Inventory mapping exercise to identify remnant natural ecosystems within the Nanaimo Lowlands Area ecosection. Sensitive ecosystems are "rare and/or fragile remnants of the variety of ecosystems that were once abundant on the East Coast of Vancouver Island" (Comox Valley Conservation Strategy, page 4). Most of Seal Bay Park has been identified as a being part of a sensitive ecosystem. Specifically, the SEI maps identify the wetland ecosystems, the riparian ecosystems and the large, natural upland community of older second growth forest as being rare and fragile ecosystems and a priority for regional conservation. These sensitive ecosystems have been provincially and regionally identified as important to protect and if fragmented, restored.

## Ecosystems

Ecosystems are communities of living organisms that co-exist and are connected to their natural environment. Together, the living and non-living components interact and work together to maintain the healthy functioning of the ecosystem.

Ecosystems are of many different types and sizes. The major ecosystem typologies that exist within Seal Bay Park include forest and marine ecosystems. Within these two broad ecosystem types, the following sub-category ecosystems characterize the park:

- Mature coniferous forest
- Mature mixed forest
- Wetland
- Riparian
- Coastal Bluff
- Inter-tidal and marine foreshore



## Sensitive Ecosystems

The province has identified the occurrence of three sensitive ecosystems within Seal Bay Park. These include the older second growth forest ecosystem, the riparian ecosystem and the wetland ecosystem.



Figure 12: Forest floor

The older second growth forest ecosystem provides valuable habitat for wildlife and acts as a critical ecological landscape connectivity patch within the highly fragmented landscape of the Comox Valley. As this forest ecosystem ages, the biodiversity values will increase.

The riparian ecosystems help to protect fish and wildlife habitat that occur adjacent to the streams within the park. These ecosystems are highly dynamic and contain high levels of biodiversity.

The wetland ecosystems contain wet soils, house moisture dependant plants and provide important wildlife habitat. Six different types of wetland exist including bogs, fens, marshes, shallow water wetlands, swamps and wet meadows.

## Ecosystems at Risk

Ecosystems classified by the provincial government as ‘at risk’ that may occur within the park include:

Table 1: Ecosystems at risk

Scientific Name	Common Name	BC List
<i>Populus tremuloides</i> / <i>Malus fusca</i> / <i>Carex obnupta</i>	Trembling aspen/ Pacific crab apple/slough sedge	Red
<i>Picea sitchensis</i> / <i>Rubus spectabilis</i> Very Dry Maritime	Sitka Spruce/salmonberry	Red
<i>Populus trichocarpa</i> – <i>Alnus rubra</i> / <i>Rubus spectabilis</i>	Black cottonwood – red alder/salmonberry	Blue
<i>Pseudotsuga menziesii</i> / <i>Polystichum munitum</i>	Douglas-fir/sword fern	Blue
<i>Pseudotsuga menziesii</i> – <i>Tsuga heterophylla</i> / <i>Gaultheria shallon</i> Dry Maritime	Douglas-fir/western hemlock/salal	Blue
<i>Spirea douglasii</i> / <i>Carex sitchensis</i>	Hardhack/Sitka sedge	Yellow
<i>Zostera marina</i> herbaceous vegetation	Common eel grass herbaceous vegetation	No status

Only a detailed inventory and analysis of the vegetation in the park will confirm the presence or absence of ecosystems at risk. The trembling aspen/pacific crab apple/slough sedge is a confirmed ecosystem that exists within the map reserve and the hardhack/Sitka sedge ecosystem has been confirmed in the map reserve and Melda’s Marsh.



## Microclimate

The Comox Valley lies in the rain shadow of the Olympic Peninsula and Vancouver Island mountains and is the driest mesothermal zone of B.C. The Comox Valley is characterized by west coast maritime (mesothermal) conditions with cool, wet winters and warm, dry summers.

## Natural Environment

The topography of Seal Bay Park is largely comprised of gently rolling, undulating terrain with a series of parallel north-south ridges, depressions and hummocks with corresponding vegetation. The park itself is uniquely situated as a high point in the general landscape and at the confluence of four watersheds.

The terrain west of Bates Road predominantly slopes from west to east towards the ocean with little variation, ranging from 94 metres (225 feet) to 60 metres (150 feet). East of Bates Road, the terrain is dominated by ravines (including Capes Creek), steep sandy coastal bluffs and a rocky marine foreshore.



**Figure 13: Seal Bay cobble beach**

Due to the undulating topography and the imperfectly drained soils, water gets trapped between the ridges and hummocks. Generally, the soils are either coarse textured and well drained or are of finer texture and imperfectly drained. These qualities directly influence the vegetation of the site.



Douglas fir dominates the tree stratum and species composition. The park also features rare plant communities such as the hardhack wetlands which occur only in the southern lowlands of Vancouver Island. Other rare plant communities include trembling aspen, pacific crab apple and slough sedge.

Because of Seal Bay Park's close proximity to a major population base, the park provides a readily accessible opportunity for a 'wilderness' experience. This includes the opportunity to observe wildlife such as the Great Blue Heron and the Marbled Murrelet which are listed provincially as species at risk.

### *Geology*

The bedrock geology of Vancouver Island is made up of heavily faulted, unmetamorphosed volcanic and sedimentary rocks ranging in age from Tertiary to Paleozoic. The east coast lowland sedimentaries include sandstones, shales, coal deposits and conglomerates of the Cretaceous age.

This landscape was created by glacial processes 18,000 to 19,000 years ago. These processes deposited and modified the materials which are below the soil surface. Following glaciation parts of the coastal lowlands, including most of the Comox Valley were flooded by the sea. These areas have since rebounded to their current elevation.

### *Soils*

Overlying the materials of the glacial deposits are the soils of Seal Bay Nature Park and Forest. These soils are classified as Humo-ferric Podzols ranging from sandy to gravelly loam with depths of 0.75 metres and over, over the entire area. The soil moisture regime for the area is classed as being submesic (water removed readily in relation to supply) to subhygric (water removed slowly enough to keep the water table at or near the surface most of the year). Soil drainage for the park, which refers to the "speed and extent to which water is removed from a mineral soil" (BC Ministry of Forests and Range, page 22), ranges from rapidly drained to very poorly drained. The soil nutrient regime is classed as being medium (mesotrophic) to very rich (eutrophic).

Further qualities characteristic of the soils include variation in the quantity of coarse fragments, variation in acidity, the presence of a strongly cemented under layer and the presence of seepage.

Based on the Canada Land Inventory of the capability for agriculture, the lands in Seal Bay Forest are Class 4 or 5. Their limitations for agriculture include stoniness, excess water and in some cases water deficiency, which if overcome may improve the capability to a Class 2 or 3.

### *Hydrology*

A number of subtle hydrological features exist on the landscape including swampy depressions which hold water for the majority of the year and small ephemeral streams which dry up during the summer.



Seal Bay Park is the headwaters for several tributaries and thus is at the junction of several watersheds. These include the Kitty Coleman Creek watershed, the Portuguese Creek (Tsolum River) watershed and the Little River (Findlay Creek) watershed, which are all known salmon habitat, as well as three or four unnamed creeks which are not salmon bearing that lie within the Coastal watershed.

A prominent ravine houses Capes Creek which drains the major wetland system in the park including Melda's Marsh and the swamps in the ecological reserve. Melda's Marsh has a dam at its outlet which controls the flow of water along Capes Creek to the ocean (see figure 14).



**Figure 14: Capes Creek dam**

### *Vegetation*

Seal Bay Park contains a variety of forest types which are a result primarily of the localized soil type and water availability. Generally speaking, the park contains vegetation associated with the coastal Western Hemlock biogeoclimatic zone. Although the forest has been modified by logging, forest community succession has since displayed the characteristics of a natural system.





**Figure 15: Second growth forest**

Much of the forested area is comprised of second growth Douglas fir 80-90 years in age. These are most vigorous in areas that are well spaced and in the well-drained hummocks. Salal, huckleberry and oregon grape are also found in these drier areas.

In the hollows between hummocks are swampy areas which support an alder-fir-spruce species mixture. Also found here is hemlock, sword fern and huckleberry. Broadleaf maple is distributed in areas having base rich soils. This species, as well as red alder, promotes soil forming through rapid cycling of nutrients.

The understory throughout is comprised of balsam, spruce and fir with some cedar and hemlock. In general, the understory is suppressed due to a fairly heavy canopy.

The undisturbed wetlands within the previously proposed ecological map reserve, contain an unusual species combination of trembling aspen, crabapple, hardhack, and slough sedge, surrounded by second growth Douglas fir and some Grand Fir.

Evidence of root rot (*Phellinus weireli*) exists in the park. The exact extent of the root rot has not be determined but appears prevalent north of Elmo Road up through the Catch Up Loop trail.

A full list of plants observed over the years in Seal Bay Nature Park and Forest was compiled by the Comox Valley Naturalists and is included in Appendix IV.



## *Wetlands*

The Ministry of Environment calls wetlands “one of the most important life support systems on earth” as they “provide critical habitat for fish, birds, and other wildlife” (MOE, 2017).



The wetlands in the forest ecosystem perform the important function of absorbing water for slower release into the hydrological systems thereby helping to maintain stream flows. They also provide critical habitat for fish, birds, and other wildlife. Wetlands also provide other crucial ecosystem services including: absorbing and filtering sediments and pollutants, recharging groundwater, controlling runoff, storing floodwaters and reducing erosion.

In 2012, Ian Moul and Wendy Kotilla prepared an ecological inventory of Melda’s Marsh, the largest wetland within Seal Bay Park at 8.9 hectares in size. The marsh showcases “various stages in the evolution of wetlands” (Moul, I and Kotilla, W. page 18) from marsh to fen to shallow water wetland. Each type of wetland offers a rich environment for a range of plants and wildlife.

**Figure 16: Wetland**

(Photo credit: Chuck Russell)

## *Invasive and Non-Native Species*

One of the greatest threats to biological diversity in protected areas in British Columbia is the introduction of invasive and exotic (non-native) species. Growing throughout the park are several invasive and exotic plant species (these are included in the list of plants found in Appendix IV).

In the long-term, invasive plant species could challenge the ecological integrity of the native ecosystem. If left uncontrolled, invasive species will displace or destroy native plant populations leading to the degradation of the natural biodiversity of the land.

Invasive plant species directly impact the habitat that many birds, insects, amphibians and other wildlife depend upon for food and shelter. Some invasive plants may also cause human health and safety concerns. For example, *Cytisus scoparius* (Scotch broom), which is present in the park, has been known to cause seasonal allergies.

There have also been reports of Eastern Grey Squirrels (*Sciurus carolinensis*) and American Bullfrogs (*Lithobates catesbeianus*) in the park. Both can have large negative ecological impacts.



## Wildlife Species and Habitat

Black-tailed deer and a variety of small mammals and birdlife inhabit the park. Black bear sightings have also been reported and there is likely a resident family in the park. In addition to common bird species are several species of birds which require habitats such as those found within the park, including the pileated woodpecker, barred owl, hutton's vireo and the bald eagle.



**Figure 17: Deer mouse**

There is one documented active eagle nest tree in the northeast corner of the park near the Seabank Trail and there are likely perch trees used by eagles along the Georgia Strait.

The CVNS has compiled a list of 98 birds identified in the park (see Appendix V). This list is a living document and is constantly being updated as birds are observed.

A full list of mammals observed over the years is included in Appendix VI. Currently biophysical inventories have not been

completed for amphibians, reptiles, fish, molluscs, mosses and insects within the park.

### *Species at Risk*

The Comox Valley has been recognized internationally as an important bird area (IBA). The Comox Valley IBA supports several bird species that have been classified as 'at risk' including the Great Blue Heron and the Marbled Murrelet. These species have been observed in the park and are protected under the *Species At Risk Act*.

A full list of species at risk that have been observed within Seal Bay Park is listed in the table below.

**Table 2: Observed species at risk**

Scientific Name	Common Name	BC List	COSEWIC
<i>Ardea Herodias fannini</i>	Great Blue Heron	Blue	Special Concern (2008)
<i>Brachyramphus marmoratus</i>	Marbled Murrelet	Blue	Threatened (2012)
<i>Patagioenas fasciata</i>	Band-tailed Pigeon	Blue	Special Concern (2008)
<i>Phalacrocorax auritus</i>	Double-crested Cormorant	Blue	Not at Risk (1978)
<i>Hirundo rustica</i>	Barn Swallow	Blue	Threatened (2011)
<i>Rana aurora</i>	Northern Red-legged Frog	Blue	Special Concern (2015)
<i>Anaxyrus boreas</i>	Western Toad	Yellow	Special Concern (2012)



## Marine Foreshore

The Seal Bay Park foreshore is comprised of a cobble stone beach, coastal bluffs and prominent ravines. The foreshore area is home to an array of birds and marine life including marine mammals. Documented marine mammals observed from Seal Bay include fin-back whales, harbour porpoises, hair seals and pacific killer whales.

The stone beach is home to a variety of marine life including intertidal seed plants, such as eel grass, and intertidal invertebrates. A turned over rock within the intertidal zone could reveal a shore crab. Any overturned rocks should be replaced gently once you are finished exploring.

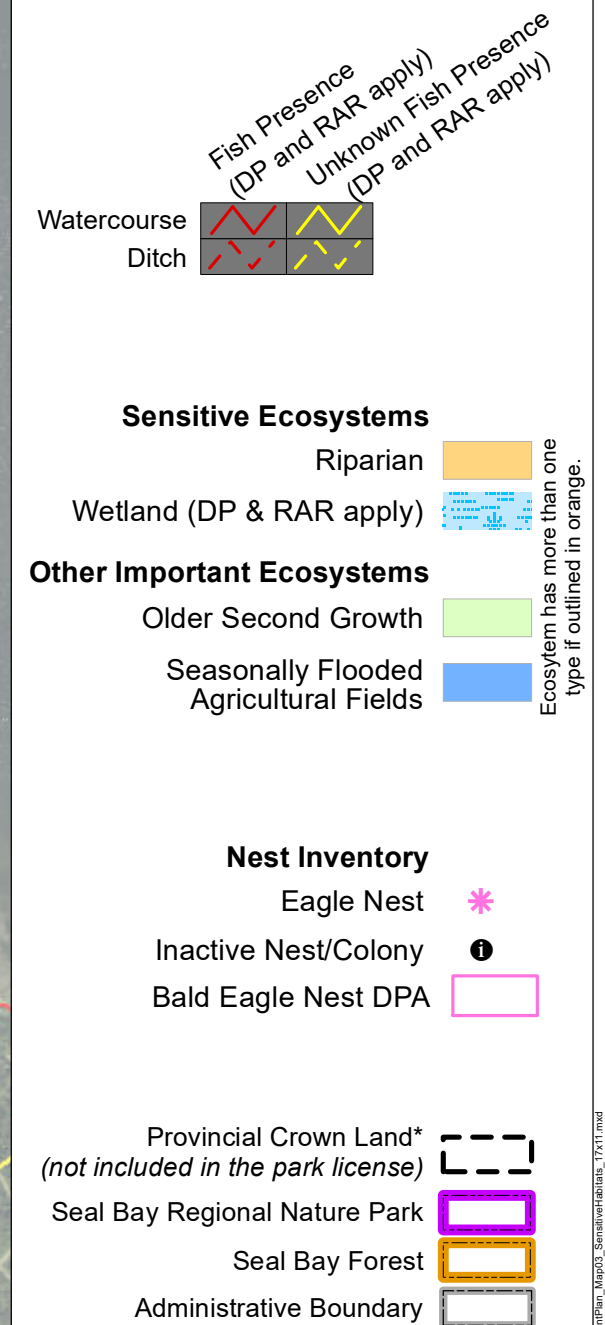


**Figure 18: Seal pup**  
(photo credit: Laura Thede)

The coastal bluffs are largely comprised of sand and are prone to erosion. Currently there are areas along the foreshore where erosion is active and slope failure is a concern.

Surface water stored in Horseshoe Swamp enter the ocean by way of Capes Creek. Fish presence in this creek is unknown.





\* Note: This land parcel was originally set aside by the province for conservation purposes.

### Map 3 Sensitive Habitats

This map was prepared by the CVRD for planning purposes only and is not a legal document. This map is a composite of different datasets that were developed from different methods and dates. This map should be used with caution. The CVRD is not responsible for any damages resulting from any omissions, deletions or errors.










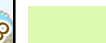


## Seal Bay Park Management Plan

### Legend

-  Ditch
-  Wetland
-  Provincial Crown Land\*  
(not included in the park license)
-  Seal Bay Regional Nature Park
-  Seal Bay Forest
-  Administrative Boundary

### Elevation

-  90 - 100
-  80 - 90
-  70 - 80
-  60 - 70
-  50 - 60
-  40 - 50
-  30 - 40
-  20 - 30
-  10 - 20
-  0 - 10

 Contour Line

\* Note: This land parcel was originally set aside by the province for conservation purposes.

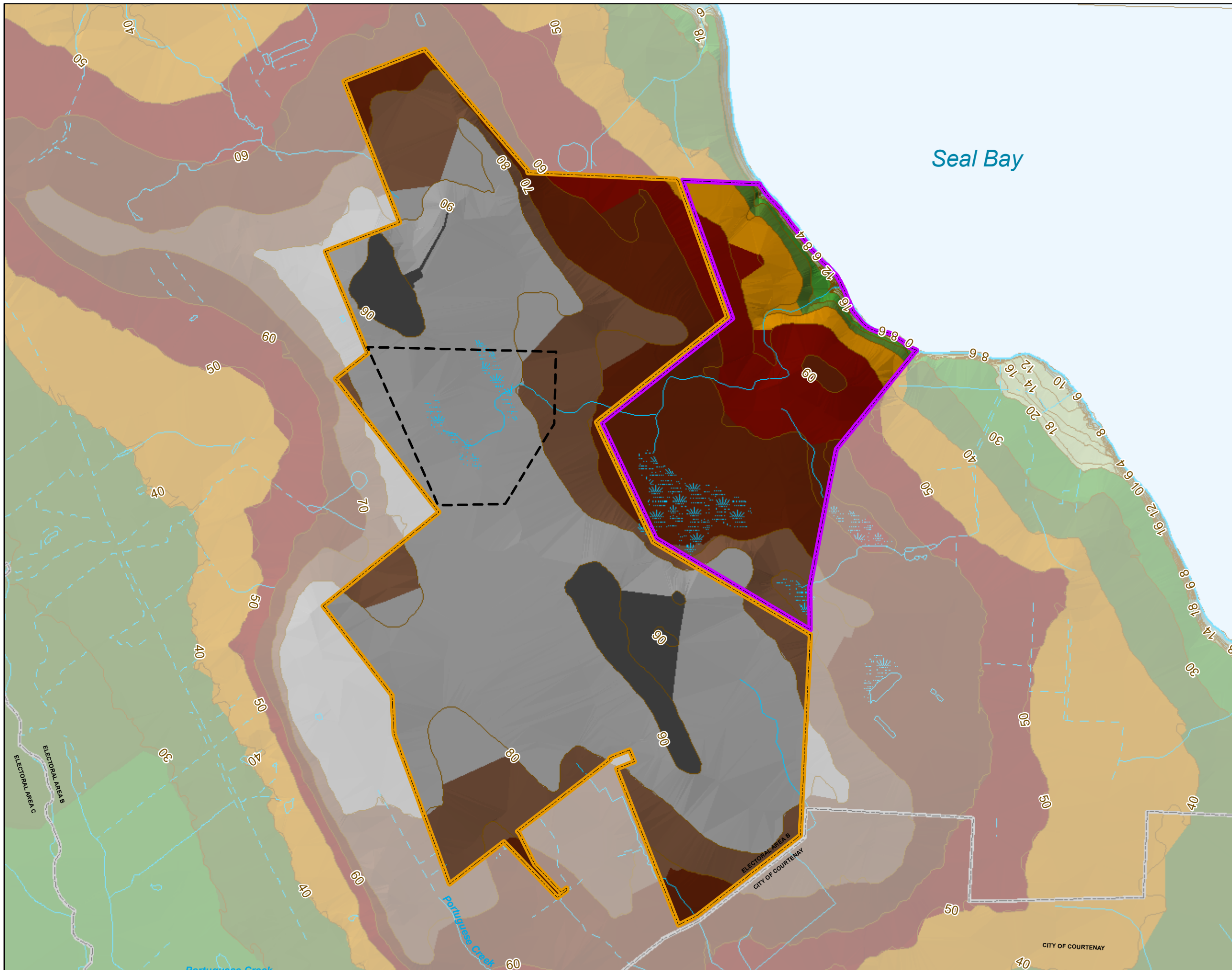


Scale 1:17,000



## Map 4 Topography

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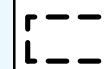
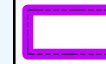




## Seal Bay Park Management Plan






### Legend

-  Ditch
-  Stream
-  Wetland

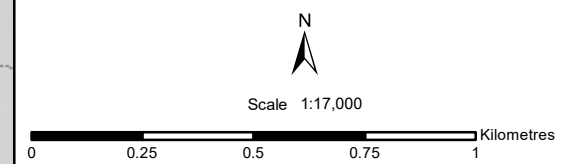
### Ecological Reserve

-  Provincial Crown Land\*  
*(not included in the park license)*
-  Seal Bay Regional Nature Park
-  Seal Bay Forest
-  Administrative Boundary

### Percentage of Slope

-  0-1% (flat)
-  1-8% (low)
-  8-15% (moderate)
-  > 15% (steep)
-  Contour Line

\* Note: This land parcel was originally set aside by the province for conservation purposes.





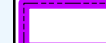


## Map 5 Slope Analysis

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## Seal Bay Park Management Plan

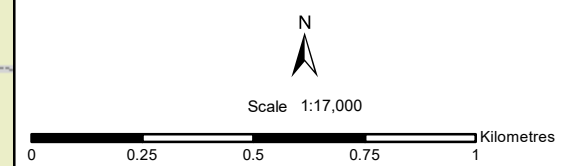
### Legend

- Contour Line
- - - Ditch
- Stream
-  Wetland
-  Provincial Crown Land\*  
(not included in the park license)
-  Seal Bay Regional Nature Park
-  Seal Bay Forest
-  Administrative Boundary

### Soil Drainage

-  Rapidly drained
-  Well drained
-  Moderately drained
-  Imperfectly drained
-  Poorly drained
-  Very poorly drained

\* Note: This land parcel was originally set aside by the province for conservation purposes.













