

DATE: August 3, 2017

FILE: 6130-20/Mount Geoffrey

TO: Chair and Directors
Electoral Areas Services Committee

FROM: Ann MacDonald
Acting Chief Administrative Officer

RE: Mount Geoffrey Nature Park and Crown Land Trails Management Plan

Purpose

To present the Mount Geoffrey Nature Park and Crown Land Trails Management Plan (2017) for committee review and to seek support to approve the update.

Policy Analysis

The Hornby Island Community Parks and Greenways Service Amending Bylaw No. 385, 2015, enables the Comox Valley Regional District (CVRD) to plan for, acquire and develop community parks on Hornby Island.

The current park master plan for Mount Geoffrey Nature Park was adopted by the then Comox Strathcona Regional District in July 1998. A small amendment was made to the plan in September 2004.

The Electoral Areas Services Committee supported the referral of the draft plan for comment in June of 2016.

Executive Summary

The planning process to update the 1998 park master plan for Mount Geoffrey Nature Park and the Crown land trails was initiated in May 2014.

CVRD staff worked closely with BC Parks staff, a parks planning committee and the K'ómoks First Nation to develop and refine the content of the draft plan. Further the CVRD sought and received public and stakeholder input on the draft plan. Public consultation was initiated in August of 2014 with a survey and questionnaire available on line and through community outreach at the Co-op on Hornby Island. The second round of consultation included community outreach on Hornby Island, on-line and paper questionnaires and a public open house in June of 2015. The final round of public consultation included online and paper comment forms in March of 2017.

The protection of the natural ecosystem and the sustainability of the recreational trail experience were identified as important to Hornby Island residents. Islanders also recognized the critical role that Mount Geoffrey plays in the capturing of rainwater and subsequent recharging of the island aquifers.

This plan articulates the vision and goals for the Mount Geoffrey Nature Park and Crown land trails; identifies natural features and environmental, recreational and cultural values; and outlines an implementation strategy to manage the park system.

The Mount Geoffrey Nature Park and Crown Land Trails Management Plan (2017) (Appendix A) reflects the input received from the community, stakeholders and the K'ómoks First Nation.

Recommendation from the Acting Chief Administrative Officer:

THAT the Mount Geoffrey Nature Park and Crown Land Trails Management Plan dated July 2017 be approved and adopted as policy.

Respectfully:

A. MacDonald

Ann MacDonald
Acting Chief Administrative Officer

Background

In 1989, the CVRD obtained a license of occupation from the provincial government for Mount Geoffrey Nature Park and in 1998 the CVRD completed the first park management plan. In 2004, the park land was officially transferred to the CVRD for the purpose of a regional park. The lands directly to the east of Mount Geoffrey Nature Park remained provincial Crown land. In 2006, the CVRD obtained a permit from Recreation Sites and Trails BC under section 57 of the *Forest and Range Practices Act* to build, maintain and manage the trails on the adjacent Crown lands.

Geographically, Mount Geoffrey lies at the heart of Hornby Island and at the northern extent of the provincially rare Coastal Douglas-fir (CDF) biogeoclimatic zone. Today, very few older forest ecosystems like Mount Geoffrey remain in the CDF zone, and those that do are highly fragmented. Mount Geoffrey Nature Park itself protects 333 hectares (823 acres) of mature Douglas-fir forest, coastal bluffs and several small seasonal wetlands and creeks. Mount Geoffrey is also home to several species at risk and performs a critical groundwater recharge function for the island's aquifer.

In terms of social values, the Mount Geoffrey area is used by residents and visitors for wildlife viewing, walking, mountain biking and horseback riding. An extensive 22 km trail network stretches through Mount Geoffrey Nature Park. The trails within the park connect to a further 18 km of trails within the Crown lands to the east and 10 km of trails within Mount Geoffrey Escarpment Provincial Park to the south for a total of 50 km of recreational trails.

The trails in Mount Geoffrey Nature Park and on the Crown lands are managed by the Regional Parks Committee of the Hornby Island Residents' and Ratepayers' Association (HIRRA) under a service agreement with the CVRD. Park and trail maintenance is performed by a local contractor and volunteers of the Regional Parks Committee and the Hornby Island Mountain Biking Association.

Throughout the process of updating the management plan, Hornby Island residents expressed their strong support for the protection of the natural environment and the continued provision of nature oriented outdoor recreation opportunities.

The attached Mount Geoffrey Nature Park and Crown Land Trails Management Plan (Appendix A) builds on the original 1998 management plan and also includes management directions for the adjacent Crown land trails.

The following management goals have been identified in the plan:

1. Be responsive to the local community.
2. Work with the K'ómoks First Nation and with other government agencies to protect the environmental, recreation and cultural values of Mount Geoffrey.
3. Protect Mount Geoffrey's rare Coastal Douglas-fir ecosystem and its associated ecological communities.
4. Protect low lying, wetland areas field forest edge and mature forest within the conservation covenant area.
5. Recognize and protect First Nation cultural practices on Mount Geoffrey.
6. Provide a first class recreational experience while ensuring that sensitive environments are respected and trail maintenance is sustainable.
7. Improve wayfinding in the park and on the Crown lands.
8. Maintain a low conflict environment between trail users while providing a variety of trial experiences for hiking, mountain biking and horseback riding.
9. Ensure park improvements are in harmony with the natural setting of Mount Geoffrey.
10. Work with the fire services to reduce the risk of wildfires on Mount Geoffrey.
11. Protect the recreation and natural values of the Crown lands into the future.
12. Keep the parks management plan up to date.

Options

1. Approve and adopt the Mount Geoffrey Nature Park and Crown Land Trails Management Plan 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 are recommending option 1.

Financial Factors

Implementation of the plan may require a modest increase in the budget for Mount Geoffrey Nature Park and the Crown land trails during those years where special projects are proposed for implementation.

Legal Factors

Pursuant to the *Occupier's Liability Act*, the CVRD has a legal responsibility to manage and operate its parks in such a manner that they are safe for public use ("duty of care"). Any new trails will need to be developed to a standard that ensures the trails, as well as any structures that may be required, are safe.

The Mount Geoffrey Nature Park and Crown Land Trails Management Plan dated July 2017 is proposed to be adopted as policy by the regional district board.

Regional Growth Strategy Implications

The Comox Valley Regional Growth Strategy does not include Hornby Island.

Intergovernmental Factors

Implementation of the strategic actions identified in the plan will involve continued collaboration with:

- the Regional Parks Committee of the HIRRA who manage and maintain the trail system for the CVRD;

- the K'ómoks First Nation, whose traditional territory includes Mount Geoffrey and who have expressed an interest in the Crown lands;
- BC Parks, who manages Mount Geoffrey Escarpment Park;
- Recreation Sites and Trails BC, who administers the permit under which the CVRD maintains and operates the Crown land trails;
- the Islands Trust, who administers the zoning bylaw for Hornby Island;
- the Islands Trust Fund, whose Regional Conservation Plan identifies sensitive ecosystems on Mount Geoffrey;
- Conservancy Hornby Island and The Land Conservancy, who hold the conservation covenant to a 24.1 ha addition to the park in 2003; and
- the Hornby Island Fire Chief, who works with the CVRD to educate the public to reduce the risk of human caused fires and wildfires on Mount Geoffrey.

The first and final draft plan was sent to the above stakeholders as well as the Ministry of Environment, Ministry of Transportation and Infrastructure, Ministry of Agriculture, the Agricultural Land Commission and the Ministry of Forests, Lands and Natural Resources Operations. See Appendix B for the referral list.

The plan was finalized based on the comments received from two rounds of consultation.

Interdepartmental Involvement

The successful delivery of parks services on Mount Geoffrey and implementation of the Mount Geoffrey Nature Park and Crown Land Trails Management Plan is dependent on the on-going support provided by CVRD communications, GIS services, Financial Services and Corporate Services.

Citizen/Public Relations

The CVRD and BC Parks set up a joint planning committee which assisted the two agencies with issue identification, outreach activities, review of public input received and development of draft strategies.

The CVRD and BC Parks gathered initial public input through an information table, in-person discussions and a questionnaire at two different public venues in August 2014. The questionnaire was also posted on-line and 142 people responded. Highlights of the questionnaire responses can be found at the end of the management plan in Appendix B.

The two parks agencies also met with members of the K'ómoks First Nation to seek their technical input on First Nation cultural values related to Mount Geoffrey. These meetings did not constitute formal consultations. Input from these meetings formed the basis of the First Nation cultural values included in the plan.

On June 13, 2015, BC Parks and the CVRD held a public open house to solicit input from residents on a proposed vision, values and draft strategies related to the trail network, recreational experience, environmental protection, management of the conservation covenant area within the park and future goals for the Crown lands. About 90 Hornby Island residents attended the open house to view the draft strategies and provide input. The open house questionnaire was posted on-line for further comments and for those who were not able to attend the open house. Forty-seven people completed the second questionnaire.

The final draft plan was presented for final review to stakeholders, the K’ómoks First Nation and the public during a comment period that spanned from February 6, 2017 to March 22, 2017. This was predominantly an online review, however, paper versions of the final draft were also made available to the public at the local library to ensure a comprehensive final review took place. The CVRD and BC Parks received 14 final review comments. Of the 14 responses received, six of these responses detailed support for the final draft version of the plan. The remaining eight responses touched on the following subject matter: firewood within the park, First Nations place names, horse use within the park, helicopter pad use, mapping inquiries, fire response strategies, climate change and cultural heritage. All feedback was addressed within the plan.

The majority of those who participated in the planning process wanted to see the park and Crown lands remain natural with minimal development in order to maintain the site’s “sense of place”. The islanders also recognize the critical role that Mount Geoffrey plays in recharging the island’s aquifer. In an effort to improve wayfinding, the islanders would like to see additional directional signage on the trails and information kiosk maps at key park locations. Other improvements such as outhouses, picnic areas or parking lot expansion were viewed as not necessary or a low priority.

In general, the public consultations suggested a high level of satisfaction with the current management of Mount Geoffrey Nature Park and the Crown land trails.

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Attachments: Appendix A – “Mount Geoffrey Nature Park and Crown Land Trails Management Plan”
Appendix B – “Public and agency consultations plan”

Mount Geoffrey

Nature Park and Crown

Land Trails Management Plan



Photo: K. Albert

July 2017

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Acknowledgements

Content for this plan was developed with the assistance of the Mount Geoffrey Park Planning Committee who met at key points in the planning process between June 2014 and April 2016. The Committee identified issues and key themes, advised on outreach activities, promoted the open house and on-line questionnaires, reviewed public feedback received, advised on draft strategies and commented on the final draft plan. Their knowledge of Mount Geoffrey and the local community was central to this project. The Comox Valley Regional District extends their thank you to:

Mount Geoffrey Park Planning Committee

Alex Allen, Island Trustee

Tony Law, Island Trustee

Tony Quin, Conservancy Hornby Island

Grant Scott, Conservancy Hornby Island (TBC)

Ilze Raudzins, Hornby Island Provincial Parks Committee

Joanne Wyvill, Hornby Island Provincial Parks Committee

Betty Kennedy, Regional Parks Committee, Hornby Island Residents and Ratepayers Association

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Yana Pethick, Mount Geoffrey Nature Park contractor

Fabrizio Cross, Hornby Island Mountain Biking Association

Sasha LeBaron, Regional Parks Committee and Hornby Island Mountain Biking Association

The Planning Committee was supported by the following provincial and local government staff:

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BC Parks

Hayley Dato, Planner; Peggy Burfield, Planner; Sharon Erickson, Planning Section Head;

Derek Moore, Area Supervisor (Von Donop)

Hornby Island Fire Department

Giff LaRose, Fire Chief

Thank you also to the government agency representatives who reviewed the draft plan and shared their expertise, and electoral area director, Bruce Jolliffe, for his support of the planning initiative.

We also wish to thank Melissa Quocksister and Ron Frank and other members of the K'ómoks First Nation for providing input into the planning process and on the draft plan.

Finally, a BIG thank you to the many Hornby residents and visitors who gave of their time to answer the questionnaires, attend the open house, engage in discussions with planning committee members and parks staff and who provided valuable comments, insights and ideas on the future of Mount Geoffrey Nature Parks and Crown lands. We hope we have done your ideas and vision justice in this plan.

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Executive Summary

Mount Geoffrey Nature Park and adjacent Crown lands protect a diversity of landscapes and ecological communities. Situated at the heart of Hornby Island, these natural lands contribute to the quality of life of Hornby Island residents and visitors. They provide a setting where people can disconnect from their busy lives, enjoy nature and be active.

The Comox Valley Regional District (CVRD) first obtained a license of occupation for the 303 ha (749 acres) Mount Geoffrey Nature Park from the provincial government in 1989. In 2004, the land was transferred to the CVRD for the purpose of a regional park.

The lands to the East of Mount Geoffrey Regional Park remain provincial Crown land. In 2006, the CVRD obtained a permit under section 57 of the *Forest and Range Practices Act* to build, maintain and manage the Crown land trails.

The first management plan for Mount Geoffrey Regional Nature Park was completed in 1998. This park management plan builds upon the 1998 plan and is the result of extensive public consultation and review by the Mount Geoffrey Planning Committee and parks staff over several years.

Purpose of the Plan

The purpose of the Mount Geoffrey Nature Park and Crown Land Trails Management Plan is to communicate a vision and goals for the park and Crown land trails, identify the natural features of the lands, recognize their environmental, recreation and cultural values and outline an implementation strategy to manage the natural environment and trail network for public enjoyment, recreation and conservation into the future.