## Map 6 Soils

This map was prepared by the CVRD for planning purposes only and is not a legal document. This map is a composite of different datasets that were developed from different methods and dates. This map should be used with caution. The CVRD is not responsible for any damages resulting from any omissions, deletions or errors.






# Seal Bay Park Management Plan

## Legend

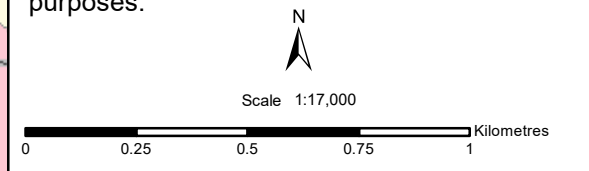
-  Direction of Surface Drainage
-  Direction of Stream Flow
-  Waterfall
-  Ditch
-  Stream
-  Wetland
-  Provincial Crown Land\*  
(not included in the park license)
-  Seal Bay Regional Nature Park
-  Seal Bay Forest
-  Administrative Boundary

## Watershed Name

-  Coastal Watershed
-  Kitty Coleman Creek
-  Little River
-  Portuguese Creek
-  Shoreline ProtectionDevices DPA  
(30m buffer)
-  Aquatic and Riparian Habitat DPA  
(30m buffer)

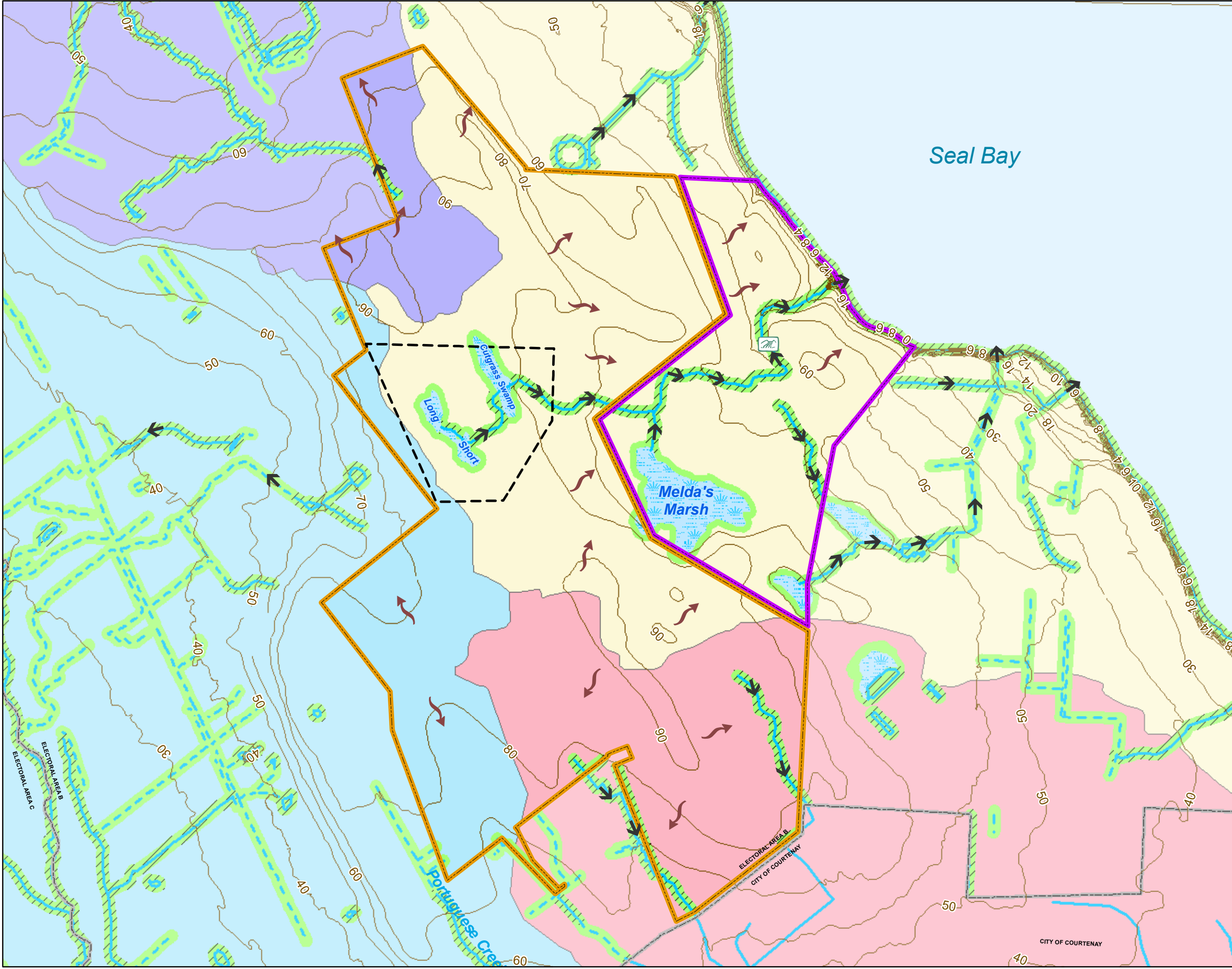
Note: Seal Bay Park includes many small seasonal creeks and pocket wetlands. Theses have not been mapped.

\* Note2: This land parcel was originally set aside by the province for conservation purposes.

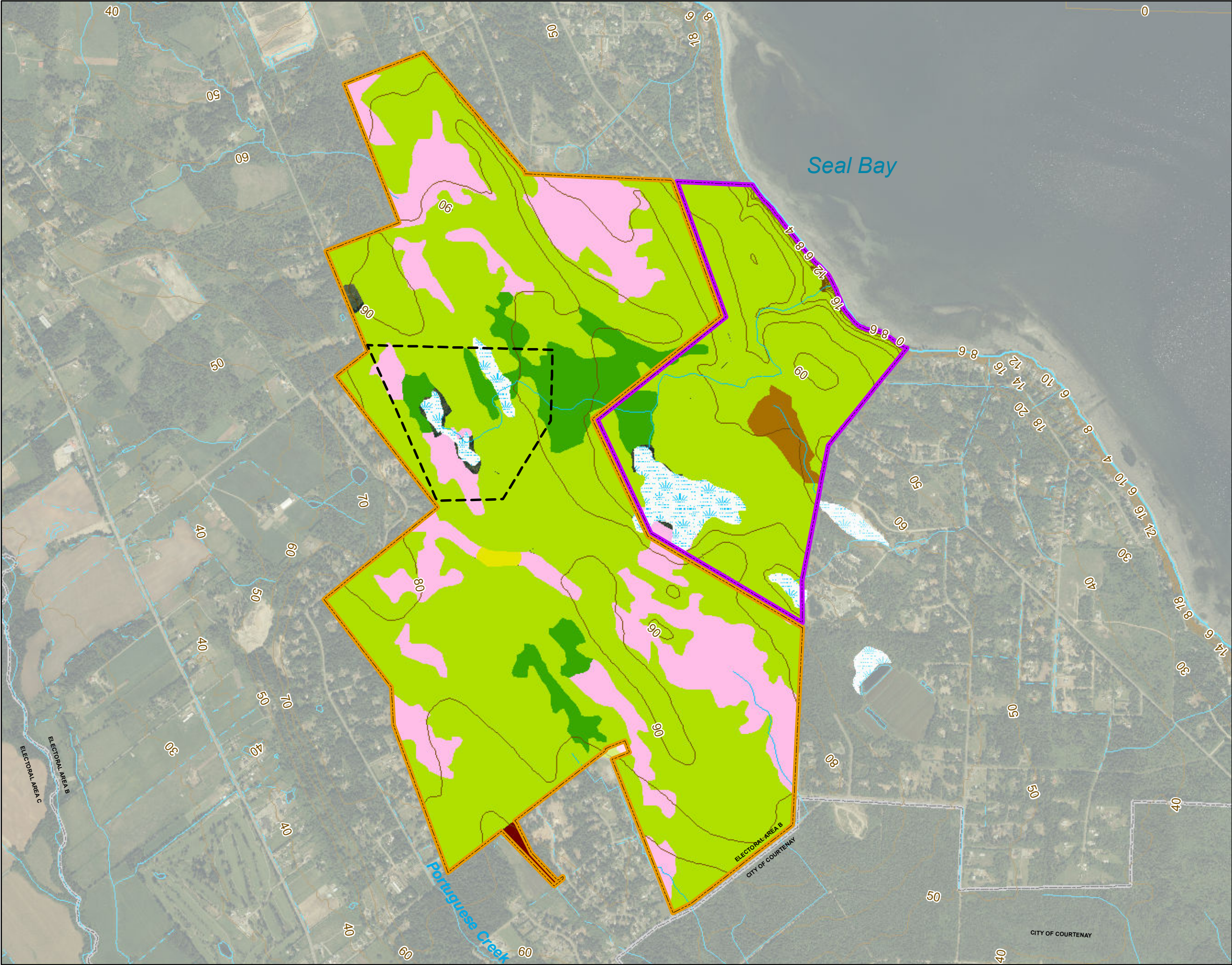


## Map 7 Hydrology

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Seal Bay Park Management Plan

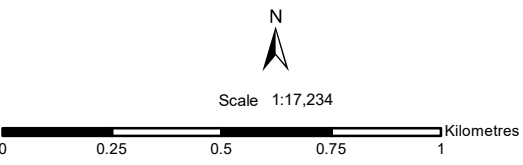
Legend

- Contour Line
- - - Ditch
- Stream
-  Wetland
-  Provincial Crown Land\*  
*(not included in the park license)*
-  Seal Bay Regional Nature Park
-  Seal Bay Forest
-  Administrative Boundary

Dominant Tree Species

-  Black Cottonwood
-  Douglas-fir
-  Pine
-  Red Alder
-  Western Hemlock
-  Western Red Cedar

\* Note: This land parcel was originally set aside by the province for conservation purposes.



Map 8  
Vegetation

This map was prepared by the CVRD for planning purposes only and is not a legal document. This map is a composite of different datasets that were developed from different methods and dates. This map should be used with caution. The CVRD is not responsible for any damages resulting from any omissions, deletions or errors.



## Landscape Units

The Landscape Units map (see map 9) identifies areas of relatively similar biophysical value and development suitability. Areas least suitable for trail and facility development include steep slopes, poorly drained areas, wetland areas, areas of rare ecological value and areas of significant wildlife habitat value. It is desirable for park infrastructure to avoid these areas as much as possible to avoid safety hazards, to protect the natural environment from unnecessary degradation, to reduce the expense of developing and maintaining trails, and to help avoid human-wildlife conflict.

Generally, the existing trails have been developed in locations that can withstand the impacts of trail development. However, there are some areas where the trails have been located in less-than-ideal locations (see figure 19). These areas have generally been problematic in terms of maintenance over the years. For the less developed of these trails, it would be prudent to re-align or decommission these trails.



Higher impact trail uses, such as bike and equestrian use, should be located in areas that are capable of handling heavy user impacts such as along the gravel ridges, along old logging grades and in areas with well-drained soil characteristics. It is also desirable to divert horse and bike traffic away from the heavily used pedestrian trails to limit user conflicts.

The Landscape Units map provides a visual baseline of the broad biophysical qualities of the park. The size of each unit and the relative sensitivity of each unit to human impacts helps paint a picture of where park infrastructure may be best located and the areas of the park that are best left for conservation.

**Figure 19: Trail through poorly drained area**

(photo credit: Mark Harrison)



**Table 3: Summary of landscape units<sup>7</sup>**

Code (Colour)	Type	Size (hectares)	Size (% of parkland)	Sensitivity to human activity
SS (Red)	Steep Slopes	20	3%	High
WL (Blue)	Wetland	19	3%	High
WF (Yellow)	Well drained, Fir	273	40%	Low
WPS (Medium Green)	Well drained, Pine	2	Negligible	Moderate
WAS (Dark Green)	Well drained, Red Alder	37	5%	Low
PH (Bright Orange)	Poorly drained, Western Hemlock	7	1%	High
PC (Light Orange)	Poorly drained, Western Red Cedar	2	Negligible	High
PF (Light Pink)	Poorly drained, Fir	203	30%	High
PCT (Dark Pink)	Poorly drained, Cottonwood	43	6%	High
PA (Burgundy)	Poorly drained, Red Alder	76	11%	High
Totals		682	100%	

In the table above, well drained refers to soil drainage classifications that include rapidly drained and well drained soils. Poorly drained refers to soil drainage classifications that includes imperfectly drained, poorly drained and very poorly drained soils. Steep slopes refer to slopes over 15%. The tree species represents the dominant tree species in the area. Finally, the sensitivity rating is a qualitative assessment of the potential for damage to the natural environment or habitat value from passive human recreation activities (walking, cycling, running, horse-back riding, dog-walking).


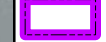




Typically the dominant tree species will be Red Alder on sites that have been readily disturbed and the Black Cottonwood would be the dominant species in wet areas. Western Hemlock prefers acidic and the Pine is common on very dry or very wet sites.

<sup>7</sup> Table area calculations include the 49 ha provincial land parcel not included in the Licence of Occupation for Seal Bay Forest. Area calculations do not exactly match legal area calculations because calculations were based on a composite of different data sets that were developed from different methods and dates.



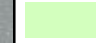







## Seal Bay Park Management Plan

### Legend

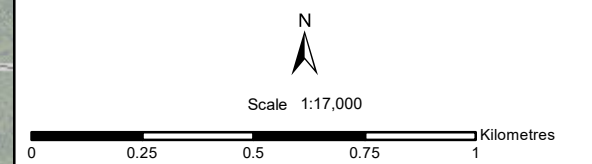
-  Provincial Crown Land\*  
(not included in the park license)
-  Seal Bay Regional Nature Park
-  Seal Bay Forest
-  Stream
-  Ditch
-  Administrative Boundary

### Landscape Units (For Legend)

#### LandscapeUnits

-  WF - Well drained, Fir
-  WP - Well drained, Pine
-  WA - Well drained, Red Alder
-  PH - Poorly drained, Western Hemlock
-  PC - Poorly drained, Western Red Cedar
-  PF - Poorly drained, Fir
-  PCT - Poorly drained, Cottonwood
-  PA - Poorly drained, Red Alder
-  SS - Steep Slopes
-  WL - Wetland

\* Note: This land parcel was originally set aside by the province for conservation purposes.



## Map 9 Landscape Units

This map was prepared by the CVRD for planning purposes only and is not a legal document. This map is a composite of different datasets that were developed from different methods and dates. This map should be used with caution. The CVRD is not responsible for any damages resulting from any omissions, deletions or errors.



## 4.2 Economic Values

Historically, agriculture and forestry have been the predominant economic drivers in the Comox Valley. Recently, however, tourism and recreation have become an increasingly important generator of economic wealth in the valley as residents and visitors have begun to enjoy the more intrinsic value of the natural resources that the valley has to offer. This has created increased demands on the valley's natural park spaces in the lower elevations.

A study conducted in 2015 for Comox Valley Economic Development and Tourism found that 55% of visitors to the valley visited parks and trails during their stay. This was the third most popular response behind visiting local shops (62%) and visiting beaches (55%). When asked to further specify which activities they participated in during their stay 53% indicated beach activities, 41% indicated hiking and 13% indicated wildlife viewing. This supports an older study done in 2002 for the North Central Island Region which indicated the most popular activity in which visitors participate in the region is hiking (52%). The next three most popular activities were wildlife viewing (42%), whale watching (26%) and bird watching (24%). This study further found that beaches (61%) followed by parks (59%) were the principle tourism attractions for visitors. These studies highlight the importance of the parks system for visitors as drivers of the local tourism economy. Interestingly, feedback from the 2015 study indicated that increased and more accurate signage and maps for parks and trails would help improve park visitation.

Park visitors contribute to the local economy by spending on accommodation, meals, transportation, shopping and entertainment. The 2015 study found that visitor groups tended to spend \$594 a day. A national study done by Outspan Group Inc. in 2011, found that for every dollar invested in protected areas generates \$8.42 in visitor spending.

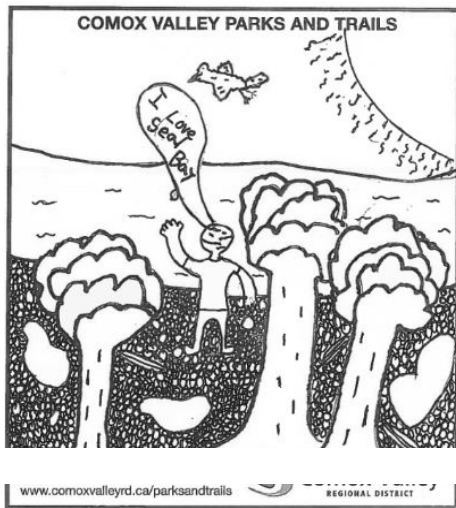
Given the proximity to the urban core, Seal Bay Park is an invaluable recreation resource for the local residents as well as a significant draw to encourage tourists to stay longer in the area.

## 4.3 Recreational Values

The residents of the Comox Valley have continually demonstrated a high level of support for passive recreational use within the park boundaries. Passive recreation generally refers to non-motorized recreation that has minimal impacts to the natural environment. This may include, but is not limited to, activities such hiking, picnicking, horseback riding and cycling.

According to the survey responses, local residents and visitors appreciate the trails and the access to the natural environment that they provide. Generally, users have fully embraced the nature-oriented focus of the park and are not keen on seeing the park become overly developed with park infrastructure.





**Figure 20: Student drawing**

For visitors the principle attraction of the park is the serenity it offers. Visitors tend to enjoy quiet and passive forms of recreation that do not readily disturb the park's tranquility.

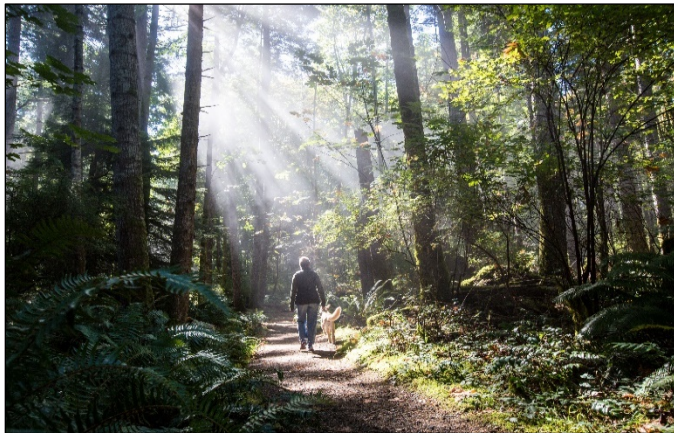
The park is easily accessible to users of all age groups largely because of its relatively flat topography. The park, however, could be more accessible to those people with mobility constraints or for young families with strollers. With the recent addition of a transit stop within the park, the desire to make the park more accessible will become more pressing.

(photo credit: Walker Smits, Grade 4, Huband Park Elementary School, CVRD Design an Ad competition 2018)

### Current Recreational Use

Generally, users visit Seal Bay Park to get exercise for either themselves or their pets. It is a day-use park used for walking/hiking, dog-walking and to a lesser degree biking and horseback riding. Others use the park for beachcombing and swimming in the ocean. Motorized recreation is considered incompatible with the natural setting and is not permitted on the park trails.

Walking is the most common form of recreation, which is understandable given the overall desire of visitors to have a slower-paced and quiet wilderness experience within the park. Walking also supports the opportunity for wildlife viewing, photography and nature education.



**Figure 21: Dog walker**

Although equestrian use represents the smallest segment of park users, there is a strong desire among horseback riders to improve the trail system to make it more user friendly. However, horse (and bike) use on some trails can have significant impacts to trail surfacing and does cause some conflict with pedestrians. Any expansion or improvements to the equestrian trail system should be well researched and be within areas where heavier impacts to the natural environment can be supported.

Generally, trail use is well dispersed within the park with slightly more use on the eastern side of Bates Road (ocean side). Other than near the Bates Road parking area, visitors are still able



to find relatively quiet trails. Although most trails appear to be well used, the weekends tend to be the busiest time on the trails.

### Recreational Trail System

Within the park, an extensive trail system has been developed over the years which has taken advantage of game trails and old logging grades. The first trails were constructed in 1972 under the voluntary direction of the Comox-Strathcona Natural History Society. These were constructed for walking and horse use and as means to access nature for ‘outdoor education’.



**Figure 22: Recreational trail**

Currently over 40 kilometres of trail exist within the park boundaries providing easy access to a diverse variety of ecosystems. The majority of the trails are either easy or moderate in difficulty which is understandable given the relatively flat topography of the park.

**Table 4: Length of existing trails based on trail use**

Trail Use	Length (km)
Multi-Use	15.6
Pedestrian Only	24.5
Total	40.1



**Table 5: Length of existing trails based on trail rating**

Trail Classification <sup>9</sup>	Trail Rating <sup>8</sup>			Total (km)
	Easy	Moderate	Difficult	
Type I	4.0	0.4	0.0	4.4
Type II	10.2	14.8	0.7	25.7
Type III	0.2	9.8	0.0	10.0
Total (km)	14.4	25.0	0.7	40.1

Because of the size of the park and the extensive trail system it is fairly easy for infrequent visitors to get ‘lost’ in nature within the park boundaries. To make the park experience more pleasant and to improve wayfinding for visitors and emergency personnel, a clearly marked system of trails is desirable.

The current hierarchical trail system which separates user groups, will continue to help reduce user conflict and will continue to help protect the ecological integrity of the park’s sensitive natural environment. Closing, upgrading and/or limiting access to various trails may be required to ensure the continued ecological values of the park are maintained. Looped trail systems are preferred and although this may require some alterations to the existing trails to some degree, it is preferable to create as few ‘new’ trails as possible.

### *Access to the Trail System*

The recreational trails are accessed via seventeen park entrance points or trailheads (see Appendix VII for a list of the park entrances and associated amenities). Many of the trailheads are used primarily by local residents.

Formalized vehicular parking is available on Bates Road, Seabank Road, Larch Road, Mitchell Road and Hardy Road. The principle vehicular parking area is located on Bates Road and consequently this area is the main access point for many of the park users. The speed limit on Bates Road, as dictated by MOTI, is 70km/h. Many park visitors find this speed limit within the park boundaries to be too high. Horse trailer parking is currently concentrated at the Mitchell Road access within the Mitchell Road dedication.

Parking can be problematic on weekends and during special events, especially at the Bates Road parking area. As vehicles are the primary mode of transportation used to access the park and finding parking can be problematic at times, improvements to vehicular and horse-trailer parking will need to be considered. These should be coupled with improved active transportation options to offset additional parking impacts and to steer the public towards more sustainable forms of transportation.

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<sup>8</sup> An explanation of trail rating can be found in the trail rating matrix in Appendix VIII.

<sup>9</sup> An explanation of trail type can be found in the trail type matrix in Appendix VIII.





**Figure 23: Bates Road parking area**

Effective September 5, 2017, the Comox Valley Transit System introduced a new transit route that incorporates a stop at Seal Bay Park adjacent to the Bates Road parking area. This service will operate two days a week. It will commence at the Courtenay downtown exchange, run along Ryan and Anderton Roads to Bates Road and through Seal Bay Park and then loop back to the downtown exchange via Coleman, Merville and Headquarters Roads. This new transit service may impact how some visitors access the park.

### **Park Interpretation**

There has been a consistent desire over the years to strengthen the connection of users to the natural environment through various opportunities for nature study within the park. One of the goals of the 1998 Master Plan was to enable formal and informal study of the environment and cultural heritage. This desire to learn about nature and the ecological sensitivities of the park still exists today.

One possible solution to increasing nature study in the park may be through the development of a self-guided walking trail or a park interpretive program that highlights the park's environmental features.



In 2015 CVRD parks undertook an opportunities study to develop interpretive sites in the parks system. The suggestions from that study for Seal Bay Park focused around identifying a couple of loop trails for interpretive walks.

#### 4.4 Cultural Values

The park lies within the traditional territory of the K'ómoks First Nation. Historically, the land was likely used as a place to gather natural resources for use in traditional foods, medicines and manufactures. This likely included the use of monumental cedar, red cedar bark and licorice root. Shell midden sites are present within Seal Bay Park, confirming the use of this land by First Nation peoples.

Although no recorded aboriginal oral histories specifically describe the use of Seal Bay Park, one K'ómoks oral history (Mink/K·ā'iq) likely refers to the Seal Bay area.<sup>10</sup>

In terms of European culture, the old rail grades provide physical evidence of the forestry history of the site. It was this former use of the site that spurred the Comox Strathcona Natural History Society to push for the creation of the park and its protection from further logging practices.

#### 4.5 Social Values

Park users cherish the peaceful and secluded feeling that the park offers. They also appreciate the vistas of the ocean; the ability to access the ocean; the shade and scale of the forest; the diverse range of ecosystems; the ability to socialize with friends and family; and the chance to experience a 'wilderness' environment while still being close to an urban centre. In Seal Bay Park one can still escape the crowds and become immersed in a relatively mature and pristine natural environment.

Many users frequent the park on a regular basis and as such, a strong sense of community ownership and sense of place is evident.

Continued population growth within the valley will result in increased demand for recreational space in the park. Additionally, as Seal Bay Park borders the municipality of Courtenay, potential urbanized expansion along the edge of the park will also create greater demand on the park trail system and park environment.

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<sup>10</sup> Morin, J. 2018. This oral history referencing a place near Little River describes how Mink/K·ā'iq created a big river between himself and his wife – grizzly bear – so she could not reach him. This may reference the deeply incised ravines of Seal Bay Park.





**Figure 24: Don Apps trail**

(photo credit: Mark Harrison)

### **Seal Bay Pups**

A Seal Bay Pups program was held in the fall of 2017 for pre-school children to have a weekly four hour preschool session for a couple of months. The children in the program learned about nature and interacted with the outdoors in all types of weather. This is a good example of the role the park can have in introducing children to nature.

### **Park Amenities**

Other than the trail system and the parking facilities, the park offers outhouses, garbage cans, benches and interpretive signage to augment the visitor experience.

There are currently three outhouses located within Seal Bay Park. One is located at the Bates Road trailhead, one at the Hardy Road trailhead and one close to the Seal Flipper loop trail.

Based on public feedback, there is demand for additional garbage cans, trail maps and washrooms. Any additional amenities must be located to ensure easy access for maintenance crews. As the use of the park increases it will be necessary to regularly review the need for other facilities, particularly at the trailhead locations.



## 4.6 Climate Change

According to the 2014 climate change report developed by the Intergovernmental Panel on Climate Change (IPCC), climate change impacts on natural systems will be widespread. The resulting warming of the Earth's surface will likely contribute to changes in precipitation patterns and hydrological systems, the acidification and warming of the ocean's surface, and increased extreme weather events such as wildfires, heat waves and floods.

According to a technical report done by the BC Ministry of Forests and Range Research Branch in 2008, British Columbia will have larger increases in temperature and precipitation levels than the global average. The report predicts there may be significant impacts to forest ecosystems as a result of warming including increased forest fire frequency and severity, increased species competition and increased disease and insect impacts. Species will further tend to move towards higher elevations and more northerly locales causing a shift in species distribution.

Many ecosystems within Seal Bay Park will be vulnerable to these and other climate change related events. Although potentially decades away, it is likely that as the climate continues to change there will be irreversible impacts to some of the Seal Bay Park ecosystems. Evaluating the vulnerability of Seal Bay Park to climate change impacts and employing adaptive management practices to reduce vulnerability is recommended.

The IPCC identifies approaches for managing the risk of climate change through adaptation. For ecosystem management, approaches identified included: maintaining wetlands, managing watersheds, reducing ecosystem stressors and reducing habitat fragmentation.<sup>11</sup>

Protected areas such as Seal Bay Park play a role in helping to mitigate the impacts of climate change through carbon sequestration, through the provision of forest cover to shade wetlands and moderate water temperatures, and through the provision of habitat for existing and potentially migrating species. Seal Bay Park may help species and ecosystems adapt to some of the negative impacts of climate change.

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<sup>11</sup> IPCC, page 27.



## 4.7 Summary of Values

The natural values, recreational values, cultural values, economic values and social values are summarized in the table below.

**Table 6: Summary of park values**

Natural Values	Economic Values	Recreation Values	Cultural Values	Social Values
Highly threatened Coastal Western Hemlock biogeoclimatic zone (CWHxm1)	Opportunities for outdoor education and outdoor recreation businesses	Multi-use trail system for non-motorized use	Within the traditional territory of the K'ómoks First Nation.	Socializing with family and friends.
Mature second-growth Douglas-fir and mixed forests	Direct and indirect local economy impacts	Wildlife viewing and bird watching	First Nation resource harvesting for traditional foods, medicine and manufactures.	Opportunities to find peaceful and secluded settings
Rare hardhack ( <i>Spirea douglasii</i> ) wetlands	Ecosystem services including carbon sink and water management	On leash dog walking trails	Conservation history of park	Accessible by transit
Marine foreshore and coastal bluffs	Tourism attraction	Nature appreciation	Forestry history (railroad grades)	Strong community connection to place
Confluence of several watersheds	Proximity to urban core	Accessible to a wide range of users		Park improvements are unobtrusive and blend with the natural environment
Capes Creek Ravine and riparian area		Viewsheds		Respect and appreciation for the natural environment
Wildlife habitat (including habitat for species at risk)		Access to ocean foreshore for beachcombing, swimming		Opportunities for educational programming
Part of regional conservation strategy		Photography		



## 5.0 Park Management

### 5.1 Park Vision

The park vision describes the long-term desired future condition for the park. It is a synthesis of the community's values and ideas for the park gathered through the consultation process and drawn for the 1998 park master plan. The Seal Bay Park vision is as follows:

**Seal Bay Nature Park and Seal Bay Forest is envisioned as a place where users can escape into the tranquility of the natural environment. It is a place where stewardship of the land is embraced and opportunities are available to foster an appreciation and understanding of the natural environment.**

**Healthy and functioning natural ecosystems present in the park are protected and preserved. Sensitive ecosystems and wildlife habitat are protected through the implementation of conservation zones that help protect unfragmented and at-risk natural areas.**

**The park is inclusive and accessible to a range of users and encourages healthy lifestyle choices, social interaction and a strong community connection to place. First Nation culture and history are recognized. The trail system is well maintained and supports a variety of experiences within the natural setting. Future park improvements are unobtrusive and blend with the natural environment.**

### 5.1 Management Zones

The use of management zones within Seal Bay Park is intended to inform both management and the public of the appropriate uses and management objectives within defined areas.<sup>12</sup> The use of management zones is supported by the Rural Comox Valley Parks and Greenways Strategic Plan 2011-2030 which supports the establishment of special zones in some of the larger parks.

The three management zones for Seal Bay Park (see map 10) all allow opportunities for recreation coupled with varying degrees of environmental protection. These zones are based roughly on the management zones that were used in the 1998 Master Plan which were derived from the framework employed by BC Parks.

Each zone has an overarching intended land use and corresponding types and levels of development to meet desired degrees of visitor use. Zones are intended to protect environmentally sensitive areas while recognizing historical visitor uses and preferences. The

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<sup>12</sup> Zones within parks serve to identify areas suitable for various uses. Zones in parks are not established by bylaw and are not to be confused with land use zones in the CVRD's land use zoning bylaw.



use of zones is aimed at reducing conflicts between conservation goals and recreation goals, which often requires balancing ecological integrity and meaningful outdoor experiences.

Zones within the designated pedestrian only area of the park, which has the highest visitor use, may have slightly higher human disturbance. The sizes of each of the management zones is summarized in the table below.

**Table 7: Management Zone Sizes<sup>13</sup>**

Management Zone	Size (hectares)	Size (% of parkland)
Conservation	189	28%
Nature Recreation	438	64%
Facility	55	8%
Totals	682	100%

### Conservation Zone

**Intended Land Use:** This zone emphasizes conservation and focuses on the protection and enhancement of natural ecosystems and biodiversity.

This zone includes areas of high ecological value and areas that are highly sensitive to human disturbance (e.g. areas with unsuitable terrain; known at risk wildlife habitat; areas with rare, endangered or fragile vegetation).

Within this zone human activities are controlled and managed so as not to adversely impact the natural environment. Conservation and ecological integrity trump human recreational use. Visitor use within this zone is likely limited to nature and wildlife observation through the use of viewpoints and low impact trails. Dogs and pets would not be permitted within this zone. Natural systems impacted by human use should be restored where feasible.

Trails occurring within this zone would typically be classified as type III<sup>14</sup> and be for pedestrian use only with fixed gates as required to control access. Trails will have no facilities other than discreet signage and shall be developed to minimize ecological impacts. Where necessary, existing trails are to be relocated outside the zone over time.

The land parcel previously designated to become an ecological map reserve is located within this zone, as is the lower section of Capes Creek. Sections of at-risk ecosystems, including the environmentally sensitive hardhack/Sitka sedge wetland ecosystem, the trembling Aspen/Pacific crab apple/slough sedge ecosystem, the black cottonwood – red alder/salmonberry ecosystem, the Douglas fir/sword fern ecosystem and the Douglas fir/western hemlock/salal ecosystem are captured within this zone.

The strong north-south alignment of the large conservation zone patches aligns with the upland wildlife corridor strategy as identified in the Recreation Inventory and Conservation Values Map in the Rural Comox Valley Parks and Greenways Strategic Plan (2011).

<sup>13</sup> Table area calculations include the 49 ha provincial land parcel not included in the Licence of Occupation for Seal Bay Forest. Area calculations do not exactly match legal area calculations because calculations were based on a composite of different data sets that were developed from different methods and dates.

<sup>14</sup> Trail type classification matrix can be found in Appendix VIII.



## Nature Recreation Zone

Intended Land Use: This zone allows for low impact, passive, non-motorized recreation within a mostly unmodified natural environment. This is a low intensity recreation zone which can tolerate some use and may act as a buffer between Facility Zones and Conservation Zones.

Within this zone some impacts to the environment may occur but natural processes shall be minimally affected and activities should be aligned with conservation. Visitor use within this zone may include low impact trails, educational and interpretive nature programming, as well as dog-walking and fully accessible trails where appropriate.

Trails within this zone will generally classified as either type II or III. Trails may be multi-use. Fixed gates and signage to control access may be used as required. Limited trail and park amenity development such as small bridges, benches and boardwalks are provided as required. Seasonal trail closures are possible.

## Facility Zone

Intended Land Use: This zone allows for the development of a variety of visitor service amenities and can withstand heavier recreational use.

Within this zone the environment may be modified but will still retain a naturalized appearance. The natural environment within this zone shall generally have well drained soils and low slope gradients. This zone will accommodate the largest visitor use and will include the majority of the park infrastructure which may include nature-focused play and skill facilities, parking areas, washrooms and interpretive nature programming. This zone would include infrastructure such as the dam on Capes Creek.

Trails within this zone may be classified as type I, II or III and will likely be multi-use with fixed gates to restrict vehicle access as required. Some of the multi-use trails may be designated to serve as maintenance access points into the park for vehicles and emergency services. Management emphasis within this zone will be on sustaining the natural environment and preventing conflicts between users.

## Appropriate Uses

The following table provides a list of activities that may be appropriate within each of the management zones. This table is not intended to be comprehensive. Other uses within each zone may be considered in the future if they are deemed to meet the objectives and the spirit of the management plan.

It is important to note that this table is meant to act as a simplified overview. Appropriate levels of use, type of use and potential restrictions on use shall be guided by the objectives of the management plan.



**Table 8: Activities appropriate for management zones**

Activity	Management Zone		
	Conservation	Nature Recreation	Facility
Nature observation	Yes	Yes	Yes
Nature-based research	Yes	Yes	Yes
Hiking	Yes <sup>15</sup>	Yes	Yes
Jogging	No	Yes	Yes
Cycling	No	Yes	Yes
Horse-back riding	No	Yes	Yes
Dogs off leash	No	Yes <sup>16</sup>	No
Dogs on leash	No	Yes	Yes
Self-guided interpretation	No	Yes	Yes
Disc Golf	No	No	Yes
Geocaching	No	No	Yes
Play facility	No	No	Yes
Skills facility	No	No	Yes

## 5.2 Trail Concept Plan

The extensive trail system in Seal Bay Park is the most valued recreational asset in the park. The trail concept plan (see map 11) will help guide future trail management decisions, ensuring a quality visitor experience that seeks to minimize user conflicts and minimize impacts to the natural environment.

The trail concept plan includes the trail network as well as future facility development opportunities. It seeks to provide solutions to present and future trails needs as well as address gaps within the current trail system all while seeking to meet conservation objectives (site analysis can be found in Appendix IX). The trail concept plan is aligned to the park vision and management zones strategy.

Key elements of the trail concept plan include:

- Largely leave the park as-is
- Development of three principle parking areas to help disperse users
- Re-alignment of the large multi-use loop trail away from Bates Road
- Development of wheelchair accessible loop trails to embrace inclusivity
- Development of a small nature-based facility at a Melda's Marsh
- Closure of a few trails to enable the creation of large pockets of conservation
- Re-classification of a few pedestrian-only trails to multi-use
- Maintaining pedestrian-only and dogs-on-leash areas within the park

Under the plan, total kilometres of trail within the park would shift from 40.1 km to 39.6 km. The breakdown of the proposed trail system versus the existing system based on trail use can be found in table 9 below. The figures presented includes the closure of 3.7 km of trail for

<sup>15</sup> Pedestrian access would be limited.

<sup>16</sup> There may be seasonal restrictions on off-leash dog use.



largely conservation purposes, and the creation of 3.2 km of new trails which includes the re-alignment of the horse-bike loop trail off of Bates Road.

**Table 9: Comparison of proposed trail system to existing trail system**

Trail Use	Existing (km)	Proposed (km)
Multi-Use	15.6	18.2
Pedestrian Only	24.5	20.3 *
Bike and Pedestrian Only	0.0	1.1
Total	40.1	39.6



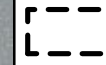


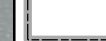
\*This includes 3.7 km of fully accessible trail.

Future trail initiatives beyond the scope of this management plan will be considered based on consideration of criteria including: environmental impacts, alignment with management vision, cost, stakeholder input, stakeholder authorization when required, volume of use, opportunities through future adjacent development, and other possible inputs/solutions.






## Seal Bay Park Management Plan

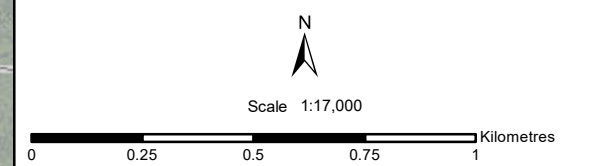
### Legend

-  Ditch
-  Stream
-  Wetland
-  Provincial Crown Land\*  
(not included in the park license)
-  Seal Bay Regional Nature Park
-  Seal Bay Forest
-  Administrative Boundary

### Management Zones

-  Conservation Zone
-  Facility Zone
-  Nature Recreation Zone

\* Note: This land parcel was originally set aside by the province for conservation purposes.



## Map 10 Management Zones




















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## Seal Bay Park Management Plan

### Legend

-  Ditch
-  Stream
-  Contour Line
-  Wetland
-  Road
-  Seal Bay Park
-  Administrative Boundary
-  Future Parking Area
-  Principle Parking Area To Remain
-  Park Entrance
-  Multi-Use Trail
-  Multi-Use Trail - New
-  Pedestrian Only
-  Pedestrian Only - New
-  Accessible Trail (no bikes/horses)
-  Bike and Pedestrian Only
-  New Commuter Path
-  Trail To Be Closed
-  New Small Scale Facility Area



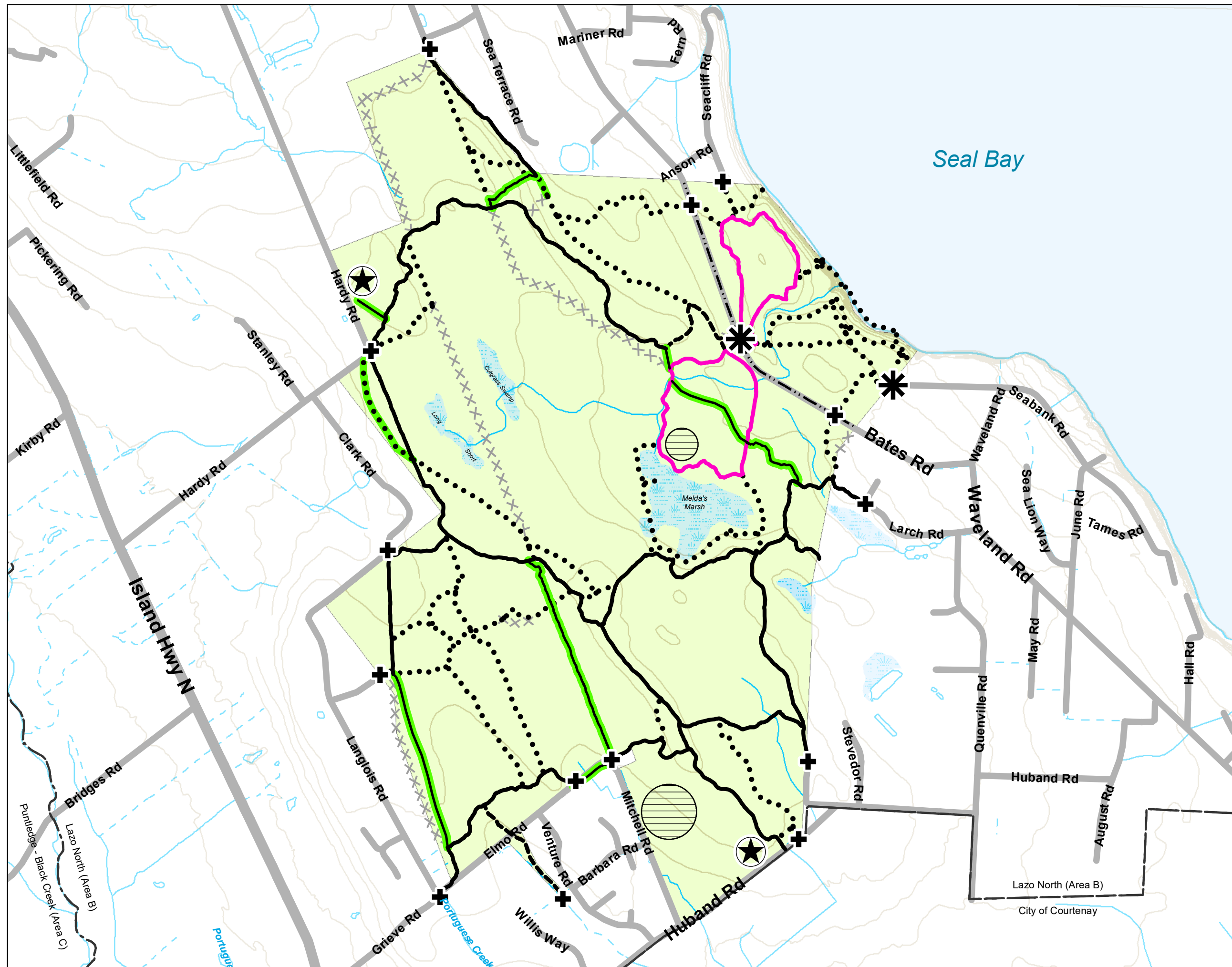
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## Map 11 Trail Concept Plan

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## 5.3 Management Themes, Goals and Actions

To achieve the stated park vision, a set of management themes, goals and action items have been identified to guide the management plan. The management themes and associated goals are summarized below:

### Theme 1: Environmental Stewardship

Seal Bay Park has historically been a special place for the Comox Valley community because of its ecological diversity and relatively intact natural environment. The protection and preservation of the park has consistently been supported and advocated for by the community for the benefit of present and future generations. Management direction for the park therefore must ensure that the protection, preservation, and enhancement of the natural environment is at the forefront of park planning and park operation efforts.