Planning and Consultation Process

The CVRD worked together with BC Parks to plan for their respective parks, Mount Geoffrey Escarpment Provincial Park and Mount Geoffrey Nature Park and Crown lands. While BC Parks developed a first park management plan for Mount Geoffrey' Escarpment Provincial Park, the



CVRD was updating its 1998 parks master plan for the Nature Park and Crown land trails. Starting in mid-2014, the two agencies worked with a parks planning committee to identify park management issues, seek public input on park values, uses, signage, education, trails and environmental protection and develop draft strategies for feedback at a public open house. The Mount Geoffrey Parks Planning Committee was composed of representatives from

Conservancy Hornby Island, Hornby Island Provincial Parks Committee, Islands Trust Local Trust Committee, Hornby Island Residents' and Ratepayers' Association, Regional Parks Committee, Hornby Island Mountain Bike Association, BC Parks (Ministry of Environment), CVRD Parks and Recreation Sites and Trails BC (Ministry of Forests, Lands and Natural Resources).

The public participated in on-line surveys and market outreach on Hornby Island in 2014 at the farmers market and Island Co-op. In 2015, an open house was jointly hosted on the island by BC Parks and the CVRD. BC Parks and CVRD staff also met with a technical committee of the K'ómoks First Nation to review plan content and develop the cultural significance statements in the two park plans.

The last step of the consultation process involved posting the final draft plan to the CVRD website in early February of 2017 for public comment and stakeholder review. BC Parks and CVRD staff also met with the K'ómoks First Nation technical committee to review the final draft in June of 2017. Based on the final public feedback, agency review and final comments from the K'ómoks First Nation the final draft was slightly amended to its present form. **The CVRD board adopted the final report as board policy on XXXX, 2017.**

Chapter 1, the introduction, describes the planning process in greater detail.

History and Recent Trends

Throughout history, First Nations, early settlers as well as more recent generations of Hornby Islanders have placed great value on the natural environment of Hornby Island. Since the establishment of the Islands Trust, and likely well before then, Hornby Island residents have worked tirelessly to obtain protected status of Mount Geoffrey for public recreation, water source protection and nature preservation.

The trail system of Mount Geoffrey has expanded since the completion of the 1998 parks master plan and, according to park users, use has increased steadily over the past decade. The updated plan maps the recreational trails that are maintained by the Regional Parks Committee. There are some user created trails that are not maintained, not signed and not mapped. The CVRD is seeking to reduce the proliferation of trails that cannot be maintained, negatively impact sensitive ecosystems and unnecessarily densify the trail system reducing the visitor experience and fragmenting the natural ecosystem.

For a brief history of Mount Geoffrey and more recent trends and park management considerations, see chapters 2 and 3 respectively.

Governance

Management of Mount Geoffrey Nature Park and the Crown land trails is guided by the regulations, policies and bylaws of a number of different government bodies.

Hornby Island is part of the Islands Trust area. The Local Trust Committee develops and administers the Hornby Island official community plan which sets policies for land use and the Hornby Island land-use bylaw which designates land use zones.

Hornby Island also falls within Electoral Area ‘A’ of the CVRD. The CVRD has authority over park acquisition, planning and management of regional parks on Hornby Island, including Mount Geoffrey Nature Park.

The CVRD manages the trail system on the provincial Crown lands adjacent to the Nature Park through a permit granted by Recreation and Trails BC, a branch of the provincial Ministry of Forests, Lands and Natural Resource Operations.

Mount Geoffrey Escarpment Provincial Park which abuts the regional park is managed under the *Provincial Parks Act* by BC Parks, a branch of the provincial Ministry of Environment.

Finally, Mount Geoffrey falls within First Nations traditional territory. The CVRD worked with the K’ómoks First Nation on the development of this plan. How the different jurisdictions affect management of Mount Geoffrey parks and trails is described in chapter 4.

Mount Geoffrey values and vision

During the community outreach on Hornby Island, the on-line questionnaire and the open house, Hornby island residents identified what they value most about Mount Geoffrey parks and Crown lands. The protection of the provincially rare Coastal Douglas-fir forest, small wetlands, cliff ecosystem and several species at risk are very important to islanders, as are the recreational trails that provide a variety of experiences year round. Islanders also recognize the critical role Mount Geoffrey plays in capturing the rainwater that recharges the aquifers and feeds the wells on Hornby Island. A greater understanding of First Nation cultural practices can be appreciated on Mount Geoffrey.



Chapter 5 summarizes Mount Geoffrey’s geological history, ecosystems, recreational values and First Nation cultural values.

These values informed the drafting of the vision for the parks and Crown land trails presented in the vision statement and chapter 6.

Implementation Strategy and Priorities

Chapter 7 identifies the goals, objectives and actions to implement the parks and trails Management plan over the coming years. The individual actions are prioritized in chapter 8 of the plan. During the consultations, park users seemed overall very satisfied with Mount Geoffrey and wanted it to remain natural with minimal development. One of the suggested improvements that was mentioned frequently, especially by newer park users, was additional directional sign and maps to improve wayfinding.

In response, this parks management plan identifies additional trail directional signs and information kiosk maps at park entrances and at key trail junctions as short term priorities.



Ongoing priorities are trail drainage improvements, fire patrols during the hot and dry summer months, maintenance of the ponds for firefighting purposes and removal of invasive species.

Implementation actions for the medium term are interpretive signs about the natural ecosystems of the park, First Nation history and park history. The CVRD will work with the Regional Parks Committee, BC Parks, the K'ómoks First Nation and the local community to develop content for those signs.

The CVRD, through the Regional Parks Committee, will monitor use of the parking lots over the coming years. If they are starting to overflow regularly, an implementation action for the long term may be expansion of one or two central parking lots and addition of outhouses in those locations.

Finally, thanks to the planning process and public consultations that led up to the development of this parks and Crown land trails management plan, the CVRD developed excellent working relationships with the Regional Parks Committee, the local Trustees, the local community, the K'ómoks First Nation, BC Parks, Recreation Sites and Trails BC, the Hornby Island Fire Chief and the Coastal Fire Centre. One key goal of this plan is to continue to build on those relationships and to consult and work in partnership on issues affecting Mount Geoffrey.

Park Vision

Mount Geoffrey Nature Park and Crown Land Trails – The Heart of Hornby

Mount Geoffrey Nature Park and the adjacent Crown lands lie at the heart of Hornby Island. This natural area's coastal bluffs, wetlands and Douglas-fir forests provide a sanctuary for native plants and wildlife to thrive. It also provides a place for people to explore and connect to nature. The forests and wetlands clean the air and recharge Hornby Islands' groundwater supplies.

The park and Crown lands provide a well maintained trail network for low impact non-motorized recreation including walking, horseback riding and mountain biking. The trail network respects and minimizes impact on sensitive ecosystems.

Park management focuses on protecting and restoring functioning and resilient natural ecosystems. First Nations cultural heritage values are better understood and embraced. Cultural sites are protected; the plants and animals that once sustained First Nations communities are abundant, and First Nations members are connecting to this area through cultural practices.