- Goal 1. Protect the park's rare and sensitive ecological communities
- Goal 2. Manage the park's natural assets with a focus on the preservation of natural ecosystems

### Theme 2: Visitor Experience

Seal Bay Park is set in a beautiful natural environment. Users feel a deep connection to the natural elements of the park and generally want the opportunity to learn more about natural system processes, the flora, and the wildlife that call the park home.



**Figure 25: Trillium**

The natural assets of the park help define the park's human experience. The scale of the park and the vast system of trails enables users to get "lost" in the quasi-wilderness experience that the park offers.

Results from the public surveys indicate that many of the park users are completely satisfied with the park in its current state and felt that no park improvements were necessary. This speaks to the public's desire to keep the park in a natural state. Of the responses for desired park improvements, better signage was consistently mentioned as were ways to improve the functionality of the trail network.

Additional park infrastructure may be required in the future as park visits increase. These improvements should meet the intent of providing a nature-based park experience.

- Goal 3. Maintain the park's current sense of place
- Goal 4. Provide educational opportunities to learn about the park's diverse natural environment
- Goal 5. Recognize and protect cultural values within the park
- Goal 6. Improve wayfinding in the park
- Goal 7. Improve the connectivity of the park with the surrounding community
- Goal 8. Provide sufficient visitor services amenities to meet users' needs



### Theme 3: Sustainable Trail Network

Most of the formalized trails within Seal Bay Park make use of old logging grades or trails established in the 1970's by local residents affiliated with the Comox-Strathcona Natural History Society. This extensive trail system allows users to enter into most areas of the park.



**Figure 26: Happy Face trail**

Current uses of the trail system include hiking, dog walking, jogging, cycling and horse-back riding. Some of these activities have larger impacts on the natural environment than others. The result has been some trail degradation on trails located within environmentally sensitive areas.

The multi-use trail system has created some user conflicts. Concerns revolve around dogs off leash, users on non-designated trails and the impacts that horses and cyclists have on the trails. A well designed and hierarchical network of trails maintained to best

management practices will alleviate some of these concerns.

- Goal 9. Provide a trail network that is environmentally sustainable and supports low impact recreation activities
- Goal 10. Ensure the trail system is inclusive for a range of users

### Theme 4: Partnerships and Collaboration

The ongoing management of Seal Bay Park will continue to be done in a collaborative manner. The knowledge and expertise of local partners, community members and the K'ómoks First Nation will help to ensure that the many facets of the park experience are maintained and enhanced.

- Goal 11. Work with government agencies, local municipalities, stakeholders and the K'ómoks First Nation to protect and enhance the park's natural, social, cultural and recreational values
- Goal 12. Be responsive to community needs by working with the local community to facilitate conservation, restoration and recreation goals within the park

### Theme 5: Public Safety

The safety of the public will continue to be a priority. Improved public safety is possible through collaborative efforts with other government agencies and local partners.

Once released, the Community Wildfire Protection Plan will provide a high-level assessment of the wildfire risk in Seal Bay Park.

- Goal 13. Ensure public safety within the park
- Goal 14. Coordinate emergency response planning



## Management Plan Goals and Actions

The actions as listed below are meant to protect the natural, social, cultural and recreational values that are important to Seal Bay Park's sense of place.

### *Theme 1: Environmental Stewardship*

#### **Goal 1. Protect the park's rare and sensitive ecological communities**

Draft Actions:

- 1.1. Implement the park management zones strategy.
- 1.2. Inventory and map the park's rare and sensitive ecological communities as well as species and ecosystems at risk.
- 1.3. Ensure continued protection of the wetland ecosystems and biodiversity present in the Map Reserve.
- 1.4. Implement the permanent closure of the northern section of the Mitchell Grade trail.
- 1.5. Implement the permanent closure of the southern section of the Twinflower Lane trail.



**Figure 27: Melda's Marsh**

#### **Goal 2. Manage the park's natural assets with a focus on the preservation of natural ecosystems**

Draft Actions:

- 2.1. Minimize ecological fragmentation through closure of unmarked or unsanctioned trails.
- 2.2. Preserve wetland habitat for waterfowl, birds, and aquatic wildlife including Melda's Marsh, Cutgrass Swamp, Long Swamp and Short Swamp.
- 2.3. Preserve forage and denning opportunities for wildlife.



- 2.4. Continue to ban salal and other plant harvesting within the park. This would not affect First Nation traditional harvesting rights.
- 2.5. Identify invasive species within the park and administer a program for removal. Emphasis shall be on the most sensitive ecological areas.
- 2.6. Consider removal of the abandoned vehicle located near the old gravel pit or use as interpretive opportunity for gravel pit history.
- 2.7. Continue to leave fallen logs within the park to naturally decompose.
- 2.8. Complete biophysical inventories as required to ensure effective park management.
- 2.9. Initiate further research on the hydrological systems that exist within the park to help better inform park planning initiatives. This includes evaluating the environmental impacts of the Melda's Marsh dam on natural system processes.
- 2.10. Evaluate the vulnerability of the park to climate change and develop an adaptive strategy to address potential future impacts.

### *Theme 2: Visitor Experience*

#### **Goal 3. Maintain the park's current sense of place**

##### Draft Actions:

- 3.1. Maintain the natural 'wilderness' character of the park.
- 3.2. Continue to provide non-consumptive, non-motorized, and nature-focused recreation opportunities.
- 3.3. Ensure future park improvements respect the community's desire to experience nature in a quiet, peaceful setting.
- 3.4. Ensure future park improvements are aesthetically pleasing, unobtrusive and blend with the natural environment.

#### **Goal 4. Provide educational opportunities to learn about the park's diverse natural environment**

##### Draft Actions:

- 4.1. Provide opportunities for self-guided natural history interpretive programming including opportunities to identify flora and fauna and natural system processes.
- 4.2. Develop a program to provide seasonal guided nature education walks in the park.
- 4.3. Include information on the park's ecology in park brochures and interpretive materials.
- 4.4. Educate users about the impacts on the park's natural resources from use of unmarked trails through discreet signage and interpretive materials.





**Figure 28: Ravine**

### **Goal 5. Recognize and protect cultural values within the park**

Draft Actions (to be adjusted as per intent/needs of K'ómoks First Nation):

- 5.1. Work with the K'ómoks First Nation to inventory cultural values and ensure protection of these values into the future.
- 5.2. Identify First Nation place names and work in collaboration with the K'ómoks First Nation on signage policy within the park.
- 5.3. Ensure K'ómoks First Nation reviews and approves all cultural references on interpretive materials and park signage prior to installation or distribution.
- 5.4. Identify the European historic use of the area and the disruption to the old growth ecosystem.

### **Goal 6. Improve wayfinding in the park**

Draft Actions:

- 6.1. Develop a clear and simple signage plan for the park. This will help visitor wayfinding and emergency response.
- 6.2. Remove all non-conforming signage with the possible exception of signage of historical or cultural significance.
- 6.3. Install park trail maps at key trail intersections and replace old trail maps to ensure consistent messaging.
- 6.4. Continue to provide park brochures with trail maps at the parking areas.
- 6.5. Provide information to download digital map apps.



## **Goal 7. Improve the connectivity of the park with the surrounding community**

### **Draft Actions:**

- 7.1. Explore the feasibility of developing a bike commuter path through the park adjacent to Bates Road.
- 7.2. Maintain the current park entrance connections.
- 7.3. Explore future active transportation connection opportunities between adjacent neighbourhoods and the park. This may include a greenway within the Waveland Road right-of-way and connections to the City of Courtenay's greenways system, the Little River ferry terminal and Little River community, the Department of National Defense, the community surrounding the North Island Distance Education School and the Bates Beach community.
- 7.4. Continue to support a BC Transit stop at the Bates Road parking area.

## **Goal 8. Provide sufficient visitor services amenities to meet park users' needs**

### **Draft Actions:**

- 8.1. Monitor park use and explore options for additional or improved park amenities (such as washrooms and garbage cans) at key locations in the park.
- 8.2. Develop a detailed site plan for the Bates Road parking area. This should consider vehicular and pedestrian circulation, parking, accessibility and provision of visitor service amenities.
- 8.3. Develop a detailed site plan for a new Hardy Road parking area located north of the current location in a cleared area formerly used as a provincial gravel pit. This should consider vehicular and pedestrian circulation, parking and provision of visitor services amenities.
- 8.4. Develop a detailed site plan for a new Huband Road parking area. This should consider vehicular and pedestrian circulation, parking, visitor service amenities, and opportunities for nature-based recreation in forested areas.
- 8.5. Ensure vehicular parking is sufficient to meet the needs of day users.
- 8.6. Monitor horse trailer parking and consider the development of additional parking if appropriate.
- 8.7. Develop a site plan for the dam area of Melda's Marsh. This should consider the construction of a viewing area overlooking the marsh, a small nature discovery shelter and a washroom facility.

## ***Theme 3: Sustainable Trail Network***

## **Goal 9. Provide a trail network that is environmentally sustainable and supports non-motorized recreation activities**

### **Draft Actions:**

- 9.1. Ensure trail construction, repair and maintenance is done as per current best management practices and that trails are built to withstand designated uses.
- 9.2. Focus on maintaining the existing trail network rather than creating new trails.
- 9.3. Base trail maintenance budgets on trail type classification. Fully accessible and higher classified trails are to receive more maintenance funding.



- 9.4. Continue to keep motorized vehicles off the trail network with the exception of motorized wheelchairs, ebikes or scooters used by individuals with mobility challenges. Service and emergency response vehicles are to be allowed on designated trails.
- 9.5. Continue to restrict equestrian and bike use to multi-use paths.
- 9.6. Continue to maintain the three principle beach accesses while recognizing limits pertaining to topography and cost. Restrict additional access points to the beach.
- 9.7. Work with the Backcountry Horsemen and adjacent landowners to re-align the Horse-Bike loop trail adjacent to the Langlois Road properties.
- 9.8. Continue to use permeable trail surfacing to minimize ecological impacts.
- 9.9. Construct a short section of trail near Elmo Road to connect the multi-use trail system within the park boundary.
- 9.10. Consider the construction of a pedestrian only trail near the Hardy Road entrance to help disperse park users.
- 9.11. Re-route a portion of the Horse-Bike Loop trail near Happy Face trail that is steep and eroded. Close the eroded section of trail.

**Goal 10. Ensure the trail system is accessible for a range of users**

**Draft Actions:**

- 10.1. Trail use conflicts and trail impacts to be monitored. Persistent conflicts or maintenance issues may be addressed through separation or restriction of users as required.
- 10.2. Monitor unauthorized trail use and enforce as required.
- 10.3. Develop the Coupland Loop trail into an accessible trail. Trail should strive to offer viewpoints towards the ravines and ocean while offering access to a variety of natural features. Limits pertaining to topography, cost and environmentally sensitive areas shall be recognized.
- 10.4. Develop the Swamp Loop trail into an accessible trail. Trail should strive to offer access to Melda's Marsh and other prominent natural features while recognizing limits pertaining to topography, cost and environmentally sensitive areas.
- 10.5. Maintain current off-leash dog rules and monitor restrictions. Educate users as to why the restrictions are in place and enforce as required.
- 10.6. Implement the trail concept plan.





**Figure 29: Dog on leash**

*Theme 4: Partnerships and Collaboration*

**Goal 11. Work with government agencies, local municipalities, stakeholders and the K'ómoks First Nation to protect and enhance the park's natural, social, cultural and recreational values**

**Draft Actions:**

- 11.1. Engage with MOTI to purchase or permanently close unopened road dedications which are adjacent to or wholly enclosed within the Seal Bay Nature Park and Seal Bay Forest boundaries.
- 11.2. Work with MOTI to ensure all park infrastructure located within MOTI jurisdiction has the proper permits in place.
- 11.3. Continue to work with FLNRO to acquire Seal Bay Forest to ensure protection of the forest in perpetuity.
- 11.4. Continue to work with FLNRO in accordance with the lease requirements for Seal Bay Forest.
- 11.5. Continue to strengthen the working relationship with K'ómoks First Nation.
- 11.6. Work with neighbours who have active agricultural operations to maintain and prevent land use conflict with adjacent ALR land.
- 11.7. Work with the City of Courtenay to ensure future development adjacent to the park is compatible with park objectives of environmental stewardship and connectivity.
- 11.8. Work with FNLRO to establish management direction for the land parcel within Seal Bay Forest previously set aside for the Map Reserve.



**Goal 12. Be responsive to community needs by working with the local community to facilitate conservation, restoration and recreation goals within the park**

Draft Actions:

- 12.1. Continue to work with the local community on new initiatives or significant park changes.
- 12.2. Continue to collaborate with local volunteer groups to deliver general maintenance within the park.
- 12.3. Continue to work with the Comox Valley Naturalists Society on park stewardship objectives.
- 12.4. Continue to partner with the Backcountry Horsemen on horse trail development and horse trail maintenance projects within the park.
- 12.5. Continue to support special events in the park that are compatible with the uses of the park. Special events would continue to require a permit issued by the CVRD parks department.
- 12.6. Work with the equestrian community to find a solution to the issue of horse manure within the park.

*Theme 5: Public Safety*

**Goal 13. Ensure public safety within the park**

Draft Actions:

- 13.1. Engage with MOTI to explore ways to increase public safety on the section of Bates Road that passes through the park. This may be accomplished through vehicular speed reduction, traffic-calming measures, installation of signage, fewer crossing points or installation of crosswalks.
- 13.2. Re-align the horse-bike loop trail off Bates Road to better meet public safety concerns.
- 13.3. Continue to monitor the condition of the trails and park infrastructure on a regular basis to ensure they are safe for public use.
- 13.4. Provide public safety signage and notices as required.
- 13.5. Continue to work with adjacent landowners on public safety concerns, notably hazardous trees and wildfire risk.
- 13.6. Continue to impose a 'no smoking' policy within the park during extreme dry weather.
- 13.7. Work towards gradual replacement of existing hard-plastic drainage piping with hdpe piping.

**Goal 14. Coordinate emergency response planning**

Draft Actions:

- 14.1. Work towards implementing the high level wildfire risk recommendations for the park which are currently being developed as part of the Community Wildfire Protection Plan.
- 14.2. Work with the North Island Mid Coast Fire Centre to identify specific areas of wildfire risk vulnerabilities in the park.



- 14.3. Work with the North Island Mid Coast Fire Centre, local fire chiefs and emergency first responders to develop emergency response guidelines and emergency wayfinding signage for the park.
- 14.4. Work with North Island Mid Coast Fire Centre, emergency first responders, and the local Search and Rescue organization to ensure adequate access to the park is maintained to meet emergency response needs while not negatively impacting the park's sense of place. This may include vehicular and ATV access to strategic locations, and access to gate keys.



## 6.0 Plan Implementation

### 6.1 Implementation Plan

The implementation of the management plan has been envisioned to occur over a 20 year time period. The actual implementation of the action strategies listed within the management plan will be highly dependent on available resources, funding and partnership opportunities.

### 6.2 Priority Action Plan

The following tables group the action items into prioritized timeframes.

#### Ongoing and Awareness Priorities

Theme: Environmental Stewardship	
Item	Action Description
2.2	Preserve wetland habitat for waterfowl, birds, and aquatic wildlife including Melda's Marsh, Cutgrass Swamp, Long Swamp and Short Swamp.
2.3	Preserve forage and denning opportunities for wildlife.
2.4	Continue to ban salal and other plant harvesting within the park. This would not affect First Nation traditional harvesting rights.
2.7	Continue to leave fallen logs within the park to naturally decompose.
2.8	Complete biophysical inventories as required to ensure effective park management.
Theme: Visitor Experience	
Item	Action Description
3.1	Maintain the natural 'wilderness' character of the park.
3.2	Continue to provide non-consumptive, non-motorized, and nature-focused recreation opportunities.
3.3	Ensure future park improvements respect the community's desire to experience nature in a quiet, peaceful setting.
3.4	Ensure future park improvements are aesthetically pleasing, unobtrusive and blend with the natural environment.
4.3	Include information on the park's ecology in park brochures and interpretive materials.
5.3	Ensure KFN reviews and approves all cultural references on interpretive materials and park signage prior to installation or distribution.
6.4	Continue to provide park brochures with trail maps at the parking areas.
7.2	Maintain the current park entrance connections.
7.4	Continue to support a BC Transit stop at the Bates Road parking area.
8.1	Monitor park use and explore options for additional or improved park amenities (such as washrooms and garbage cans) at key locations in the park.
8.5	Ensure vehicular parking is sufficient to meet the needs of day users.
8.6	Monitor horse trailer parking and consider the development of additional parking if appropriate.
Theme: Sustainable Trail Network	
Item	Action Description



9.1	Ensure trail construction, repair and maintenance is done as per current best management practices and that trails are built to withstand designated uses.
9.2	Focus on maintaining the existing trail network rather than creating new trails.
9.3	Base trail maintenance budgets on trail type classification. Fully accessible and higher classified trails are to receive more maintenance funding.
9.4	Continue to keep motorized vehicles off the trail network with the exception of motorized wheelchairs, ebikes or scooters used by individuals with mobility challenges. Service and emergency response vehicles are to be allowed on designated trails.
9.5	Continue to restrict equestrian and bike use to multi-use paths.
9.6	Continue to maintain the three principle beach accesses while recognizing limits pertaining to topography and cost. Restrict additional access points to the beach.
9.8	Continue to use permeable trail surfacing to minimize ecological impacts.
10.1	Trail use conflicts and trail impacts to be monitored. Persistent conflicts or maintenance issues may be addressed through separation or restriction of users as required.
10.2	Monitor unauthorized trail use and enforce as required.
10.5	Maintain current off-leash dog rules and monitor restrictions. Educate users as to why the restrictions are in place and enforce as required.
<b>Theme: Partnerships and Collaboration</b>	
<b>Item</b>	<b>Action Description</b>
11.4	Continue to work with FLNRO in accordance with the lease requirements for Seal Bay Forest.
11.5	Continue to strengthen the working relationship with K'ómoks First Nation.
11.6	Work with neighbours who have active agricultural operations to maintain and prevent land use conflict with adjacent ALR land.
12.1	Continue to work with the local community on new initiatives or significant park changes.
12.2	Continue to collaborate with local volunteer groups to deliver general maintenance within the park.
12.3	Continue to work with the Comox Valley Naturalists Society on park stewardship objectives.
12.4	Continue to partner with the Backcountry Horsemen on horse trail development and horse trail maintenance projects within the park.
12.5	Continue to support special events in the park that are compatible with the uses of the park. Special events would continue to require a permit issued by the CVRD parks department.
<b>Theme: Public Safety</b>	
<b>Item</b>	<b>Action Description</b>
13.3	Continue to monitor the condition of the trails and park infrastructure on a regular basis to ensure they are safe for public use.
13.4	Provide public safety signage and notices as required.
13.5	Continue to work with adjacent landowners on public safety concerns, notably hazardous trees and wildfire risk.
13.6	Continue to impose a 'no smoking' policy within the park during extreme dry weather.
13.7	Work towards gradual replacement of existing hard-plastic drainage piping with hdpe piping.
14.4	Work with North Island Mid Coast Fire Centre, emergency first responders, and the local Search and Rescue organization to ensure adequate access to the park is maintained to meet emergency response needs while not negatively impacting the park's sense of place. This may include vehicular and ATV access to strategic locations, and access to gate keys.



## Short Term Priorities (2019 – 2020)

Theme: Environmental Stewardship	
Item	Action Description
1.1	Implement the park management zones strategy.
1.3	Ensure continued protection of the wetland ecosystems and biodiversity present in the Map Reserve.
1.4	Implement the permanent closure of the northern section of the Mitchell Grade trail.
2.1	Minimize ecological fragmentation through closure of unmarked or unsanctioned trails.
Theme: Visitor Experience	
Item	Action Description
4.2	Develop a program to provide seasonal guided nature education walks in the park.
4.4	Educate users about the impacts on the park's natural resources from use of unmarked trails through discreet signage and interpretive materials.
5.1	Work with the K'ómoks First Nation to inventory cultural values and ensure protection of these values into the future.
5.2	Identify First Nation place names and work in collaboration with the K'ómoks First Nation on signage policy within the park.
6.1	Develop a clear and simple signage plan for the park. This will help visitor wayfinding and emergency response.
6.2	Remove all non-conforming signage with the possible exception of signage of historical or cultural significance.
6.3	Install park trail maps at key trail intersections and replace old trail maps to ensure consistent messaging.
6.5	Provide information to download digital map apps.
8.3	Develop a detailed site plan for a new Hardy Road parking area located north of the current location in a cleared area formerly used as a provincial gravel pit. This should consider vehicular and pedestrian circulation, parking and provision of visitor services amenities.
Theme: Sustainable Trail Network	
Item	Action Description
9.11	Re-route a portion of the Horse-Bike Loop trail near Happy Face trail that is steep and eroded. Close the eroded section of trail.
10.6	Implement the trail concept plan.
Theme: Partnerships and Collaboration	
Item	Action Description
11.1	Engage with MOTI to purchase or permanently close unopened road dedications which are adjacent to or wholly enclosed within the Seal Bay Nature Park and Seal Bay Forest boundaries.
11.2	Work with MOTI to ensure all park infrastructure located within MOTI jurisdiction has the proper permits in place.
11.8	Work with FNLRO to establish management direction for the land parcel within Seal Bay Forest previously set aside for the Map Reserve.
12.6	Work with the equestrian community to find a solution to the issue of horse manure within the park.
Theme: Public Safety	
Item	Action Description
13.1	Engage with MOTI to explore ways to increase public safety on the section of Bates Road that passes through the park. This may be accomplished through vehicular speed reduction, traffic-calming measures, installation of signage, fewer crossing points or installation of crosswalks.