Mount Geoffrey Nature Park and the Crown lands are contiguous with the Mount Geoffrey Escarpment Park and trails. Directional and interpretive signs and trail maps in the two parks and on the Crown lands are consistent and complimentary.

Park and trail maintenance is carried out by local forces overseen by the Regional Parks Committee of the Hornby Island Residents and Ratepayers Association with support from volunteers and Comox Valley Regional District parks staff.

Mount Geoffrey is protected into the future as a sanctuary for plants, animals and people alike.

Management Goals

In order to achieve the vision, the following management goals will guide the implementation strategy:

1. Be responsive to the local community
2. Work with the K'ómoks First Nation and with other government agencies to protect the environmental, recreation and cultural values of Mount Geoffrey.
3. Protect Mount Geoffrey's rare Coastal Douglas-fir ecosystem and its associated ecological communities.
4. Protect lower lying, wetland areas field-forest edge and mature forest within the conservation covenant area.
5. Recognize and protect First Nation cultural practices on Mount Geoffrey.
6. Provide a first class recreational experience while ensuring that sensitive environments are respected and trail maintenance is sustainable.
7. Improve wayfinding in the park and on the Crown lands.

8. Maintain a low conflict environment between trail users while providing a variety of trail experiences for hiking, mountain biking and horseback riding.
9. Ensure park improvements are in harmony with the natural setting of Mount Geoffrey
10. Work with fire services to reduce the risk of wildfires on Mount Geoffrey.
11. Protect the recreation and natural values of the Crown lands into the future.
12. Keep the parks management plan up to date.

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1. Mount Geoffrey – The Heart of Hornby



Mount Geoffrey lies at the heart of Hornby Island. Residents and visitors come here to renew their spirits, walk, bike or horseback ride along forested trails lined with bright green moss. They also come to observe Peregrine falcon riding air currents above steep cliffs and enjoy views of the Comox Harbour, Baynes Sound and Denman Island.

Located in the centre of Hornby Island, Mount Geoffrey Nature Park forms part of a large contiguous natural area known locally as “Mount Geoffrey”. The area includes Mount Geoffrey Nature Park, the adjacent Mount Geoffrey Escarpment Park, adjacent

Mount Geoffrey Bench Park and adjacent Crown lands. Together these lands cover approximately 25 percent of Hornby Island.

The CVRD Nature Park itself protects 333 hectares (823 acres) of mature Douglas-fir forest, coastal bluffs and several small seasonal wetlands and creeks.

An extensive 22 km trail network stretches through Mount Geoffrey Nature Park. Add to that the Crown land and Escarpment Provincial Park trail networks and you have 50 km of trails to explore. As a result of the mild climate, the trails are useable for most of the year and are popular with locals and visitors to the island.

Mount Geoffrey lies at the northern extent of the provincially rare Coastal Douglas-fir (CDF) biogeoclimatic zone. This biogeoclimatic zone is characterized by warm dry summers and mild wet winters.

Purpose of the Park Management Plan

The purpose of this parks plan is to identify a vision, goals and implementation strategies for Mount Geoffrey Nature Park and the Crown land trails to guide park improvements and park management over the next 10 to 15 years.

Scope of the Plan

The plan includes Mount Geoffrey Nature Park and the trail system on the adjacent Crown lands (see map in appendix 1). The Nature Park is owned by the CVRD in fee simple. The Crown land trails are managed by the CVRD under permit from Recreation and Trails BC, a branch of the Ministry of Forests, Lands and Natural Resource Operations.

Planning Process

The CVRD and BC Parks worked together to get initial public input for the management plans for the regionally managed Mount Geoffrey Nature Park and the provincial Mount Geoffrey Escarpment Park in 2007. Community engagement at the time included a series of planning meetings, an open house and focus group discussions.

In mid-2014 the CVRD and BC Parks re-engaged with the Hornby Island community to identify park management issues and strategies for the development of

BC Parks' first parks management plan for Mount Geoffrey Escarpment Park while the CVRD updated its 1998 parks master plan for Mount Geoffrey Nature Park and for the Crown land trails.

Planning Committee

Development of the Mount Geoffrey Nature Park and Crown land trails management plan, as well as the BC Parks' park management plan for the adjacent Mount Geoffrey Escarpment Provincial Park, was supported by the Mount Geoffrey Planning Committee comprised of representatives from local community groups¹.

The volunteer committee members shared expertise and knowledge and worked with CVRD and BC Parks staff to identify park management issues, advise on public outreach and communications, review the on-line questionnaires, analyze public input and develop draft strategies and recommendations for review by the public at an open house.

Outreach in Community

CVRD and BC Parks staff set up an information table at the Wednesday farmer's market on August 13, 2014 and at the Hornby Island Co-op store on Saturday, August 23, 2014 to gather some initial public input through in-person discussions with local residents and visitors and through a paper questionnaire.

On-line Questionnaire

The questionnaire available during the August outreach tables was also posted on-line and promoted to the local community via facebook and posters at various locations

¹ The Mount Geoffrey Park Planning Committee members are listed under the acknowledgements on page i.

across the island. 142 people completed the questionnaire. Highlights of the questionnaire responses are in appendix 4.

Responses are also summarized throughout this plan under the relevant topics.

K'ómoks First Nation Participation

Leading up to the June 13, 2015 public open house, the regional district and BC Parks met with members of the K'ómoks First Nation to discuss their participation in the planning process and seek their input on First Nation cultural values related to Mount Geoffrey. The band provided a welcome letter by Chief Councilor Robert Everson and a poster of the K'ómoks First Nation vision and values for the open house.

The K'ómoks First Nation also provided information on their history and connection to Mount Geoffrey for inclusion in this management plan and provided comment on a final draft of the plan.

Public Open House

On Saturday, June 13, 2015, BC Parks and the CVRD held a public open houses at the Hornby Community Hall to solicit input from residents as to their views on a proposed vision, values and a series of draft strategies related to the trail network, recreational experience, environmental protection, management of the conservation covenant area within the park and future goals for the Crown lands.

The open house was advertised in the Island Grapevine, the local radio station, Hornby Island Facebook sites, through posters at park trail heads, and via an email notification for all who had left contact information during the summer outreach and on the on-line questionnaire.

About 90 Hornby Island residents attended the open house to view the draft strategies and provide input. Following the event, the

open house questionnaire was posted on-line for those who were not able to attend. Forty-seven completed the open house questionnaire.



Open House Materials On-line

All the information panels and maps presented at the open houses as well as the open house questionnaire were also posted on the regional district website. This allowed residents to review the materials and provide comments even if they were not able to attend the open house.

A summary of completed open house questionnaires and submissions is summarized in the relevant chapters in this parks management plan.

Agency Referrals and Public Comment Period

The Mount Geoffrey Nature Park and Crown Land Trails Management Plan was drafted based on all the input received. A final draft was presented to the CVRD board at their August 15, 2016 meeting for review.