13.2	Re-align the horse-bike loop trail off Bates Road to better meet public safety concerns.
14.3	Work with the North Island Mid Coast Fire Centre, local fire chiefs and emergency first responders to develop emergency response guidelines and emergency wayfinding signage for the park.

### Medium Term Priorities (2021 – 2025)

Theme: Environmental Stewardship	
Item	Action Description
1.5	Implement the permanent closure of the southern section of the Twinflower Lane trail.
2.5	Identify invasive species within the park and administer a program for removal. Emphasis shall be on the most sensitive ecological areas.
Theme: Visitor Experience	
Item	Action Description
4.1	Provide opportunities for self-guided natural history interpretive programming including opportunities to identify flora and fauna and natural system processes.
5.4	Identify the European historic use of the area and the disruption to the old growth ecosystem.
8.2	Develop a detailed site plan for the Bates Road parking area. This should consider vehicular and pedestrian circulation, parking, accessibility and provision of visitor service amenities.
Theme: Sustainable Trail Network	
Item	Action Description
9.7	Work with the Backcountry Horsemen and adjacent landowners to re-align the Horse-Bike loop trail adjacent to the Langlois Road properties.
9.9	Construct a short section of trail near Elmo Road to connect the multi-use trail system within the park boundary.
10.3	Develop the Coupland Loop trail into an accessible trail. Trail should strive to offer viewpoints towards the ravines and ocean while offering access to a variety of natural features. Limits pertaining to topography, cost and environmentally sensitive areas shall be recognized.
Theme: Partnerships and Collaboration	
Item	Action Description
	No medium term partnership priorities
Theme: Public Safety	
Item	Action Description
14.1	Work towards implementing the high level wildfire risk recommendations for the park which are currently being developed as part of the Community Wildfire Protection Plan (CWPP).
14.2	Work with the North Island Mid Coast Fire Centre to identify specific areas of wildfire risk vulnerabilities in the park.

### Long Term Priorities (2026 – 2038)

Theme: Environmental Stewardship	
Item	Action Description
1.2	Inventory and map the park's rare and sensitive ecological communities as well as species and ecosystems at risk.



2.6	Consider removal of the abandoned vehicle located near the old gravel pit or use as interpretive opportunity for gravel pit history.
2.9	Initiate further research on the hydrological systems that exist within the park to help better inform park planning initiatives. This includes evaluating the environmental impacts of the Melda's Marsh dam on natural system processes.
2.10	Evaluate the vulnerability of the park to climate change and develop an adaptive strategy to address potential future impacts.
<b>Theme: Visitor Experience</b>	
<b>Item</b>	<b>Action Description</b>
7.1	Explore the feasibility of developing a bike commuter path through the park adjacent to Bates Road.
7.3	Explore future active transportation connection opportunities between adjacent neighbourhoods and the park. This may include a greenway within the Waveland Road right-of-way and connections to the City of Courtenay's greenways system, the Little River ferry terminal and Little River community, the Department of National Defense, the community surrounding the North Island Distance Education School and the Bates Beach community.
8.4	Develop a detailed site plan for a new Huband Road parking area. This should consider vehicular and pedestrian circulation, parking, visitor service amenities, and opportunities for nature-based recreation in forested areas.
8.7	Develop a site plan for the dam area of Melda's Marsh. This should consider the construction of a viewing area overlooking the marsh, a small nature discovery shelter and a washroom facility.
<b>Theme: Sustainable Trail Network</b>	
<b>Item</b>	<b>Action Description</b>
9.10	Consider the construction of a pedestrian only trail near the Hardy Road entrance to help disperse park users.
10.4	Develop the Swamp Loop trail into an accessible trail. Trail should strive to offer access to Melda's Marsh and other prominent natural features while recognizing limits pertaining to topography, cost and environmentally sensitive areas.
<b>Theme: Partnerships and Collaboration</b>	
<b>Item</b>	<b>Action Description</b>
11.3	Continue to work with FLNRO to acquire Seal Bay Forest to ensure protection of the forest in perpetuity.
11.7	Work with the City of Courtenay to ensure future development adjacent to the park is compatible with park objectives of environmental stewardship and connectivity.
<b>Theme: Public Safety</b>	
<b>Item</b>	<b>Action Description</b>
No long term public safety priorities	

### 6.3 Plan Monitoring and Review

In order for this plan to remain current and aligned to the document's vision statement, the CVRD has planned to revisit this management on a regular basis. This regular internal review, performed by CVRD parks staff, will enable small revisions to the management plan to occur.

The plan will also be re-visited to assess potential impacts to the management plan once treaty negotiations with K'ómoks First Nation has been completed and when development of the City of Courtenay lands adjacent to the park to the south occur.



A full management plan rewrite, involving a complete public review process, is planned to occur in approximately 20 years depending on social and environmental changes.

## 6.4 Funding the Implementation of the Plan

The parks budget for Seal Bay Park is reviewed annually and adjusted to meet current and future needs. Funding for park maintenance and park operations comes from tax requisitions for parks services from rural residents in the Comox Valley. For larger capital projects, the CVRD may be able to raise funds through community works or relevant grant programs.

Projected costs to fund the management plan based on the short, medium and long term action items are shown in the table below. These figures are high-level planning numbers based on 2018 dollar amounts. They do not include anticipated year-to-year project costing increases.

These costs are above and beyond the operating budget which is currently at \$40,000/year. As new facilities are developed and trails are upgraded these costs are expected to rise.

**Table 10: Projected costs to fund the action plan**

Term	Projected Cost - Action Items
Short Term (2019 – 2020)	\$320,000 to \$380,000
Medium Term (2021 – 2025)	\$330,000 to \$350,000
Long Term (2026 – 2038)	Approximately \$1,000,000

An itemized analysis of the budget is available in Appendix X.



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## 8.0 Glossary of Terms

<b>Adaptive Management</b>	Integrating learning into the planning process to allow for continual improvements to management policies and practices.
<b>Agricultural Land Commission</b>	The Agricultural Land Commission is an independent administrative tribunal that administers the <i>Agricultural Land Commission Act</i> .
<b>Agricultural Land Reserve</b>	Provincial zoning that prioritizes agricultural use and restricts non-agricultural uses.
<b><i>Agricultural Land Commission Act</i></b>	The <i>Agricultural Land Act</i> provides the legal framework for the establishment and administration of the agricultural land preservation program.
<b>Biodiversity</b>	The variety of plant and animal life that exists in an environment.
<b>Biogeoclimatic Zone</b>	A geographical area with relatively uniform climate. The biogeoclimatic zones of British Columbia are classified using a combination of soil, vegetation and climate data.
<b>BC Provincial Species at Risk List</b>	List of species considered to be extinct, extirpated, endangered or threatened (Red List), special concern (Blue List) or not at risk (Yellow List) in B.C.
<b>COSEWIC</b>	Committee on the Status of Endangered Wildlife in Canada.
<b>Ecological Integrity</b>	An ecosystem is considered to have ecological integrity when the condition of the ecosystem is unimpaired by stresses caused by human activity and the ecosystems natural components and processes remain intact.
<b>Ecological Map Reserve</b>	A provincial mapping notation used to protect biodiversity and preserve unique, rare or representative ecosystems through the <i>Ecological Reserve Act</i> .
<b>Ecosystem</b>	A complete system of living organisms interacting with the soil, land, water, and nutrients that make up their environment. An ecosystem is the home of living things, including humans. An ecosystem can be any size - a log, pond, field, forest, or the earth's biosphere - but it always functions as a whole unit. Ecosystems are commonly described according to the major type of vegetation - for example, old-growth forest or grassland ecosystem.
<b>Foreshore</b>	The area between the low water level and the natural boundary.
<b>Fragmentation</b>	Loss of ecological connections through natural and human-caused disturbances.
<b>Habitat</b>	The area or natural environment where an organism or biological population lives, feeds, grows and interacts.
<b><i>Heritage Conservation Act</i></b>	The <i>Heritage Conservation Act</i> provides the legal framework to protect and conserve heritage property in BC.
<b>Hummock</b>	A knoll or low mound of earth.
<b>Intertidal Zone</b>	The area of the marine shoreline between the low tide and high tide water levels.
<b>Important Bird Area</b>	An area identified as being globally important for the conservation of bird species.
<b>Invasive Species</b>	Species those are not native to an area and whose introduction causes or is likely to cause economic or environmental harm or harm to human health.
<b>Licence of Occupation</b>	A legal agreement authorizing the occupation of Crown lands for a specified period of time in accordance with the terms and conditions of the agreement.



<b><i>Local Government Act</i></b>	The <i>Local Government Act</i> provides the legal framework and foundation for the establishment and continuation of local governments to represent the interests and respond to the needs of their communities; to provide local governments with the powers, duties and functions necessary for fulfilling their purposes, and, to provide local governments with the flexibility to respond to the different needs and changing circumstances of their communities.
<b>Passive Recreation</b>	Non-motorized and non-consumptive outdoor recreational activities that have minimal environmental impacts.
<b>Riparian Area</b>	Land adjacent to and influenced in its vegetation and ecosystem composition by a water course.
<b>Sensitive Ecosystems</b>	Sensitive ecosystems are areas that may contain rare, threatened and fragile ecosystems. Sensitive ecosystems may support high levels of biodiversity and/or rare and threatened species.
<b>Species at Risk</b>	Species that are listed under the federal <i>Species at Risk Act</i> ; the Committee on the Status of Endangered Wildlife in Canada (COSEWIC); and provincially listed species.
<b><i>Species at Risk Act</i></b>	The <i>Species at Risk Act</i> , established in 2002, provides the legal framework to prevent wildlife species from being extirpated or becoming extinct; provides for the recovery of wildlife species that no longer exist in the wild in Canada (extirpated), are endangered or threatened; and to manage species that are of special concern.
<b>Sustainability</b>	Sustainability is achieved when social and economic systems can be maintained indefinitely with no reduction in ecosystem functioning and the ability of the natural environment to renew itself.
<b>Topography</b>	The physical surface features of the land.
<b>Treaty Negotiations</b>	A treaty is a negotiated agreement that will spell out the rights, responsibilities and relationships of First Nations and the federal and provincial governments. The negotiation process deals with far-reaching issues such as land ownership, governance, wildlife and environmental management.
<b><i>Water Protection Act</i></b>	The <i>Water Protection Act</i> provides the legal framework to confirm the provinces ownership of surface and groundwater and fosters the sustainable use of water resources.
<b><i>Water Sustainability Act</i></b>	The <i>Water Sustainability Act</i> provides the legal framework to ensure a sustainable supply of clean water for BC residents.
<b>Watershed</b>	An area of land that contributes runoff to a specific delivery point, such as an estuary or the confluence with another river. Large watersheds may be composed of many smaller sub-watersheds, each contributing runoff to various streams and rivers that ultimately combine at a common delivery point.
<b>Wayfinding</b>	Refers to how people orient themselves and navigate through a physical environment.
<b>Wetland</b>	An area where the ground is permanently wet or wet most of the year.
<b><i>Wildfire Act and Regulation</i></b>	The Wildfire Act and Regulation provides the legal framework for the responsibilities and obligations related to fire use, wildfire prevention, wildfire control and rehabilitation to which everyone in British Columbia is subject.



## Appendix I: Legal lot descriptions

Seal Bay Regional Nature Park is comprised of two large Crown grant lots legally described as:

- Lot A, Blocks 29 and 71, Comox District, Plan 50663 (PID 016-152-794); which has the following encumbrances:
  - M76300 – Exception and Reservation in favour of the Esquimalt and Nanaimo Railway
  - P56315 – Possibility of Reverter in favour of the Crown
  - EC25921 – Possibility of Reverter in favour of the Crown
  - P56223 – Undersurface rights (Section 47) in favour of the Crown
  - EC25920 – Undersurface rights (Section 47) in favour of the Crown; and
- Lot 2, Blocks 29 and 71, Comox District, Plan 30612 (PID 001-244-817); which has the following encumbrances:
  - M76300 – Exception and Reservation in favour of the Esquimalt and Nanaimo Railway
  - P56316 – Possibility of Reverter in favour of the Crown
  - P56224 – Undersurface rights (Section 47) in favour of the Crown

Grieve Trail is legally described as:

- Lot 10, District Lot 150, Plan EPP35225 (PID 029-283-248).

Seal Bay Forest is comprised of the following fee simple lots legally described as:

- Lot 17, Block 29, Comox District, Plan 2261 (PID 006-436-048);
- Lot 26, Blocks 29 and 71, Comox District, Plan 2261, Except Part in Plan 3882 (PID 006-436-161);
- Lot 27, Blocks 29 and 71, Comox District, Plan 2261, Except Part in Plan 30612 (PID 006-436-340);
- Lot 34, Block 71, Comox District, Plan 2261, Except Part in Plan 32117 (PID 006-436-447);
- Lot 35, Block 71, Comox District, Plan 2261 (PID 006-436-536);
- Lot 37, Block 71, Comox District, Plan 2261 (PID 006-436-625); and
- Lot 3, Blocks 29 and 71, Comox District, Plan 30612, Except Part in Plan 46912 (PID 001-244-825).



## Appendix II: Conservation History

### HISTORY

1913	earliest record of logging
1916	clearcut & burnt (stumps smoldered for long time)
1917	offered as part of Soldier Settlement lands to returning WW I soldiers - most of Seal Bay forest were not deeded. Some homesteading (e.g. Bailey family), later abandoned.
1930's	last logged - natural regeneration begins
1940's	Christmas trees cut from site (\$0.01 / tree paid) beavers create "Horseshoe Swamp"
1971	Comox-Strathcona Natural History Society start lobbying Provincial Government for entire land area to be granted to RDCS as park
1975	eastern 135 ha (334 acre) parcel leased to RDCS as park
1977	trails constructed through Forest under Work Program
1983	Regional Resource Management Committee recommends crown grant to RDCS (135 ha); remainder of Forest placed in Provincial Forest; establishment of Ecological Reserve; preparation of multi-use management plan including business tree sale licence
1985	beaver dam on Horseshoe Swamp replaced to restore water to Horseshoe Swamp 135 ha lease area crown granted to RDCS
1986	Forest becomes part of Provincial Forest and ongoing threat of logging creation of "Seal Bay Nature Park Rules and Regulations"
1988	additional 16 ha (40 acre) parcel adjacent to Horseshoe Swamp crown granted to RDCS 49 ha (121 acre) hardhack swamp becomes proposed "Ecological Reserve"
1989	School District #71 and RDCS propose joint agreement for granting of remainder of land
1990	Protected Area Strategy initiated by NDP - over 3,000 letters sent from Comox Valley requesting that remainder of Seal Bay be added to Seal Bay Nature Park
1996	final 564 ha (1394 acre) offered to RDCS under Protected Area Strategy, Goal 2



## Appendix III: Summary of Public Consultation

The following is an overview of the results of the online and in-park surveys completed between 2015 and 2017, the 2016 open house survey, and the 2018 open house survey. The results of the surveys were used to support the drafting and refinement of this management plan.

This summary document, the questionnaires and the complete results are available for public review via: <https://www.comoxvalleyrd.ca/projects-initiatives/past-current-projects/seal-bay-nature-park-management-plan-update>

### Reminders for Interpreting Results

- The surveys were not intended to be statistically significant. The surveys were meant to provide the CVRD with a general sense of visitor use patterns, emerging issues and community values.
- Not all respondents provided a response to every survey question. In other instances, questions allowed respondents to select more than one response. This is important context when interpreting the results in percentages.
- Open-ended questions were analyzed using keyword analysis.

### General Background

- The initial in-park survey was conducted between May 26, 2015 and August 15, 2015 on eleven separate days. In total, 149 in-park surveys were gathered.
- The initial online survey was available to the general public from July 2015 to March of 2017. In total, 141 online surveys were submitted.
- The first open house was held at the Huband Park Elementary School on January 20, 2016. A total of 70 surveys were gathered at this open house event. During this open house, small focus groups discussions were held to further explore public opinions related to park amenities, trail use, wayfinding and the natural environment.
- The second open house was held at the Huband Park Elementary School on May 16, 2018. A total of 64 participants attended this open house. During this open house a survey was presented to get feedback on the draft management plan and trail concept plan. This survey was also made available online from May 16<sup>th</sup> to July 3<sup>rd</sup>, 2018. A total of 182 paper and online surveys were received.

### Initial In-Park and Online Survey (2015 – 2017) Background

- Approximately 90% of the in-park and online survey respondents indicated they were residents of the Comox Valley. Specifically, approximately 31% of respondents indicated they were residents of Electoral Area B (Lazo North), approximately 27% indicated they reside in the City of Courtenay, approximately 14% indicated they reside in the Town of Comox and approximately 10% indicated they are residents of Electoral Area C (Puntledge - Black Creek).
- Few respondents to the in-park and online surveys indicated they under the age of 35 (approximately 11%); the majority of respondents indicated they were over the age of



50 (approximately 72%) with the bulk of respondents indicating they were between the ages of 50 to 65 (approximately 56%).

### **In-Park and Online Survey (2015 – 2017) Results Summary**

- When asked why they visit the park, most users indicated exercise (approximately 77%) while a majority also indicated that the park offers a place to de-stress and get away from it all (approximately 54%). Additionally, approximately 39% of respondents indicated they use the park to exercise their pet (dog or horse), approximately 31% use the park to observe wildlife, and approximately 29% use the park to meet up and spend time with family and friends.
- Reported uses for the park include walking, jogging, cycling and horseback riding. Specifically, the in-park and online surveys indicate approximately 51% of users walk the trails without a dog and approximately 40% walk the trails with their dogs. This is followed by approximately 24% of the visitors using the trails for jogging, approximately 18% for cycling and approximately 16% for equestrian use.
- In terms of frequency of use, the survey indicated that during the summer months half of all the respondents visited the park *at least* once a week (approximately 53% of respondents). Specifically, a quarter (approximately 25%) of survey respondents indicated they visited the park almost daily during the summer, while approximately 28% indicated they used the park once or twice a week and approximately 24% indicated they used the park once or twice a month. Frequency of use during the off-season are very similar.
- The majority of in-park and online survey respondents (approximately 70%) indicated they never experienced conflict with other users on the trails. Those users that did indicate some level of conflict indicated that it did not happen that often. Of those that provided additional comments on conflicts, approximately a third (32%) indicated concern with dogs (off leash, jumping up or not being under control); approximately 13% indicated conflict with cyclists (riding too fast, not announcing themselves and riding on non-cycling trails); and approximately 6% indicated conflict with horses.
- When asked what trails are used, approximately 41% of respondents indicated they used the trails on the water side of Bates Road and approximately 26% indicated they used most of the trails on the inland side of Bates Road. Specifically, the trails to the beach (approximately 38%), the swamp loop trail (approximately 35%) and the horse-bike loop (approximately 31%) appear to be the most popular park trails. Interestingly, approximately 20% of respondents indicated their trail use varies and approximately 13% indicated they used all the trails.
- In terms of park access, approximately 81% of survey respondents indicated they access the park by vehicle with approximately 63% indicating they came by single occupancy vehicle. That being said, approximately 31% of respondents indicated they access the park by means of active transportation (either by bike (approximately 20%) or by foot (approximately 11%)).
- The majority of respondents (approximately 69%) indicated that finding parking at the park can be difficult. This appears to be most problematic during weekends and during events at the Bates Road parking area. Some difficulties with horse trailer parking at Hardy Road was also mentioned.