Following the meeting, the draft plan was referred to other local governments, senior government agencies and First Nations for comment and also posted on the CVRD website for further public comment.

The draft plan was then revised to give consideration to the many comments received. A final draft of the plan was then completed and a second referral and public feedback process was initiated in February of 2017. The final comments that were

collected during this second referral process further refined the management plan.

The plan was adopted as policy by the CVRD board on XXXX, 2017.

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2. History



Troughout history, First Nations, early settlers as well as more recent generations of Hornby Islanders have placed great value on the natural environment of Hornby Island. Since the establishment of the Islands Trust, and likely well before then, Hornby Island residents have worked tirelessly to achieve protected status of Mount Geoffrey for public recreation and nature preservation.

First Nations

The CVRD is aware that the provincial government recognizes Mount Geoffrey as being within the consultative areas of the

K'ómoks, Xwemalhkwu (Holmaco), We Wai Kai (Cape Mudge), Wei Wai Kum (Campbell River), Qualicum and Tla'amin First Nations, as well as the six members of the Hul'qumi'num Treaty Group (Cowichan Tribes, Chemainus, Halalt, Lake Cowichan, Lyackson and Penelakut First Nations).

The CVRD also acknowledges that Mount Geoffrey is included in the Tla'amin Final Agreement as being within the Tla'amin

Plant Gathering Area.² This is as per customary practice and the current K'ómoks First Nation – Tla'amin First Nation Shared Area Protocol (2008).

K'ómoks First Nation

Prior to contact with European settlers, Hornby Island was part of the Pentlatch traditional territory. The following summarizes the K'ómoks First Nation account of First Nations history on Hornby Island.

Around 1850 several K'ómoks tribes or subgroups relocated to the Pentlatch territory. Marriages between the Pentlatch and the K'ómoks increased in frequency after the K'ómoks relocated and the genealogies of the two peoples intertwined. By 1876, the K'ómoks and Pentlatch people were administratively merged into the Comox Band. The Pentlatch chieftanship passed to the K'ómoks people in the early 20th century and continues to be held by the K'ómoks today. The Pentlatch were subsumed within the modern K'ómoks First Nation.

Before the arrival of European settlers, the Pentlatch, and later the K'ómoks people, visited Hornby Island by canoe to fish, dig for clams and roots and follow spiritual practices.

Garry oak meadows used to grow in present day Helliwell Provincial Park and may have been maintained through regular burning by the First Nations. They harvested camas, chocolate lily and wild onions from these meadows.

Herring was plentiful in Lambert Channel between Hornby and Denman islands. Hornby also had productive clam beaches. Inland from the coast, a large deer

population and berries provided important resources to the Pentlatch and K'ómoks First Nations.

Numerous archaeological sites are a present-day reminder of First Nations presence and harvesting. Known sites includes shell middens at St. John's Point, Ford Cove, Sandpiper Beach, Tralee Point, Tribune Bay, Shields Point, Phillips Point and Shingle Spit. Most of these appear to have been small seasonal camps but a few may have been village sites.

Shingle Spit, on the island's sheltered eastern shore, was the site of one of the Pentlatch's and K'ómoks' seasonal villages.

Archaeological excavations have revealed evidence of occupation from 440 to 1740 AD and pre-contact harvesting of elk, deer, sea lion, perch, rockfish, dogfish and shellfish.

Hornby Island also has nine known petroglyph sites. These are believed to have been related to spiritual or ritual activities. It is likely that sites on Mount Geoffrey were used for spiritual activities leading up to ceremonies.³

European Settlement

Hornby Island was originally named Isla de Lerena during the 1791 voyage of the Spanish ship Santa Saturina, under Juan Carrasco and Jose Maria Narvaez. The name honours the Spanish Finance Minister, Don Pedro Lopez de Lerena, who commissioned the voyages to North America of Spanish ships. In 1850, the British renamed it Hornby Island, after Admiral Sir Phipps Hornby, RN, Commander-in-Chief of the Pacific Station, 1847-51. Mount Geoffrey was named after the Admiral's son Geoffrey Thomas Phipps Hornby who was posted to

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

³ Based on research completed by Jesse Morin, archaeologist, for the K'ómoks First Nation between 2015-2016.

Vancouver Island in the late 1850s as commander of the HMS Tribune (GeoBC, 2016).

The first settlers arrived at Hornby Island in 1863. They cleared land and established farmsteads. An orchard was planted at Ford Cove within present day Mount Geoffrey Escarpment Park.

The first formal division of land on the island was completed in the early 1870s.

The island's population grew slowly following the pioneer landowners Henry Maude and George Ford. Just 32 people lived on the island at the turn of the 20th century.

More settlers arrived in the 1920s. Regular vehicle ferry service to the island started in the 1950's.

Beginning in the 1960s, Hornby's economy shifted from resource-based livelihoods including logging, farming and fishing to service-based livelihoods such as tourism, arts and crafts and serving the needs of summer residents and the growing number of retired and semi-retired residents.

New residents who arrived sought out the rural, back-to-the-land lifestyle. Hornby also received immigrants from the United States who objected to the Vietnam War and came to Canada to flee conscription.

Development of Hornby Island accelerated. In the late 1960's, prior to the existence of the Islands Trust, three large tracts of former farm land were purchased by development companies and transformed into subdivisions. They cleared lands, put in roads and power lines and put the properties up for sale.

Long-time residents were dismayed at what they called the indiscriminate carving up of the island. They were concerned about the

depletion of the water table and the potential for septic contamination of wells and objected to the new development.

Recreation on Mount Geoffrey

While development elsewhere on the island accelerated, the forest on Mount Geoffrey was regenerating from the clearcutting of the early part of the 20th century. By the 1970's, the trees had grown to a larger size, the understory was recovering and the forest was becoming more inviting. This led to the reclamation of old logging roads and trail construction for walking, horseback riding and, later, mountain-biking. The part-time residents and summer visitors began to frequent not only Hornby's beautiful beaches but also the interior forests.

The Islands Trust was formed in 1974 as a land use and planning agency to preserve and protect Hornby Island and other natural gems in the Gulf Islands. The Islands Trust enacted the first Hornby Island Official Community Plan in 1976, followed by local land-use and zoning by-laws. The desire of the community to keep the Crown land forest intact and undeveloped is expressed in these early documents. At about this time, community opposition to the further granting of Crown land leaseholds and purchases was expressed at Hornby Island Residents and Ratepayers Association (HIRRA) meetings.⁴ There has been no alienation of upland Crown land on the island since then, in spite of a number of applications.

Beginning in the 1970s, residents started to work toward protection for and local control over the Crown land forests on Hornby Island. In August 1973, islanders successfully petitioned the provincial Department of Lands, Forests and Water

⁴ The Hornby Island Residents and Ratepayers Association (HIRRA) was formed in 1964.

Resources for a map reserve "for the use, recreation and enjoyment of the public" (UREP)⁵ over all of Mount Geoffrey.

Numerous sustained initiatives, including the founding of the Hornby Island Forestry Management Society (HIFMS) in 1987, provincial water studies beginning in 1992, and continuing work by HIRRA, attest to the community's profound concern for the future of the Crown lands.

Five years of effort by the community, HIRRA, the Islands Trust and the Regional District culminated in 1989 in the granting of a License of Occupation over the area that was to become Mount Geoffrey Regional Nature Park.

In 1992, the Province offered the park as a free Crown grant to the CVRD for regional park purposes. It took another 12 years for the land to be transferred to the Regional District. The Crown land grant was signed by Order in Council on March 12, 2004.

First Park Management Plan

The CVRD adopted the first parks plan for Mount Geoffrey Nature Park in July 1998.

In the period between the completion of the 1998 Mount Geoffrey parks master plan and adoption of the current plan in 2017, Hornby Island went through an intensive review of options for the Crown lands adjacent to the Nature Park; the lands to the south of the park were acquired and protected as Mount Geoffrey Escarpment Provincial Park; the Hornby Island Official Community Plan was updated; the Islands Trust Fund completed a Regional Conservation Plan for the trust area including Hornby Island; and the K'ómoks First Nation signed an agreement in principle with the Government of Canada

and the Province of BC which identified that the K'ómoks First Nation would name the new park on Hornby Island.

Following is a summary of these events.

Review of Crown Land Tenure Options

Heart of Hornby Report

In 1999, the Hornby Island Residents Association (HIRRA) set up an upland Crown land committee to review tenure options for the Crown lands adjacent to Mount Geoffrey Nature Park.

This review was initiated in response to a reorganization by the provincial government which saw all vacant Crown land transferred to a new Crown corporation, the BC Assets and Land Corporation (BCAL). One of the purposes of the new Crown corporation was to explore generating revenue through the sale or lease of Crown land.

Concerned about a possible sale and development of the Crown lands adjacent to Mount Geoffrey Nature Park, HIRRA formed the Upland Crown Land Committee to review tenure options that would enable public stewardship of the Crown lands for the long term benefit of the community.

The Committee reviewed the following options:

1. Community forest tenure – acquisition of a woodlot license or community forest designation
2. Inclusion of the land within Mount Geoffrey Regional Park.
3. Acquisition of the land by the Island Trust Fund and management in cooperation with local participation.
4. Land purchase and local management.

⁵ UREP refers to a land use reserve established under the *Land Act* over an area of Crown land to guard against unwarranted disposition or unplanned use.

5. Retention of current ownership status (provincial Crown land) with appropriate regulations and reserves in place.

The Crown Land Committee reviewed previously completed reports and collected survey data. The survey data were used to generate a series of resource maps that identified streams and wetlands, older forest areas and the trail network.

The Committee also identified the key values of the Crown lands – its groundwater recharge function, the forest ecosystem and recreational trail system.

With respect to the trail system, the report recommended the following:

1. Do not develop more trails without an ecosystem impact evaluation.
2. Consider seasonal closures for high impact traffic (perhaps including mountain biking and horses) of trails that have sections which become waterways during the wet season. Alternatively, provide local upgrading to deal with the problem of erosion and increasing trail width.
3. Consider remediation of trail erosion caused by captured streams.

In July 2000, the Committee presented its draft report to the community. Public meetings were held in August 2000. The final report was presented to the HIRRA Executive on September 6, 2000.⁶ The report recommended a new form of tenure: “Regional (Community) Forest Park” to be maintained by a local stewardship committee. In the short term, it recommended that HIRRA investigate a Licence of Occupation for the trails.

⁶ Upland Crown Land Committee of the Hornby Island Residents and Ratepayers Association. 2000. Heart of Hornby: A forest, a watershed. Phase 1 Report, Base Mapping Ecological Studies and Tenure Options.

Cascadia Eco-Survey of Crown Lands

As part of its research for the Heart of Hornby Report, the Upland Crown Lands Committee commissioned Cascadia Natural Resource Consultants to complete an ecological inventory of the Crown land.⁷

The report used 1:5000 air photos to assist in the review of existing information, including a previous ecological survey completed by Triton Environmental Consultants for the Ministry of Environment, Lands and Parks in 1998. The Cascadia report suggested potential forest management objectives and developed planning options for the community. Key issues identified were fire, old-growth forest features, wetland and riparian areas, potential areas for conservation and reserve zones and recreational opportunities.

The report proposed areas to be managed for conservation with little or no resource extraction. These included a riparian – wetland complex area that would include riparian forests, a buffer zone and an upland old-mature forest feature area.

The report also suggested that younger forests be investigated for habitat capability and forest health issues and considered for other forest management goals with silviculture methods applied to enhance old-forest features and accelerate seral stage development. Small controlled burns and/or silviculture prescriptions mimicking natural disturbance regimes were recommended to thin dense stands of young forest and to mitigate risks of forest fires.

The riparian-wetland complex zones were identified as particularly important for

⁷ Cascadia Natural Resource Consultants Inc. Ecosurvey of the 400 ha Crown Land Parcel on Hornby Island, BC, Phase 1 Final Report, February 7, 2000.

protection because of limited availability of suitable habitat for a variety of red and blue-listed wildlife species.

The report recommended a second phase of field inventory work that would confirm and delineate management zones.

A short term tenure option recommended for the Crown lands was that the CVRD obtain a Licence of Occupation for the trail system from the Province. The recommendation for the longer term was a regional community forest park designation. The land was to be maintained by a local stewardship committee.

Heart of the Island Report

In late 1999, the Hornby Local Trust Committee set up an advisory committee to provide recommendations for an Official Community Plan review of the 400 hectare Crown land parcel.

Part of the committee's mandate was to identify areas of broad community agreement and areas that needed clarification, resolution or more information.

The Committee released its report, entitled "The Heart of the Island" in July 2000. Similar to HIRRA's Heart of Hornby report, it did not support commercial harvesting on the Crown lands.

In preparing its report, the Advisory Crown Lands Committee reviewed a large amount of studies and reports and identified a number of recurring community concerns and interests. These were organized into seven themes:

1. Retention of the legal integrity of the Crown land parcel. Strong community opposition to through roads, subdivision, sale of parcels and development in general.
2. Retention of the forest cover to support the groundwater recharge capacity, to

protect wildlife habitat and for aesthetics.

3. Conservation and preservation of the natural systems of Hornby's Crown forest as an integrated whole, with the goal of the eventual restoration of the island's central forest to a healthy, mature state.
4. Although the forest is fire-dependent in its native state, reduction of wildfire hazard, is a key interest to Hornby Island residents.
5. Preservation of the capacity of the Crown land to catch and retain water. This is closely related to forest health and land use.
6. Appropriate human uses of the Crown land such as low-impact recreational uses. Damage to the land caused by bicycles, horses, and vehicles are of concern. The appropriateness of some uses (e.g. hunting, squatting, firewood cutting) is questioned or actively opposed by the community.
7. Local control over the Crown lands.