- In terms of overall park satisfaction, most respondents (approximately 53%) rated the park a 5 on a scale of 1 to 5 with 5 being the highest rating. Approximately 75% of respondents rated the park at least 4.5 and approximately 96% rated the park at least a 4 out of 5. The mean of the responses was 4.6 with a standard deviation of 0.6.
- When asked what users like most about the park, many respondents referenced the trail network (approximately 18%), the beautiful of the natural environment and the vistas (approximately 17%) and peaceful and quiet setting (approximately 15%). Other park values that were considered important include: the forest (approximately 8%), the proximity of the park (approximately 7%), and the beach and ocean (approximately 6%). To a lesser degree the following park values were mentioned: diversity (approximately 4%), large size (approximately 4%), accessibility (approximately 3%) and the wildlife (approximately 3%). Some representative comments from the 242 responses received include:
  - Quiet, scenic, feels remote
  - Variety, ocean, wetland, dragonflies, flora, restorative
  - Calm, the ocean, good trails and it's close
  - Flat, easy walking, wide trails
  - It's a beautiful park for everyone to enjoy. I love riding my horse through the natural forest trails and always feel so relaxed and happy after our ride
  - A nice place to walk your dog and ride horses
  - Nice trails for walking, jogging or biking
  - Lots of opportunities for linking trails in different ways to get different perspectives. Remarkably quiet in the forest section of the park considering how close to town it is. The Barbara Way boardwalk and the new Grieve Trail have been great additions for accessibility.
  - Size, good trails, wildlife, relaxation, beach space
  - Beauty of huge ferns, tranquility of forest, refuge of beach
  - Variety of trails...easy to hard, dog friendly
  - Serenity
  - Proximity to home, "wild"
  - We are lucky to have such a beautiful natural area so close to town where we can recreate and enjoy nature
  - That there are still some places wild enough and not used too often that the bears can live in peace
- When asked about desired improvements they would like to see if the park, a range of responses were provided. Approximately 11% of respondents indicated they were completely satisfied with the park as-is and felt that no improvements were necessary. Of those respondents seeking improvements, the most desired improvement was for better directional signage (approximately 20% of respondents wanted to see better signage and wayfinding in the park). Other improvements mentioned include: more horse trails (approximately 9%), improvements to trail drainage (approximately 6%), better trail surfacing (approximately 5%), improved horse loop trail off Bates Road (approximately 4%), more bike trails (approximately 4%), improved parking (approximately 4%), need to address vehicular speeds on Bates Road (approximately 4%), better enforcement of park rules (approximately 3%) and additional park amenities such as more garbage cans (approximately 3%), more trails maps



(approximately 3%) and improvements to washroom facilities (approximately 4%). Some representative comments from the 199 responses received:

- More signs for people who are new to the park. It took us a long time to get to know how to get around.
- Better directional signage for new people. Traffic is too fast on Bates Road.
- Maybe some designated horse trailer parking?
- Quality of trails and signage
- I would like to see horse/bike trails expanded. There are many trails that are appropriate and could be used for horse/bike use.
- Make sure pedestrian trails are pedestrian only. No horses.
- Wheelchairs and strollers can't access inland side of Bates rd
- More trails opened for horses so we can do a loop without riding on Bates rd. Not asking for the Beach side or swamp loop.
- More parking at Hardy Road entrance and the main entrance. Also a crosswalk at the Bates road entrance to the swamp loop. As a driver, sometimes people seem to appear out of nowhere.
- Ensure the natural habitat continues to be a priority over human needs. Limit the development or improvement to the lesser used trails.
- I would like to see a couple more trash bins and dog poop bag dispensers
- Perhaps some of the low areas on some of the trails could be raised and fixed somehow so they won't flood when it rains
- Better parking strategy
- Keep it as natural as possible
- When asked what could be done to better protect the parks natural environment, respondents suggested more interpretive education materials (approximately 19%), signage indicating to stay on trails (approximately 10%), better drainage control (approximately 6%), more garbage cans (approximately 6%), reduction in the number of unmarked trails (approximately 5%), keeping dogs on leash (approximately 5%), keeping cyclists and horses off sensitive trails (approximately 5%), providing interpretive park stewards (approximately 5%), removal of invasive species (approximately 4%) and protecting Seal Bay Forest in perpetuity (approximately 3%). Some representative comments from the 134 received:
  - Efforts to identify invasive plants and signage to help people identify them. From there continually work to remove invasive plants.
  - Continue to keep motorized vehicles out, and insist that dogs be under control and confined to trails
  - Educate people that it is a natural habitat first then a park for people second
  - Have areas that are inaccessible. Regular presence to educate and maintain park.
  - I think nothing needs to be done – all is fine as is. There are enough rules in place currently.
  - Keep it a park forever and stop development around edges
  - Maintenance of good trail system will protect the rest of the park. I would like to see better signage.
  - Park interpretive stewards – guided tours
  - Signs that provide information about native plants and animals, reminders not to pick plants



- Reduce unmarked trails
- Continue reforestation, remove non-native species (e.g. Ivy), reintroduce native species of plants that are losing ground, discourage unplanned trail creation
- Keep everyone on designated trails and maintain trails
- Erosion control

*Some comments provided from the 81 responses received when respondents were asked an open-ended question inviting additional comments or questions:*

- This Park is absolutely wonderful, and should be a priority for protection and ensurance it's values for nature and wildlife observation are maintained. Consider creation of a strong volunteer stewardship program to encourage participation for the Comox Valley community to become stewards and work with park or regional staff to help maintain and preserve the experiences and facilities. Provide more educational signage regarding what can be seen in the park, wildlife safety and opportunities to volunteer. Maintain the dogs off leash rules the way they are, but in no way allow more freedom for this to occur. Encourage more use of the western side of the Park, by possibly putting parking on both sides of Bates road. Consider planning for longer terms rather than the 5 year models, (don't know what terms you are considering however) consider 10, 30, 50 years, and how it can be preserved and managed, think LONG term; we tend to think in too short a time frame when planning. Would be willing to participate in any opportunity to get involved with this park. I am so proud to have this so close to our urban community.
- Upgrade trail surfaces and drainage. Otherwise a very good park.
- It was on trip advisor but had trouble finding the park
- I would like to see all people share our park. It's huge with plenty of room for everyone. Horse people are running out of places to ride as logging roads are gated off and other areas are developed. I like that I can ride my horse without using my truck and trailer. I am very respectful of other park users and safety.
- Beautiful park that everyone should/can enjoy
- I want Seal Bay Park to be around for many future generations
- Great park and encouragingly good stewardship by the CVRD...my concern is simply to make it even better
- Speed zone (reduced speed limit) at parking area on Bates Road
- All parks need nice bathrooms. Thanks.
- A beautiful park that is getting busier every year. I think the time has come to ban horses.
- This is one of my favourite places to run and walk.
- I feel strongly that this park be maintained as a multiuse area that respects nature
- Keep park undeveloped and free of motorized vehicles



### First Open House Survey (2016) Results Summary

- When asked what you usually do when you visit Seal Bay Park, most respondents indicated they walked (approximately 54%) either with or without a dog. To further break that down, approximately 30% indicated they walked their dog and approximately 24% walked without a dog. Others indicated they jogged (approximately 14%), biked (approximately 20%) or rode horses (approximately 12%). Many respondents indicated more than one activity. These results are very similar to results obtained through the user survey.
- When asked about park values and a proposed vision for the park, approximately 93% of respondents indicated they agreed with the key values that were identified in the information panels and approximately 79% indicated they agreed with the components of the proposed vision that was presented.
- When asked about the inclusion of a wilderness conservation zone in the park, approximately 82% of participants supported the idea. Approximately 32% of those respondents indicated the conservation zone should correspond to the area of the ecological map reserve, approximately 17% indicated it should encompass a much larger area as suggested in the original 1998 masterplan and approximately 13% indicated they were not sure of the extent it should encompass. Those participants that indicated they were opposed to the inclusion of a conservation zone preferred more recreational use and did not see the value of a dedicated conservation zone either because they felt the park was too small to provide conservation value or they were unsure what the conservation zone would be protecting.
- When asked what activities should be restricted within a wilderness conservation zone, approximately 59% of participants did not want any new trails, approximately 23% did not want any trails through low-lying wet areas (even if it meant closing trail connections), approximately 20% did not want multi-use trails within a wilderness conservation zone and approximately 27% wanted dogs and other pets restricted from this zone.
- When asked what could be done to better explain seasonal leashing rules for dogs to protect nesting birds and fawns, approximately 40% of respondents indicated more signage was required with some indicating temporary signage would be sufficient, approximately 25% indicated more education was needed, approximately 29% indicated more enforcement was needed and approximately 8% indicated they favoured year round leashing. Some representative comments of the 51 responses include:
  - Clear signage and reason for leashing
  - Educational signage to explain the reasons. Enforcement with an educational component.
  - Closer monitoring. Enforcement of seasonal leashing rule.
  - Better explanation of reason for leashing rule. Better explanation of areas where dogs are allowed off leash and on leash.
  - More temporary signage to support rules during April – June months. Then remove signs for the rest of the year.
  - Some interpretive signs explaining why
  - A few more signs in key areas
- When asked what kinds of interpretive signage they would like to see in the park, approximately 37% indicated they would like to see plant identification signage,



- approximately 27% indicated ecosystem signage, approximately 24% indicated signage on the history of the park and 8% indicated they would not like to see any additional interpretive signage.
- When asked what could be done to protect wildlife and the natural ecosystems of Seal Bay Park into the future, approximately 31% of participants indicated more education was required. Specific means of education mentioned included signage (approximately 11%), interpretive walks (approximately 11%) and coordinated efforts with schools (approximately 6%). Other ways indicated by participants to help protect the natural environment include: no more new trails (approximately 11%), keeping people out of sensitive areas (approximately 17%), removal of trails and restoration of habitat in sensitive areas (approximately 8%), better dog management (approximately 11%) and invasive species removal (approximately 8%). Some representative comments from the 36 responses received include:
    - Educate the children in schools about the ecosystems and let them teach the parents. Natural looking barriers – log fences – to bar people from areas where necessary. Encourage the act of stewardship among us all. We look out for the park and remind each other.
    - Don't add to the trail system. Education, nature walks, interpretive signs.
    - Discourage or block unofficial trails or re-vegetate them.
    - Education, teach users respect for our parks. Habitat protection.
    - Enforce leashed dog season. We are dog owners and do not want people that do not follow the restrictions to ruin our present privilege.
    - Explanations of what and why. Identification of species and ecosystems.
  - When asked if they would like to see more multi-use trails in the park, approximately 51% indicated they would like to see more multi-use trails and approximately 49% indicated they would not. Of those that indicated they wanted to see additional trails or trails re-designated as multi-use trails, the most popular included the Mitchell Grade (approximately 55%), the Catch-up Loop (approximately 29%) and an additional trail along the west side of Bates Road (approximately 19%). Of those that indicated they did not want to see additional multi-use trails, approximately 55% indicated there are enough existing trails and approximately 35% mentioned impacts on the trail surface from horse and bike use.
  - When asked about the potential construction of a new trail adjacent to Bates Road to increase horse safety, the following preferences were indicated by respondents:
    - Relocate section of the horse-bike loop trail further inland:
      - Agree: 27%, Neutral: 28%, Disagree 30%, Need more information: 15%
    - Construct new trail on inland side of Bates Road:
      - Agree: 62%, Neutral: 16%, Disagree 11%, Need more information: 11%
    - Re-designate trails multi-use that are close to Mitchell and Elmo Roads where this is horse trailer parking:
      - Agree: 59%, Neutral: 14%, Disagree 16%, Need more information: 11%
    - Re-designate the east arm of Catch-up loop multi-use:
      - Agree: 37%, Neutral: 16%, Disagree 37%, Need more information: 10%



- Re-designate the entire catch-up loop multi-use:
  - Agree: 47%, Neutral: 12%, Disagree 35%, Need more information: 6%
- Re-designate the Mitchell Grade multi-use:
  - Agree: 52%, Neutral: 5%, Disagree 31%, Need more information: 12%
- When asked to rank a list of priorities to improve wayfinding in the park from 1 to 5 with 1 being the highest priority and 5 being the lowest priority, approximately 79% of respondents ranked new directional signage as 1 or 2 priority with approximately 44% ranking it as the highest priority. Approximately 56% of respondents indicated trail maps at intersections in the park as a 1 or 2 priority with approximately 26% ranking it as the highest priority. Finally, approximately 55% of respondents indicated a desire to replace old maps in the park as a 1 or 2 priority with 23% indicating it as the highest priority.
- When asked what other signage is desirable in the park, approximately 40% of respondents indicated that signage should be kept to a minimum, left as-is or should be reduced. Approximately 12% of respondents indicated that natural history interpretive signage would be desirable.
- When asked to prioritize a list of potential park improvements on a scale from high priority (next 1 to 4 years) to medium priority (5 to 8 years) to low priority (9 to 15 years), 41 of the 70 respondents (approximately 59%) indicated applying to the province to lower the speed limit on Bates Road as a high priority. This was the highest priority item. Other items indicated by participants as high priority included: accessible gate for wheelchairs and strollers at Swamp Loop trail entrance at Bates Road (24 of 70 respondents indicated it as a high priority and 22 indicated it as a medium priority), improve drainage at muddy sections of trail (21 of 70 respondents indicated it as a high priority and 18 indicated it as a medium priority), make a safer connection of the horse-bike loop near Bates Road (23 of 70 respondents indicated it as a high priority and 13 indicated it as a medium priority), explore crosswalks on Bates Road (21 of 70 respondents indicated it as a high priority and 14 indicated it as a medium priority), and resurfacing of the wheelchair loop to make it more accessible (24 of 70 respondents indicated it as a high priority and 22 indicated it as a medium priority).
- When asked what percentage of each dollar spent on Seal Bay Park should be allocated to a various improvements or activities, participants indicated that maintaining the condition of the existing trails was important (46 of the 70 respondents indicated 10 to 60% allocation, 5 of the 70 respondents indicated over 60%, and 1 respondent indicated less than 10%). Other improvements or activities considered important for funding allocation included: habitat protection and restoration was relatively important (32 of the 70 respondents indicated 10 to 40% allocation, 6 of the 70 respondents indicated over 40%, and 6 respondents indicated less than 10%); park entrance improvements (31 of the 70 respondents indicated 10 to 40% allocation, 1 of the 70 respondents indicated 40 to 60%, and 9 respondents indicated less than 10%); education and interpretation (32 of the 70 respondents indicated 10 to 40% allocation, and 7 respondents indicated less than 10%); directional signage (27 of the 70 respondents indicated 10 to 40% allocation, 1 of the 70 respondents indicated 60 to 80%, and 12 respondents indicated less than 10%);



and new trail construction (23 of the 70 respondents indicated 10 to 40% allocation, 2 of the 70 respondents indicated 40 to 60%, and 7 respondents indicated less than 10%).

- When asked to provide additional comments with respect to improvements in the park, participants generally indicated they like the natural setting and would like to keep it pristine. Some representative comments provided include:
  - Haul out the abandoned cars located near the multi-use trail west of SB30 (between SB30 & Clark Rd entrance)
  - This is a great park. Thank you for being pro-active in keeping it this way, and to improve it for both the people using it and the animals who call it home!
  - Park is becoming less “natural” over the years, improvements are nice, but there is a fine line.
  - Please do not make drastic changes to Seal Bay Park. The reason for its high volume use is its natural beauty. The less change the better!

### Second Open House Survey (2018) Background

- During this open house a presentation on the trail concept plan was made.
- Most of the respondents reside in relatively close proximity to the park. Approximately 44% of the respondents reside in Electoral Area B of the CVRD; approximately 30% were from the City of Courtenay; approximately 12% from the Town of Comox; and approximately 9% from the Electoral Area C of the CVRD.
- Most of the respondents indicated they were over the age of 36 (approximately 91%). Approximately 45% of respondents were between 51 and 65 years of age; approximately 18% were between the ages of 36 and 50; and approximately 25% were between the ages of 66 and 75.

### Second Open House Survey (2018) Results Summary

- When asked whether they agree or disagree with the proposed Vision Statement, the majority of respondents (approximately 87%) indicated they agreed with the Vision Statement. Specifically, approximately 45% indicated they strongly agreed and approximately 42% indicated they agreed. A further 5% of the respondents indicated they were neutral about the statement, while approximately 7% indicated they either disagreed or strongly disagreed.
- When asked how much you agree or disagree with proposed facility improvements, the most supported facility improvement was constructing a viewpoint at Melda’s Marsh near the dam to replace the aging viewpoint tower (approximately 67% agreed or strongly agreed). The least supported proposed facility improvement was adding horse trailer parking to the Huband Road area (approximately 34% were not in favour and specifically 20% of respondents indicated they strongly disagreed). The following summarizes the responses:
  - Upgrade Bates Road parking Area – approximately 53% were in favour of upgrades and specifically approximately 24% indicating they strongly agreed. Approximately 29% were neutral; approximately 14% were not in favour; and approximately 5% had no opinion.
  - Move Hardy Road parking area slightly north away from the road curve – approximately 49% were in favour; approximately 32% were neutral;



- approximately 11% were not supportive; and approximately 8% had no opinion.
- New Huband Road parking area – approximately 41% were in favour; approximately 34% were neutral; approximately 16% were not in favour; and approximately 8% had no opinion.
  - Add horse trailer parking to Huband Road area - approximately 23% were in favour; approximately 34% were neutral; approximately 34% were not in favour; and approximately 10% had no opinion. Approximately 20% of respondents strongly disagreed with the proposed improvement.
  - Move washroom from Seal Flipper Loop Trail to Seabank parking area - approximately 22% were in favour; approximately 45% were neutral; approximately 21% were not in favour; and approximately 12% had no opinion.
  - Construct small Nature Discovery Shelter at Melda's Marsh as a place to learn about the natural environment - approximately 57% were in favour; approximately 21% were neutral; approximately 19% were not in favour; and approximately 3% had no opinion.
  - Construct viewpoint at Melda's Marsh near dam to replace aging viewpoint tower - approximately 67% were in favour; approximately 20% were neutral; approximately 10% were not supportive; and approximately 3% had no opinion.
- When asked how much you agree or disagree with proposed trail use zones, most respondents indicated they would like to have the Oceanside of Bates Road remain pedestrian only and dogs on leash year round (approximately 81% were in favour and specifically 64% indicating they strongly agreed). Most respondents indicated they also wanted to see the Swamp Loop Trail and Melda's Marsh to remain pedestrian only and dogs on leash year round (approximately 77% were supportive and specifically 58% strongly agreed). Outside of the areas indicated above (oceanside of Bates Road and Swamp Loop), approximately 58% agreed dogs should be leashed seasonally, while 24% indicated they were not supportive and 16% were neutral.
  - When asked how much you agree or disagree with upgrading a few trails to accessible standards, most respondents indicated they were in favour of upgrading the Coupland Loop trail and the Swamp Loop trail with Coupland Loop trail upgrades having slightly more support. Specifically respondents indicated:
    - Coupland Loop trail - approximately 65% were in favour with 32% indicating they strongly agree; approximately 22% were neutral; approximately 10% were not in favour; and approximately 3% had no opinion.
    - Swamp Loop trail - approximately 63% were in favour with 32% indicating they strongly agree; approximately 20% were neutral; approximately 15% were not in favour; and approximately 3% had no opinion.
  - When asked how much you agree or disagree with specific proposed trail improvements, the most supported improvement was to close horse access into the park from Bates Road (approximately 47% supported this with 29% in strong agreement). Trail improvements proposed to allow more equestrian and bike use on some existing trails were fairly evenly divided. The following summarizes the responses:



- Re-route part of the Horse-Bike Loop trail away from Bates Road to a new location that crosses Swamp Loop trail - approximately 40% were in favour; approximately 33% were neutral; approximately 21% were not in favour; and approximately 7% had no opinion.
- Close horse access into the park from Bates Road - approximately 47% were in favour with 29% indicating they strongly agree; approximately 34% were neutral; approximately 12% were not in favour; and approximately 8% had no opinion.
- Upgrade existing southern portion of the Mitchel Grade to allow equestrian and bike use - approximately 41% were in favour; approximately 23% were neutral; approximately 28% were not in favour; and approximately 8% had no opinion.
- Upgrade part of Catch Up Loop to allow equestrian and bike use - approximately 39% were in favour; approximately 24% were neutral; approximately 32% were not in favour with 20% in strong disagreement; and approximately 6% had no opinion.
- Upgrade existing unnamed trail from Fitzel entrance trail to Catch Up Loop to allow equestrian and bike use - approximately 36% were in favour; approximately 26% were neutral; approximately 30% were not in favour; and approximately 7% had no opinion.
- Re-route existing eroded section of the Horse-Bike Loop trail near Happy Face trail - approximately 43% were in favour; approximately 34% were neutral; approximately 16% were not in favour; and approximately 7% had no opinion.
- Re-route existing section of the Horse-Bike Loop trail near Langlois Road away from the property line - approximately 37% were in favour; approximately 37% were neutral; approximately 19% were not in favour; and approximately 6% had no opinion.
- When asked how much you agree or disagree with a few specific new trails, respondents were most supportive of a commuter trail along Bates Road (approximately 65% were in favour with 34% in strong agreement; approximately 23% were neutral; and approximately 9% were not in favour). A proposed new trail near Elmo Road was also mostly supported with approximately 64% in favour with 31% in strong agreement; approximately 23% neutral; and approximately 12% not in favour. Finally, a new proposed trail near the Hardy Road entrance was mostly supported with 55% in favour with 23% in strong agreement; approximately 24% neutral; and approximately 17% not in favour with 12% in strong disagreement.
- When asked how much you agree or disagree with specific trail closures, respondents were generally fairly evenly divided highlighting the delicate balance between those wanting recreational trails and those wanting more conservation. The trail closure with the most opposition was the proposed closure of Seabank trail with approximately 51% not in favour with 45% being strongly opposed. The following summarizes the responses for each proposed trail closure:
  - Proposed closure of southern portion of Twinflower Lane which is low-lying - approximately 34% were in favour; approximately 33% were neutral; approximately 29% were not in favour; and approximately 5% had no opinion.



- Proposed closure of unnamed trail from Loxley road to Horse-Bike Loop trail which is low-lying - approximately 35% were in favour; approximately 32% were neutral; approximately 28% were not in favour; and approximately 5% had no opinion.
- Proposed closure of short connector trail between Mitchel Grade and Catch-Up Loop which is low-lying - approximately 33% were in favour; approximately 32% were neutral; approximately 29% were not in favour; and approximately 5% had no opinion.
- Proposed closure of connector trail from Bates Road which is redundant - approximately 34% were in favour; approximately 38% were neutral; approximately 25% were not in favour; and approximately 4% had no opinion.
- Proposed closure of northern portion of Mitchel Grade through the Map Reserve - approximately 24% were in favour; approximately 39% were neutral; approximately 31% were not in favour; and approximately 6% had no opinion.
- Proposed closure of Seabank trail - approximately 34% were in favour; approximately 13% were neutral; approximately 51% were not in favour with approximately 45% in strong disagreement; and approximately 3% had no opinion.
- When asked how much you agree or disagree with trail closures to facilitate expansion of conservation zones, slightly more respondents were in agreement with approximately 44% in favour; approximately 18% neutral; approximately 36% not in favour; and approximately 2% had no opinion.
- When asked what you like about the trail concept plan, 104 of 182 respondents provided comments. Of the responses provided, respondents generally favored the addition of accessible trails (approximately 18%); the focus on conservation (approximately 17%); and the enhanced parking (approximately 12%). The separation of pedestrian trails was liked by approximately 11% of the respondents and approximately 14% of respondents liked the additional multi-use trails.
- When asked what you dislike about the trail concept plan, 105 of 182 respondents provided comments. Of the responses provided, respondents disliked the proposed closure of the Seabank trail (approximately 46%); the increased focus on horse use (approximately 26%); the closing of unmaintained trails (approximately 18%); and the impacts of additional parking (approximately 8%).
- When asked what are your top three trail and facility improvements, 109 of 182 respondents provided comments. Of the responses provided, respondents indicated their top item would be better signage (approximately 21%). This was followed by parking upgrades (approximately 17%); maintaining existing beach accesses (approximately 17%); creation of accessible trails (approximately 15%); additional washrooms (approximately 15%); reducing speeds on Bates Road (approximately 8%); trail surfacing (approximately 6%); re-routing Horse-Bike Loop trail near Bates Road (approximately 5%); and adding viewing area at Melda's Marsh (approximately 5%).
- When asked are you an equestrian rider, the vast majority of respondents indicated no (approximately 95%).



- Of the ten respondents who indicated they were equestrian riders, re-routing the Horse-Bike Loop trail off Bates Road further inland was ranked as the top priority, followed by re-routing the Horse-Bike Loop trail near the Langlois Road properties; followed by upgrading portion of Mitchel Grade and re-surfacing existing horse use trails.
- When asked how much you agree or disagree with the proposed management zones plan, most of respondents indicated they agreed with the plan (approximately 44%); approximately 24% indicated they were neutral; approximately 29% indicated they disagreed; and 4% indicated they had no opinion. Comments on the plan tended to focus on general concern regarding intensive recreation zones and the lack of clarity of the intention of this management zone.
- When asked to indicate the level of support for each of the proposed management goals, respondents strongly supported the goals to: Protect the park's rare and sensitive ecological communities (approximately 92% were in support with 65% in strong agreement; Manage the park's natural assets with a focus on the preservation of natural ecosystems (approximately 92% were in support with 64% in strong agreement); Maintain the park's current sense of place (approximately 90% were in support with 66% in strong agreement); and Provide a trail network that is environmentally sustainable and supports low impact recreation activities (approximately 86% were in support with 54% in strong agreement). The least supported goals included: Provide sufficient visitor services amenities to meet users' needs (approximately 45% were in support, approximately 36% were neutral and approximately 17% were not in support); and Improve access to the park for the surrounding communities (approximately 49% were in support, approximately 30% were neutral and approximately 19% were not in support). Comments on the management goals tended to focus on the need to ensure impacts to the park are minimized.
- When asked to provide additional comments, 71 respondents provided feedback. The feedback was wide ranging but generally users are appreciative of the park and would like changes to the park to be minimized. There is also a general concern about the increase in multi-use trails.

### Highlighted results from 2018 survey questions related to the prioritization of proposed action items (66 respondent participated)

- Goal 1 – Protect the park's rare and sensitive ecological communities
  - Highest priority item - 'Ensure continued protection of the wetland ecosystems and biodiversity present in the Map Reserve' with 48% of respondents indicating this as essential and 30% indicating this as a high priority;
  - Second highest priority item - 'Inventory and map the park's rare and sensitive ecological communities as well as species and ecosystems at risk' with 39% of respondents considering this essential and 30% indicating this as a high priority.
- Goal 2 – Manage the park's natural assets with a focus on the preservation of natural ecosystems



- Highest priority item – ‘Preserve wetland habitat for waterfowl, birds, and aquatic wildlife’ with 50% of respondents indicating this as essential and 38% indicating this as a high priority;
  - Second highest priority item – ‘Preserve forage and denning opportunities for wildlife’ with 49% of respondents indicating this as essential and 40% indicating this as a high priority.
- Goal 3 – Maintain the park’s current sense of place
  - Highest priority item – ‘Ensure future park improvements respect the community’s desire to experience nature in a quiet, peaceful setting’ with 76% of respondents indicating this as essential and 14% indicating this as a high priority;
  - Second highest priority item – ‘Ensure future park improvements are aesthetically pleasing, unobtrusive and blend with the natural environment’ with 68% of respondents indicating this as essential and 18% indicating this as a high priority.
- Goal 4 – Provide educational opportunities to learn about the park’s diverse natural environment
  - Highest priority item – ‘Educate users about the impacts on the park’s natural resources from use of the unmarked trails through discreet signage and interpretive materials’ with 27% of respondents indicating this as essential and 32% indicating this as a high priority;
  - Second highest priority item – ‘Provide opportunities for self-guided natural history interpretive programming including opportunities to identify flora and fauna and natural system processes’ with 23% of respondents indicating this as essential and 33% indicating this as a high priority.
- Goal 5 – Recognize and protect cultural values within the park
  - Highest priority item – ‘Work with the K’ómoks First Nation to inventory cultural values and ensure protection of these values into the future’ with 35% of respondents indicating this as essential and 14% indicating this as a high priority;
  - Second highest priority item – ‘Identify First Nation place names and work in collaboration with the K’ómoks First Nation on signage policy within the park’ with 29% of respondents indicating this as essential and 18% indicating this as a high priority.
- Goal 6 – Improve wayfinding in the park
  - Highest priority item – ‘Develop a clear and simple signage plan for the park’ with 42% of respondents indicating this as essential and 30% indicating this as a high priority;
  - Second highest priority item – ‘Install park trail maps at key intersections and replace old trail maps to ensure consistent messaging’ with 35% of respondents indicating this as essential and 23% indicating this as a high priority.
- Goal 7 – Improve access to the park for surrounding communities
  - Highest priority item – ‘Maintain the current park entrance connections’ with 26% of respondents indicating this as essential and 37% indicating this as a high priority;



- Second highest priority item – ‘Continue to support a BC Transit stop at the Bates Road parking area’ with 20% of respondents indicating this as essential and 29% indicating this as a high priority.
- Goal 8 – Provide sufficient visitor services amenities to meet park users needs
  - Highest priority item – ‘Monitor park use and explore options for additional or improved park amenities (such as washrooms and garbage cans) at key locations in the park’ with 32% of respondents indicating this as essential and 24% indicating this as a high priority;
  - Second highest priority item – ‘Ensure vehicular parking is sufficient to meet the needs of day users’ with 23% of respondents indicating this as essential and 20% indicating this as a high priority.
- Goal 9 – Provide a trail network that is environmentally sustainable and supports low impact recreation activities
  - Highest priority item – ‘Continue to keep motorized vehicles off the trail network with the exception of motorized wheelchairs, ebikes or scooters used by individuals with mobility challenges. Service and emergency response vehicles are to be allowed on designated trails’ with 62% of respondents indicating this as essential and 23% indicating this as a high priority;
  - Second highest priority item – ‘Continue to restrict equestrian and bike use to multi-use paths’ with 62% of respondents indicating this as essential and 21% indicating this as a high priority.
- Goal 10 – Ensure the trail system is inclusive for a range of users
  - Highest priority item – ‘Maintain current off-leash dog rules and monitor restrictions. Educate users as to why these restrictions are in place and enforce as required’ with 52% of respondents indicating this as essential and 15% indicating this as a high priority;
  - Second highest priority item – ‘Trail use conflicts and trail impacts to be monitored. Persistent conflicts or maintenance issues may be addressed through separation or restriction of users as required’ with 32% of respondents indicating this as essential and 33% indicating this as a high priority.
- Goal 11 – Work with government agencies, local municipalities, stakeholders and the K’ómoks First Nation to protect and enhance the park’s natural, social, cultural and recreational values
  - Highest priority item – ‘Continue to work with the Ministry of Forests, Lands and Natural Resource Operations and Rural Development to acquire Seal Bay Forest to ensure protection of the forest in perpetuity’ with 71% of respondents indicating this as essential and 14% indicating this as a high priority;
  - Second highest priority item – ‘Work with the City of Courtenay to ensure future development adjacent to the park is compatible with park objectives of environmental stewardship and connectivity’ with 52% of respondents indicating this as essential and 24% indicating this as a high priority.
- Goal 12 – Be responsive to community needs by working with the local community to facilitate conservation, restoration and recreation goals within the park



- Highest priority item – ‘Continue to work with the local community on new initiatives or significant park changes’ with 55% of respondents indicating this as essential and 18% indicating this as a high priority;
- Second highest priority item – ‘Work with the equestrian community to find a solution to the issue of horse manure within the park’ with 48% of respondents indicating this as essential and 11% indicating this as a high priority.
- Goal 13 – Ensure public safety in the park
  - Highest priority item – ‘Continue to impose a no smoking policy within the park during extreme dry weather’ with 85% of respondents indicating this as essential and 5% indicating this as a high priority;
  - The second highest priority item – ‘Engage with the provincial Ministry of Transportation and Infrastructure to explore ways to increase public safety on the section of Bates Road that passes through the park. This may be accomplished through vehicular speed reduction, traffic-calming measures, installation of signage, fewer crossing points or installation of crosswalks’ with 48% of respondents indicating this as essential and 12% indicating this as a high priority.
- Goal 14 – Coordinate emergency response planning
  - Highest priority item – ‘Work with the provincial North Island Mid Coast Fire Centre to identify areas of wildfire risk vulnerabilities in the park’ with 58% of respondents indicating this as essential and 20% indicating this as a high priority;
  - Second highest priority item – ‘Work with the provincial North Island Mid Coast Fire Centre, local emergency first responders and the local Search and Rescue organization to ensure adequate access to the park is maintained to meet emergency response needs while not negatively impacting the park’s sense of place’ with 55% of respondents indicating this as essential and 17% indicating this as a high priority.
- When asked about their top three action items, respondent’s feedback was varied. The most referenced items included maintaining the beach accesses, continuing to provide separated trail uses, exploring ways to improve public safety along Bates Road and focusing on park conservation.



## Appendix IV: Park Plant List

List of plants courtesy of the CVNS. This list was updated in 2017 by Helen Robinson of the CVNS.

Invasive Plants are listed in red.

Plant List of Seal Bay Nature Park and Seal Bay Forest		
Trees		
Family	Common Name	Scientific Name
Betulaceae (Birch)	Red Alder	<i>Alnus rubra</i>
Cornaceae (Dogwood)	Western Flowering Dogwood	<i>Cornus nuttallii</i>
Cupressaceae (Cypress)	Western red cedar	<i>Thuja plicata</i>
Pinaceae (Pine)	Grand fir	<i>Abies grandis</i>
	Sitka spruce	<i>Picea sitchensis</i>
	Shore pine	<i>Pinus contorta</i> var. <i>contorta</i>
	Western white pine	<i>Pinus monticola</i>
	Coast Douglas fir	<i>Pseudotsuga menziesii</i> var. <i>menziesii</i>
	Western hemlock	<i>Tsuga heterophylla</i>
Rhamnaceae	Cascara	<i>Rhamnus purshiana</i>
Salicaceae (Willow)	Black cottonwood	<i>Populus trichocarpa</i>
	Trembling aspen	<i>Populus tremuloides</i> var. <i>vancouveriana</i>
	Pacific willow	<i>Salix lasiandra</i>
	Scouler's willow	<i>Salix scouleriana</i>
Sapindaceae (Soapberry)	Douglas maple	<i>Acer glabrum</i>
	Bigleaf maple	<i>Acer macrophyllum</i>
Taxaceae (Yew)	Western yew	<i>Taxus brevifolia</i>

Shrubs and Small Trees		
Family	Common Name	Scientific Name
Aquifoliaceae (Holly)	English holly	<i>Ilex aquifolium</i>
Berberidaceae (Barberry)	Dull oregon-grape	<i>Berberis nervosa</i>
Caprifoliaceae (Honeysuckle)	Twinflower	<i>Linnaea borealis</i>
	Western trumpet; Orange honeysuckle	<i>Lonicera ciliosa</i>
	Black twinberry	<i>Lonicera involucrata</i>
	Common snowberry	<i>Symphoricarpos albus</i>
Cornaceae (Dogwood)	Bunchberry	<i>Cornus canadensis</i>



	Red-osier dogwood	<i>Cornus stolonifera</i>
<b>Ericaceae (Heather)</b>	Kinnikinnick	<i>Arctostaphylos uva-ursi</i>
	Salal	<i>Gaultheria shallon</i>
	Red huckleberry	<i>Vaccinium parvifolium</i>
<b>Fabaceae (Pea)</b>	Scotch broom	<i>Cytisus scoparius</i>
<b>Grossulariaceae (Currant)</b>	Stink currant	<i>Ribes bracteosum</i>
	Black gooseberry	<i>Ribes lacustre</i>
	Red-flowering currant	<i>Ribes sanguineum</i>
<b>Rosaceae (Rose)</b>	Saskatoon	<i>Amelanchier alnifolia</i>
	Oceanspray	<i>Holodiscus discolor</i>
	Pacific crab-apple	<i>Malus fusca</i>
	Pacific ninebark	<i>Physocarpus capitatus</i>
	Bitter cherry	<i>Prunus emarginata</i>
	Baldhip rose	<i>Rosa gymnocarpa</i>
	Nootka rose	<i>Rosa nutkana</i>
	Thimbleberry	<i>Rubus parviflorus</i>
	Salmonberry	<i>Rubus spectabilis</i>
	Trailing blackberry	<i>Rubus ursinus</i>
	Hardhack	<i>Spiraea douglasii</i>

Wildflowers		
Family	Common Name	Scientific Name
<b>Amaranthaceae</b>	Common orache	<i>Atriplex patula</i>
	Lamb's- quarters	<i>Chenopodium album</i>
<b>Apiaceae (Carrot)</b>	Douglas' water hemlock	<i>Cicuta douglasii</i>
	Pacific water-parsley	<i>Oenanthe sarmentosa</i>
	Mountain sweet-cicely	<i>Osmorhiza berteroi</i>
<b>Araceae (Arum)</b>	Skunk cabbage	<i>Lysichiton americanus</i>
<b>Asparagaceae</b>	False lily-of-the-valley	<i>Maianthemum dilatatum</i>
	False solomon's-seal	<i>Maianthemum racemosum</i>
<b>Asteraceae (Sunflower)</b>	Yarrow	<i>Achillea millefolium</i>
	Pathfinder	<i>Adenocaulon bicolor</i>
	Silver burweed	<i>Ambrosia chamissonis</i>
	Pearly everlasting	<i>Anaphalis margaritacea</i>
	Common burdock	<i>Arctium minus</i>
	Canada thistle	<i>Cirsium arvense</i>
	Bull thistle	<i>Cirsium vulgare</i>
	Oregon gumweed	<i>Grindelia stricta</i>



	Hairy cat's ear	<i>Hypochaeris radicata</i>
	Wall lettuce	<i>Mycelis muralis</i>
	Douglas' aster	<i>Symphyotrichium subspicatum</i>
	Common dandelion	<i>Taraxacum officinale</i>
<b>Berberidaceae (Barberry)</b>	Vanilla-leaf	<i>Achlys triphylla</i>
<b>Brassicaceae (Mustard)</b>	American searocket	<i>Cakile edentula</i>
	Slender toothwort	<i>Cardamine nuttallii</i>
<b>Cabombaleae</b>	Water shield	<i>Brasenia schreberi</i>
<b>Clusiaceae</b>	Bog St. John's-wort	<i>Hypericum anagalloides</i>
<b>Ericaceae (Heather)</b>	Little prince's pine	<i>Chimaphila menziesii</i>
	Prince's pine	<i>Chimaphila umbellata</i>
<b>Fabaceae (Pea)</b>	Beach pea	<i>Lathyrus japonicus</i>
	Giant vetch	<i>Vicia nigricans</i>
<b>Geraniaceae (Geranium)</b>	Robert's geranium	<i>Geranium robertianum</i>
<b>Lamiaceae (Mint)</b>	Yellow archangel	<i>Lamium galeobdolon</i>
	Purple dead nettle	<i>Lamium purpureum</i>
	Northern water horehound	<i>Lycopus uniflorus</i>
	Field mint	<i>Mentha arvensis</i>
	Self heal	<i>Prunella vulgaris</i>
	Blue skullcap	<i>Scutellaria lateriflora</i>
	Cooley's hedge nettle	<i>Stachys chamissonis</i>
<b>Liliaceae (Lily)</b>	White fawn lily	<i>Erythronium oregonum</i>
	Chocolate lily	<i>Fritillaria affinis</i>
	Tiger lily	<i>Lilium columbianum</i>
	Hooker's fairybells	<i>Prosartes hookeri</i>
	Clasping twisted stalk	<i>Streptopus amplexifolius</i>
<b>Melanthiaceae</b>	Western trillium	<i>Trillium ovatum</i>
<b>Nymphaeaceae (Water Lily)</b>	Rocky mountain pond-lily	<i>Nuphar polysepala</i>
<b>Onograceae (Evening Primrose)</b>	Fireweed	<i>Chamerion angustifolium</i>
	Water-purslane	<i>Ludwigia palustris</i>
<b>Orchidaceae (Orchid)</b>	Spotted coralroot	<i>Corallorhiza maculata</i>
	Rattlesnake-plantain	<i>Goodyera oblongifolia</i>
<b>Papaveraceae (Poppy)</b>	Pacific bleeding heart	<i>Dicentra formosa</i>
<b>Phrymaceae (Lopseed)</b>	Yellow monkey-flower	<i>Erythranthe guttata</i>
	Musk-flower	<i>Erythranthe moschata</i>
<b>Plantaginaceae (Snapdragon)</b>	Ribwort plantain	<i>Plantago lanceolata</i>
	Common plantain	<i>Plantago major</i>
	American speedwell	<i>Veronica beccabunga</i>
	Marsh speedwell	<i>Veronica scutellata</i>



<b>Poaceae</b>	Dune wildrye	<i>Leymus mollis</i>
<b>Portulacaceae (Purslane)</b>	Siberian miner's-lettuce	<i>Claytonia sibirica</i>
<b>Potamogetonaceae</b>	Floating-leaved pondweed	<i>Potamogeton natans</i>
<b>Primulaceae (Primrose)</b>	Broad-leaved sunflower	<i>Trientalis borealis</i>
<b>Ranunculaceae (Buttercup)</b>	Lyall's anemone	<i>Anemone lyalli</i>
	Sitka columbine	<i>Aquilegia formosa</i>
	Meadow buttercup	<i>Ranunculus acris</i>
	Creeping buttercup	<i>Ranunculus repens</i>
	Western meadowrue	<i>Thalictrum occidentale</i>
	False bugbane	<i>Trautvetteria caroliniensis</i>
<b>Rosaceae (Rose)</b>	Large-leaved avens	<i>Geum macrophyllum</i>
<b>Rubiaceae (Madder)</b>	Cleavers	<i>Galium aparine</i>
	Small bedstraw	<i>Galium trifidum</i>
<b>Saxifragaceae (Saxifrage)</b>	Fringecup	<i>Tellima grandiflora</i>
	Foamflower	<i>Tiarella trifoliata</i>
<b>Typhaceae (Cattail)</b>	Narrow-leaved bur-reed	<i>Sparganium angustifolium</i>
	Common cattail	<i>Typha latifolia</i>
<b>Violaceae (Violet)</b>	Stream violet	<i>Viola glabella</i>

Ferns		
Family	Common Name	Scientific Name
<b>Blechnaceae</b>	Deer fern	<i>Blechnum spicant</i>
<b>Dennstaedtiaceae</b>	Bracken fern	<i>Pteridium aquilinum</i>
<b>Dryopteridaceae</b>	Lady fern	<i>Athyrium filix-femina</i>
	Sword fern	<i>Polystichum munitum</i>
<b>Polypodiaceae</b>	Licorice fern	<i>polypodium glycyrrhiza</i>

Intertidal Seed Plants		
Family	Common Name	Scientific Name
<b>Zosteraceae</b>	Eel grass	<i>Zostera marina</i>

Liverworts	
Family	Species
<b>Aneuraceae</b>	<i>Aneura pinguis</i>
<b>Cephaloziaceae</b>	<i>Cephalozia bicuspidata</i>
<b>Geocalycaceae</b>	<i>Chiloscyphus polyanthos</i>
<b>Jubulaceae</b>	<i>Frullania tamarisci</i> ssp. <i>nisquallensis</i>



Jungermanniaceae	<i>Jungermannia</i> sp.
Lepidoziaceae	<i>Lepidozia reptans</i>
Lophocoleaceae	<i>Lophocolea</i> sp.
Pelliaceae	<i>Pellia neesiana</i>
Porellaceae	<i>Porella cordeana</i>
	<i>Porella navicularis</i>
Radulaceae	<i>Radula complanata</i>
Riccardiaceae	<i>Riccardia multifida</i>
	<i>Riccardia palmata</i>
Scapaniaceae	<i>Scapania bolanderi</i>

Mosses	
Family	Scientific Name
Aulacomniaceae	<i>Aulacomnium palustre</i>
Brachytheciaceae	<i>Brachythecium asperimim</i>
	<i>Kindbergia praelongum</i>
	<i>Eurynchium pulchellum</i>
Bryaceae	<i>Bryum capillare</i>
	<i>Bryum</i> sp.
Dicranaceae	<i>Dicranum scoparium</i>
	<i>Dicranum fuscescens</i>
	<i>Dichodontium olympicum</i>
Hookeriaceae	<i>Hookeria acutifolia</i>
	<i>Hookeria lucens</i>
Hylocomiaceae	<i>Hylocomium splendans</i>
	<i>Rhytidiadelphus loreus</i>
	<i>Rhytidiadelphus triquetrus</i>
Fissidentaceae	<i>Fissidens bryoides</i>
Hypnaceae	<i>Buckiella undulata</i>
	<i>Hypnum circinale</i>
	<i>Pseudotaxiphyllum elegans</i>
Lembophyllaceae	<i>Isothecium stoloniferum</i>
	<i>Isothecium cardotii</i>
Leskeaceae	<i>Claopodium crispifolium</i>
Leucodontaceae	<i>Antitrichia curtipendula</i>
Mniaceae	<i>Leucolepis acanthoneuron</i>
	<i>Plagiomnium insigne</i>
	<i>Rhizomnium glabrescens</i>
Neckeraceae	<i>Neckera menziesii</i>
	<i>Neckera douglasii</i>
	<i>Porotrichum bigelovii</i>
Plagiotheaceae	<i>Plagiothecium denticulatum</i>
Polytrichaceae	<i>Atrichum selwynii</i>
	<i>Polytrichum juniperinum</i>
Pteryginandraceae	<i>Heterocladium dimorphum</i>
Sphagnaceae	<i>Spagnum pallustre</i>



<b>Tetraphidaceae</b>	<i>Tetraphis pellucida</i>
<b>Orthotrichaceae</b>	<i>Orthotrichum lyellii</i>
	<i>Orthotrichum</i> sp.
	<i>Ulota obtusiuscula</i>
<b>Pottiaceae</b>	<i>Tortella tortuosa</i>



## Appendix V: Park Bird List

List of birds identified in the park courtesy of the CVNS (2011) and website ebird.