The seventh theme identified by the Advisory Committee was felt to be the most important. The Committee reported that islanders view the forested Crown land in the centre of the island as common land belonging to the community. The development and the granting of a woodlot licence to off-island interests was identified as a major threat to the common land.

Permit over the Crown land trails

Despite repeated efforts to obtain protected status for them, the lands to the East of Mount Geoffrey Nature Park remain provincial Crown lands. In 2002, the CVRD worked with HIRRA to develop a management plan for the Crown lands and apply for a license of occupation from the Province. The application was refused by

Land Water BC in 2004 because it “could limit potential options for LWBC to manage lands not only for stewardship benefits but for economic opportunities for the well-being of all residents.”⁸

In September 2004, the CVRD applied for a free Crown grant or nominal rent tenure sponsorship for the Crown lands under a new provincial free Crown grant program. The request was turned down.

In May 2005, the CVRD organized a joint agency meeting to attempt to resolve this long-standing issue. At the meeting, the CVRD was advised it could apply to the Ministry of Forests for a permit to maintain the trail system.

In December 2006, the CVRD obtained a permit under section 57 of the Forest and Range Practices Act to build, maintain and manage the Crown land trails adjacent to Mount Geoffrey Regional Nature Park.



Shingle Spit to Ford Cove Trail

Creation of Mount Geoffrey Escarpment Park

Between 1992 and 2004, Hornby Island residents worked to protect an area to the south of Mount Geoffrey Nature Park that was known as the Link Parsons property. The property owner’s family had allowed public use of the property for more than 30 years. Residents and visitors enjoyed the land as if it was a park. The property owner was willing to sell the land for conservation purposes and made it available for a possible acquisition three times. The property was listed for sale for the third time in 2001.

Conservancy Hornby Island, with assistance from the Islands Trust Fund, hired the services of a biologist to complete an ecological inventory of the land. The biologist identified the following rare species: coastal shield fern, little fescue, Peregrine falcon, Great blue heron, and a number of rare red listed plant communities: red alder-slough sedge, Douglas-fir-Arbutus, Douglas-fir-salal, Garry oak-oceanspray and Garry oak-arbutus.

The 460 acre property was purchased in 2004 by BC Parks. The purchase was made possible through contributions by the Land Conservancy of BC, the Islands Trust Fund, the CVRD and donations by the Hornby Island community.

BC Parks and CVRD worked together to initiate a park management planning process in 2007 to develop park plans for their respective parks. The 2007 process was put on hold due to staff changes within BC Parks and the CVRD, BC Parks’ resource commitments to land acquisitions on Denman Island and the split of the then Comox-Strathcona Regional District into the Comox Valley and the Strathcona regional districts.

⁸ Land File No. 1412486.

In 2014, BC Parks and the CVRD staff rekindled the joint planning process for Mount Geoffrey Escarpment Provincial Park, Mount Geoffrey Nature Park and the Crown land trails. The two agencies worked together to consult with the public on park issues and management direction. This recent process resulted in the adoption of a new park management plan for the provincial park and this park management plan for Mount Geoffrey Nature Park.

HIEEC Strategic Plan 2012 - 2016

In 2012, the Hornby Island Economic Enhancement Corporation (HIEEC) adopted its 2012-2016 strategic plan. One of the five key goals of the plan is to facilitate a year round economy on Hornby Island. Supporting objectives are:

- a) To promote off-season events and other opportunities for visitors.
- b) To contribute to enhancing summer tourism as one component of a year-round economy.
- c) To provide support for economic activity that is not based upon summer tourism.

In support of these objectives, one of the projects identified in the HIEEC 2016 annual plan is to expand the visitor season into the spring and fall to help Hornby businesses stay open longer and increase the length of employment opportunities.

It is likely that greater visitation in the shoulder season in the future will also see an increase in the use of the Mount Geoffrey trail system. More use of the trails in the late fall and spring when they are wetter and more subject to damage, braiding and erosion is not desirable. A longer fall season, especially after a dry summer, is more compatible with trail maintenance objectives. In either event, a longer shoulder season would require more drainage and trail maintenance work.

3. Current Conditions and Trends



Demographics

Age and population

Hornby Island's permanent population is aging. At the time of the 2011 census, 27% of Hornby's residents were over 65 years old compared with 14% in BC. Only 35% of residents were under 45, compared with 57% in BC. The median age of Hornby residents is 58.

The 10% population increase between 1996 and 2006 (from 989 to 1,074) appears to have resulted from in-migration by people of pre-retirement or retirement age. Between 2006 and 2011, the population decreased to 958. Once settled on Hornby, Hornby Island residents are much less likely to move

than BC residents who live elsewhere in the Province (23% compared to 47% provincially).

Not surprising, at the same time that Hornby Island's population is aging, the school population is in decline. In their report, HIEEC identified the need to attract new residents and young families to the island.

On average, Hornby residents have lower than average incomes and higher than average education compared to the rest of BC.

Housing

In 2012, 63% of residential properties were owned by non-residents. Only 18% of dwellings were rented. This contrasts with an average of 30% in the rest of BC. Over the 2006-2012 census period, the number of rental units declined from 165 to 100. The median price of non-waterfront homes increased by 116% while incomes increased by only 7%.

Seasonal Population Increase

The population of Hornby is estimated to quadruple in the summer months. 43% of Hornby's dwellings serve part-time residents or visitors and are only occupied seasonally.

The Hornby – Denman ferry route has the highest seasonal variation in the system with a deviation from the monthly mean of January at 94% to August at 470%.

Hornby Island Economy

Tourism is the major economic driver and benefits the accommodation, services, arts and crafts, performing arts, and alternative health businesses.

Adjacent Land Use

Mount Geoffrey Nature Park is bounded to the South by Mount Geoffrey Escarpment Park, to the East by the Crown lands and to the West by a steep cliff with a private forest at the base. To the North, off Central Road and Lea Smith Road, are a number of 10 to 15 acre rural lots.

To the North, the Crown lands abut Central Road in a few places and otherwise share a property line with properties that are 10 acres and up to 80 acres in size. Most of the Crown land – private property interface is forested other than the Strachan Valley.

Parkland Additions

Since the last park plan for Mount Geoffrey Nature Park was written in 1998, the CVRD has made three additions to the park. In 2003, the CVRD purchased 7.4 ha of land from the Cross family at the end of Strachan Road. The family also donated an additional 16.7 ha as an ecological gift. The acquisition of these properties established a link between Mount Geoffrey Nature Park and Mount Geoffrey Escarpment Park to the south.

Aside from being in Mount Geoffrey Nature Park, the former Cross properties have an additional level of protection through a conservation covenant that is registered on the title of the land. Conservancy Hornby Island (CHI) and The Land Conservancy of British Columbia (TLC) jointly hold and monitor the covenant. The covenant is to protect and enhance the ecosystem and biodiversity of the lands. The conservation covenant also stipulates that a site management plan is required for the covenant area.