The birds listed in [blue](#) have been recognized by the provincial government as a blue-listed species. Blue-listed species include any indigenous species or sub-species considered to be of special concern in BC and are particularly sensitive or vulnerable to human activities or natural events.

Bird Species of Seal Bay Nature Park and Seal Bay Forest		
Family	Common Name	Scientific Name
Geese	Canada Goose	<i>Branta canadensis</i>
	Greater White-fronted Goose	<i>Anser albifrons</i>
	Brant	<i>Branta bernicla</i>
Ducks and swans	American Wigeon	<i>Anas americana</i>
	Mallard	<i>Anas platyrhynchos</i>
	Ring-necked duck	<i>Aythya collaris</i>
	Harlequin Duck	<i>Histrionicus histrionicus</i>
	Wood Duck	<i>Aix sponsa</i>
	Surf Scoter	<i>Melanitta perspicillata</i>
	White-winged Scoter	<i>Melanitta fusca</i>
	Bufflehead	<i>Bucephala albeola</i>
	Common Merganser	<i>Mergus merganser</i>
	Red-breasted Merganser	<i>Mergus serrator</i>
	Hooded Merganser	<i>Lophodytes cucullatus</i>
	Green-winged Teal	<i>Anas crecca</i>
	Common Goldeneye	<i>Bucephala clangula</i>
Loons	Common Loon	<i>Gavia immer</i>
	Pacific Loon	<i>Gavia pacifica</i>
Grebes	Horned Grebe	<i>Podiceps auritus</i>
	Red-necked Grebe	<i>Podiceps grisegena</i>
Cormorants	<a href="#">Double-crested Cormorant</a>	<a href="#">Phalacrocorax auritus</a>
	Pelagic Cormorant	<i>Phalacrocorax pelagicus</i>
Hérons	<a href="#">Great Blue Heron</a>	<a href="#">Ardea herodias</a>
Vultures	Turkey Vulture	<i>Cathartes aura</i>
Hawks, Eagles and Falcons	Bald Eagle	<i>Haliaeetus leucocephalus</i>
	Merlin	<i>Falco columbarius</i>
	Red-tailed Hawk	<i>Buteo jamaicensis</i>
	Cooper's Hawk	<i>Accipiter cooperii</i>
Shorebirds	Spotted Sandpiper	<i>Actitis macularius</i>



	Greater Yellowlegs	<i>Tringa melanoleuca</i>
	Killdeer	<i>Charadrius vociferus</i>
<b>Jaegers, Gulls and Terns</b>	Bonaparte's Gull	<i>Larus philadelphia</i>
	Mew Gull	<i>Larus canus</i>
	Glaucous-winged Gull	<i>Larus glaucescens</i>
	Herring Gull	<i>Larus argentatus</i>
<b>Alcids</b>	Marbled Murrelet	<i>Brachyramphus marmoratus</i>
<b>Pigeons and Doves</b>	Band-tailed Pigeon	<i>Patagioenas fasciata</i>
	Eurasian Collared-Dove	<i>Streptopelia decaocto</i>
<b>Hummingbirds</b>	Rufous Hummingbird	<i>Selasphorus rufus</i>
	Anna's Hummingbird	<i>Calypte anna</i>
<b>Kingfishers</b>	Belted Kingfisher	<i>Ceryle alcyon</i>
<b>Woodpeckers</b>	Red-breasted Sapsucker	<i>Sphyrapicus ruber</i>
	Downy Woodpecker	<i>Picoides pubescens</i>
	Hairy Woodpecker	<i>Picoides villosus</i>
	Pileated Woodpecker	<i>Dryocopus pileatus</i>
<b>Flickers</b>	Northern Flicker	<i>Colaptes auratus</i>
<b>Flycatchers</b>	Willow Flycatcher	<i>Empidonax trailii</i>
	Hammond's Flycatcher	<i>Empidonax hammondi</i>
	Pacific-slope Flycatcher	<i>Empidonax difficilis</i>
<b>Vireos</b>	Cassin's Vireo	<i>Vireo cassinii</i>
	Warbling Vireo	<i>Vireo gilvus</i>
	Red-eyed Vireo	<i>Vireo olivaceus</i>
	Hutton's Vireo	<i>Vireo huttoni</i>
<b>Jays and Crows</b>	Northwestern Crow	<i>Corvus caurinus</i>
	Common Raven	<i>Corvus corax</i>
	Steller's Jay	<i>Cyanocitta stelleri</i>
<b>Chickadees and Bushtits</b>	Chestnut-backed Chickadee	<i>Poecile rufescens</i>
	Bushtit	<i>Psaltiparus minimus</i>
<b>Nuthatches and Creepers</b>	Red-breasted Nuthatch	<i>Sitta canadensis</i>
	Brown Creeper	<i>Certhia americana</i>
<b>Wrens and Dippers</b>	Bewick's Wren	<i>Thryomanes bewickii</i>
	Pacific Wren	<i>Troglodytes pacificus</i>
	Marsh Wren	<i>Cistothorus palustris</i>
	House Wren	<i>Troglodytes aedon</i>
<b>Kinglets and Thrushes</b>	Golden-crowned Kinglet	<i>Regulus satrapa</i>
	Ruby-crowned Kinglet	<i>Regulus calendula</i>
	Swainson's Thrush	<i>Catharus ustulatus</i>
	American Robin	<i>Turdus migratorius</i>
	Varied Thrush	<i>Ixoreus naevius</i>
	Hermit Thrush	<i>Catharus guttatus</i>



<b>Waxwings</b>	Cedar Waxwing	<i>Bombycilla cedrorum</i>
<b>Warblers</b>	Orange-crowned Warbler	<i>Vermivora celata</i>
	Yellow Warbler	<i>Dendroica petechia</i>
	Yellow-rumped Warbler	<i>Dendroica coronata</i>
	Black-throated Gray Warbler	<i>Dendroica nigrescens</i>
	Townsend's Warbler	<i>Dendroica towsendi</i>
	MacGillivray's Warbler	<i>Oporornis tolmiei</i>
	Common Yellowthroat	<i>Geothlypis trichas</i>
	Wilson's Warbler	<i>Wilsonia pusilla</i>
<b>Tanagers</b>	Western Tanager	<i>Piranga ludoviciana</i>
<b>Grosbeaks and Buntings</b>	Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>
<b>Sparrows</b>	Spotted Towhee	<i>Pipilo maculatus</i>
	Chipping Sparrow	<i>Spizella passerina</i>
	Fox Sparrow	<i>Passerella iliaca</i>
	Song Sparrow	<i>Melospiza melodia</i>
	White-crowned Sparrow	<i>Zonotrichia leucophrys</i>
	Dark-eyed Junco	<i>Junco hyemalis</i>
<b>Blackbirds and Orioles</b>	Red-winged Blackbird	<i>Agelaius phoeniceus</i>
<b>Finches</b>	Purple Finch	<i>Carpodacus purpureus</i>
	House Finch	<i>Carpodacus mexicanus</i>
	Red Crossbill	<i>Loxia curvirostra</i>
	Pine Siskin	<i>Carduelis pinus</i>
	Brown-headed cowbird	<i>Molothrus ater</i>
<b>Owls</b>	Barred Owl	<i>Strix varia</i>
	Northern Saw-whet Owl	<i>Aegolius acadicus</i>
<b>Swallows</b>	<a href="#">Barn Swallow</a>	<a href="#">Hirundo rustica</a>
<b>Starlings</b>	European Starling	<i>Sturnus vulgaris</i>
<b>Pheasants and Grouse</b>	Ruffed Grouse	<i>Bonasa umbellus</i>



## Appendix VI: Park Mammal List

List of mammals as per 1998 Management Plan.

Mammal Species of Seal Bay Nature Park and Seal Bay Forest		
Family	Common Name	Scientific Name
Insectivore	Wandering shrew	
	Townsend's vole	
	White-footed or Deer Mouse	
	Red Squirrel	Tamiasciurus budsonicus
	Little-brown bat	
Omnivore	Mink	
	Muskrat	
	Marten	
	Raccoon	Orocyon lotor
	Black bear	Ursus americanus
Herbivore	Beaver	
	Blacktail deer	Odocoileus hemionus
Aquatic Mammals	Fin-back whale	
	Hair seal	
	Pacific killer whale	



## Appendix VII: Park Entrances

The table below outlines the existing amenities at each of the park entrances as of 2018.

Entry Point	Location	Vehicular Parking (capacity)	Horse Trailer Parking (capacity)	Amenities	Other
E1	Bates Road (east side)	Yes (30) Gravelled	No	<ul style="list-style-type: none"> <li>• Outhouse</li> <li>• Trail Map Kiosk</li> <li>• Transit Stop</li> <li>• Dog bag dispenser</li> <li>• Garbage can</li> <li>• Brochure box</li> <li>• Commemorative burl – Jim Egan</li> <li>• Metal vehicle access gate</li> <li>• Park entrance sign – old (with First Nation language)</li> </ul>	<ul style="list-style-type: none"> <li>• Principle parking area</li> <li>• Vehicle access point into park</li> </ul>
E1	Bates Road (west side)	No	No	<ul style="list-style-type: none"> <li>• Dog bag dispenser</li> <li>• Brochure box</li> <li>• Commemorative cairn – Melda Buchanan</li> <li>• Library box</li> <li>• Wooden gate</li> <li>• Park entrance sign – older (with First Nation language)</li> </ul>	
E2	Seabank Road	Yes (8) Paved	No	<ul style="list-style-type: none"> <li>• Trail Map (old)</li> <li>• Dog bag dispenser</li> <li>• Garbage can</li> <li>• Brochure box</li> <li>• Commemorative cairn – Phil Capes</li> <li>• Metal vehicle access gate</li> <li>• Park entrance sign – new (with First Nation language)</li> </ul>	<ul style="list-style-type: none"> <li>• Vehicle access point into park</li> </ul>
E3	Bates Road	No	No	None	
E4	Bates Road	No	No	<ul style="list-style-type: none"> <li>• Park entrance sign – new (with First Nation language)</li> </ul>	
E5	Larch Road	Yes (4) Gravelled	No	None	
E6	March Road	No	No	None	<ul style="list-style-type: none"> <li>• Road turnaround</li> </ul>
E7	Huband Road	No	No	<ul style="list-style-type: none"> <li>• Metal gate</li> </ul>	
E8	Mitchel Road	Yes (4) Gravelled	Yes (3) Gravelled	<ul style="list-style-type: none"> <li>• Horse mounting box</li> <li>• Porta-pottie</li> <li>• Metal vehicle access gate</li> <li>• Fire hydrant</li> </ul>	<ul style="list-style-type: none"> <li>• Sandwick water tower and waterworks facility</li> <li>• Vehicle access into park</li> </ul>
E9	Elmo Road	No	No	None	



E10	Barbara Road	No	No	<ul style="list-style-type: none"> <li>• Trail sign</li> <li>• Metal pedestrian access gate</li> </ul>	<ul style="list-style-type: none"> <li>• Neighbourhood access to school</li> </ul>
E11	Langlois Road	No	No	None	
E12	Fitzell Road	No	No	None	<ul style="list-style-type: none"> <li>• Road turnaround</li> </ul>
E13	Clark Road	No	No	None	
E14	Hardy Road	Yes (12) Gravelled	No	<ul style="list-style-type: none"> <li>• Outhouse</li> <li>• Horse mounting box</li> <li>• Trail Map</li> <li>• Dog bag dispenser</li> <li>• Brochure box</li> <li>• Metal gate</li> <li>• Park entrance sign - new (with First Nation language)</li> </ul>	<ul style="list-style-type: none"> <li>• Easy access from Hwy 19A</li> </ul>
E15	Loxley Road	No	No	None	<ul style="list-style-type: none"> <li>• Road turnaround</li> </ul>
E16	Bates Road	No	No	None	
E17	Seacliff Road	No	No	<ul style="list-style-type: none"> <li>• Trail Map</li> </ul>	<ul style="list-style-type: none"> <li>• Road turnaround</li> </ul>

\*\*Note: Parking refers to formalized parking only and does not include on-street parking.



## Appendix VIII: Trail Type and Rating Classification Matrices

Trails shall provide a range of experiences for different targeted users. Trails are classified to help clarify the scale of trail development and management standards for the trails.

### Trail Type Guidelines:

	Type I	Type II	Type III	Type IV
Trail descriptor	Trail wide (offers side-by-side travel), firm, stable and uniform. Trail is relatively flat with no obstacles.	Trail relatively smooth, moderate width. Trail flat to gently rolling and may have short steep sections. Some obstacles may be present.	Trail continuous but narrow, rough. Trail may be steep and obstacles may be common.	Trail undeveloped, unmaintained
Trail rating	Easy	Easy to difficult	Moderate to extremely difficult	Unrated
Targeted visitor	Family-friendly, suitable for all visitors	Suitable for most visitors who are generally active	Suitable for visitors who are active and have trail experience	Untargeted
Type of Experience	Developed	Semi-developed	Natural	N/A

Level of Use	High	High to Moderate	High to Low	Low
Tread width (typical average)	1.5 - 3.0m	1.0 - 2.0m	0.3 - 1.0m	0.3 - 0.6m
Clearing width	0.5m on each side of trail	0.5m on each side of trail	1m total clearance	N/A
Clearing height	3.5m	2.5 - 3.5m	2.5m	N/A
Surface treatment	Packed screenings, pavement, boardwalk	Packed screenings, native mineral soils	Native mineral soils	Unsurfaced

Obstacles	No obstacles present, no stairs, may be fully accessible	Obstacles infrequent, stairs may be present	Obstacles may be common or intended for challenge, stairs may be present	N/A
Signage	Interpretive and directional signage where appropriate (max information provided)	Interpretive and directional signage where appropriate (moderate information provided)	Limited signage (minimal information provided)	No signage (no information provided)
Grade (general)	Flat to gently rolling	Flat to gently rolling with short steep sections	Rolling with steep sections	N/A
Maintenance	High	Moderate	Low	Unmaintained



## Trail Rating Guidelines:

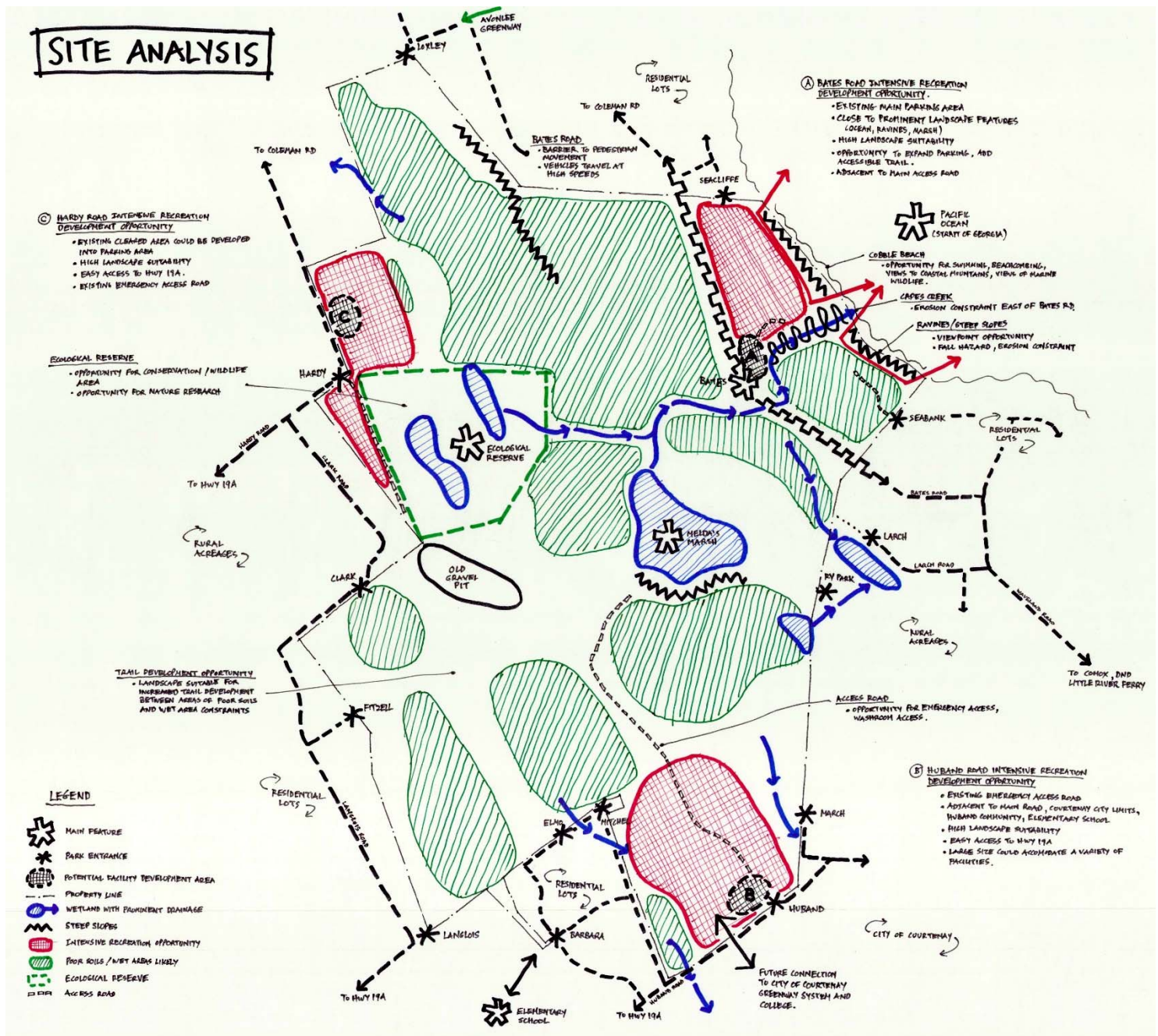
	Accessible	Easy	Moderate	Difficult	Extremely Difficult	Unrated
Symbol	Green dot	Green dot	Blue square	Black diamond	Double black diamond	N/A
Trail type	I	I or II	II or III	II or III	III	IV
Trail profile	Flat	Flat to gently rolling	Gently rolling with short steep sections	Rolling with many steep sections	Sustained steep	N/A
Obstacles	No obstacles	No obstacles	Avoidable obstacles, unavoidable easy obstacles	Unavoidable challenging obstacles	unavoidable difficult obstacles	N/A
Trail surface	Hard (packed or paved), smooth	Packed, smooth	Packed, firm	Variable	Variable, unpredictable, may be loose	N/A
Average grade	Less than 5%	Less than 5%	Up to 10%	Up to 15%	Greater than 15%	N/A
Grade (max)	5-8% for 20m	5-8% for 60m, 8-10% for 10m	10-15% for 25m	15-20% for 30m	N/A	N/A

Trail distance (return)	0 - 2km	0 - 5km	0 - 15km	0 - 15+km	0 - 15+km	N/A
Elevation gain/loss	Minimal	Minimal	Some (up to 100m)	Moderate (100 to 500m)	Major (>500m)	N/A
Time to complete trail (on foot)	Short (<1 hour)	Short (<1 hour)	Moderate (up to 3 hours)	Long (up to 5 hours)	Very Long (<5 hours)	N/A

Parameter outside definitions	A trail is 'generally' rated for difficulty and may have a site specific element that lies outside of the normal parameters. This could be an extended steep section, exposure, etc. Parameters outside of the normal rating would be signed as such.					
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## Appendix IX: Site Analysis





## Appendix X: Budget Analysis

The following analysis has used to establish the high-level projected costs associated with implementing the action items detailed in this plan. Projected costs were divided into short, medium and long term priorities to reflect the planning direction of this management plan.

This type of analysis was deemed appropriate given the timelines involved and the uncertainty of pinpointing future costs without detailed plans. The following rating scale was used:

Projected Cost	Symbol
Under 25,000	\$
26,000 to 100,000	\$\$
Over 100,000	\$\$\$

### Short Term Priorities (2019 - 2020):

Total projected costs are roughly anticipated to be \$320,000 to \$380,000 based on 2018 dollar amounts.

Item	Action description	Cost
1.4	Close Michel Grade north	\$
2.1	Close Loxley Trail	\$
2.1	Close unnamed trail near Catch Up Loop	\$
2.1	Close unnamed trail near Bates Road	\$
4.2	Guided nature walk program	\$
5.2, 6.1, 6.3	Signage plan installation	\$\$
6.2	Remove non-conforming signage	\$
8.3	Hardy Road parking area	\$\$\$
9.11	Horse Bike Loop re-route near Happy Face	\$
13.2	Re-align Horse-Bike Loop near Bates Road	\$\$\$

### Medium Term Priorities (2021 - 2025):

Total projected costs are roughly anticipated to be \$330,000 to \$350,000 based on 2018 dollar amounts.

Item	Action Description	Cost
2.5	Invasive species identification and removal	\$
5.2, 5.4	European and First Nation history interpretation	\$
8.2	Bates Road parking area	\$\$\$
9.7	Re-align Horse-Bike Loop near Langlois Road	\$\$
9.9	New trail near Elmo Road	\$\$
10.3	Upgrade Coupland trail to accessible standard	\$\$\$
4.1	Self-guided natural history interpretation – Coupland Trail	\$
14.1, 14.2	Wildfire risk recommendations	\$



**Long Term Priorities (2026 – 2038):**

Total projected costs are anticipated to be in the range of \$1,000,000 based on 2018 dollar amounts.

Item	Action Description	Cost
1.2	Inventory species at risk and sensitive ecosystems	\$
2.6	Address abandoned vehicle	\$
2.9	Hydrological research including dam impacts	\$
2.10	Research climate change vulnerabilities	\$
7.1	Bike Commuter path along Bates Road	\$\$\$
7.3	Active transportation connections	\$\$\$
8.4	Huband Road parking area	\$\$
8.4	Huband Road nature based recreation facility	\$\$\$
8.7	Meldas Marsh discovery area	\$\$\$
9.10	Pedestrian trail near Hardy Road	\$\$
10.4	Upgrade Swamp Loop to accessible standard	\$\$\$
4.1	Self-guided natural history interpretation - Swamp Loop	\$