The covenant area includes Douglas-fir forest and an open field. This field and the old orchard area in Mount Geoffrey Escarpment Provincial Park provide the only meadow habitat on Mount Geoffrey.

The forest edge habitat and wetlands supports a diversity of species. The field is used by raptors for hunting and also provides important edge habitat for a number of species of songbirds. Orange bellied newts migrate from the wetlands to the forests in late summer.

The field has not been mowed in a number of years and invasive Canada thistle and Scotch broom are increasing in extent.

While the area includes a trail, the Bike Fest Dual trail, and is open to recreation, the conservation covenant on the land ensures conservation takes precedence over

recreation within the covenant area. For example, management practices to protect the environment may include signage to make trail users aware of the orange bellied newts that can be found migrating across the trails after heavy rains in order to protect them from being trampled on.

The third addition was parkland acquired in 2005 as part of a density bonus subdivision at the end of Lea Smith Road.

Trends in Park Use

During the summer of 2014 and into the fall, the CVRD and BC Parks promoted an on-line questionnaire to identify use patterns, issues and preferences related to Mount Geoffrey parks and Crown lands (see appendix 4). 142 people responded to the questionnaire. While the responses are not statistically significant, they provide an indication of park use.

65% of questionnaire respondents believed that trail use in the Mount Geoffrey parks and on the Crown lands has increased over the past 10 years. 18% stated that use has stayed about the same and 15% said they didn't know. Only 3% believed use has decreased. 42% commented that the increase in use is largely by mountain bikers. Others commented that the increase in use is mostly in the summer months.

At the same time, residents commented that there are still times when they don't see anyone else on the trails.

The most popular entrance to the Mount Geoffrey trail system listed by respondents was Slade Road. 33% said they used Slade Road to start their walk or ride. However, Mount Road (22%), Strachan Road (19%), the Cemetery (19%), Euston Road (16%)

and Lea Smith Road (14%) were also popular park entrances.⁹

Parking

When asked whether parking at any of the entrances was an issue, 71% stated no. 11% said they biked or walked to the trail head. 6% said parking can be a problem in some locations. One area identified where parking can be a problem is Ford Cove. That parking area is not within Mount Geoffrey parks and largely serves the Ford's Cove marina, store, cottages and camping.



⁹ Note that the percentages do not add up to 100% since many people indicated that they use more than one entrance.

Trails

When asked what their favourite trail or place is in the park or on the Crown lands, 29% stated all of them. Of those who mentioned specific favourites, 27% listed the Middle Bench Trail in Mount Geoffrey Escarpment Provincial Park, followed by 24% who identified the Cliff Trail in Mount Geoffrey Nature Park. Both are view trails overlooking Lambert Channel and the Comox Harbour. Other popular trails were Coltsfoot (23%), Summit Trail in the provincial park (19%), Northwind Trail (18%) and Four Dead Aliens (17%). However, many of the other trails were also mentioned.¹⁰

Frequency of Use

The Mount Geoffrey trail system plays a very important role in islanders' and visitors' recreational pursuits, lifestyles and wellness. 65% of questionnaire respondents reported that they use the park at least once to twice per week. 14% indicated that they use the park once to twice a month. The remainder, 22%, use the park every few months or less.

Recreational Pursuits

Residents enjoy a variety of activities in Mount Geoffrey parks and Crown lands. Many engage in more than one type of activity (as a result, the following percentages do not add up to 100%). 85% said they hike, 58% said they mountain bike, 48% nature or bird watch, 44% walk their dogs, 22% jog, and 9% horseback ride. Other activities listed were mushroom picking, fruit and herb harvesting and photography.

¹⁰ Percentages do not add up to 100% since many people indicated more than one favourite place or trail.

Climate Change

The Intergovernmental Panel on Climate Change (IPCC) has warned that humanity is on an unsustainable and risky path as we continue to release high levels of greenhouse gases into the atmosphere. Without efforts to reduce greenhouse gas emissions, climate change warming trends are predicted to continue along with an increasing frequency and intensity of extreme weather events.

According to the IPCC, within this century, magnitudes and rates of climate change associated with medium to high-emission scenarios may pose a high risk of abrupt and irreversible regional-scale change in the composition, structure, and function of terrestrial and freshwater ecosystems, including wetlands.¹¹

The projected 1.5 – 3.5 °C increase in sea surface temperatures in the Northeast Pacific over the next 50 years has the potential to cause significant ecological impacts on the marine, coastal and riparian ecosystems of Hornby Island. For example, warmer waters could impact the spawning and migration of salmon, which in turn may disrupt the feeding habits of bald eagles. Anticipated rising sea levels could also alter coastal ecosystems along the foreshore compromising essential habitat for shorebirds.

As temperatures become warmer, it is expected that sea level, montane, subalpine and alpine communities will shift to higher elevations.

Drier summer weather and warmer temperatures, both associated with climate change, could mean that growing conditions may improve for Garry oak ecosystems. Douglas-fir ecosystems are predicted to expand in range as well as result of climate

¹¹ Intergovernmental Panel on Climate Change. *Climate Change 2014: Impacts, Adaptation and Vulnerability*. Fifth Assessment Report.

change; however, Western red cedars may be impacted by longer and drier summers. Climate change predictions for Vancouver Island suggests that by 2050, there may be very few Western red cedar forests left on the East coast of Vancouver Island.¹²

Management strategies for parks like Mount Geoffrey Nature Park will need to consider the potential effects of climate change on plant and animal communities on Hornby Island.

Retaining the forest cover and protecting riparian vegetation to shade creeks and wetlands to help keep water temperatures low and reduce evaporation are extremely important to maintaining the forests' groundwater recharge function. It is also essential for the preservation of many wildlife and plant species dependent on those ecosystems.

During the dry summer months, raising visitor awareness of fire hazards, smoking and campfire bans in the parks or on the Crown lands is key to protecting the forest. So is maintaining the ponds and helicopter landing sites to ensure a quick response time in the case of a forest fire.

¹² Royal BC Museum climate change models



View to Denman from Summit Trail in Mount Geoffrey Escarpment Park

4. Governance

Management of Mount Geoffrey Nature Park and the Crown land trails is guided by the regulations, policies and bylaws of the CVRD, the Islands Trust and Recreation and Trails BC. In addition, the CVRD works in partnership with the Regional Parks Committee of the Hornby Island Residents and Ratepayers Association (HIRRA), BC Parks, the Hornby Island Fire Chief and the K'ómoks First Nation.

CVRD Parks and Greenways Service

Hornby Island falls within Electoral Area 'A' of the Comox Valley Regional District

(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 trails and pass regulatory bylaws with respect to managing those parks. The regional district may establish long-term (greater than five years) contracts and agreements for services.

The CVRD established a separate community parks service for Hornby Island on December 15, 2015. Prior to that time, Hornby and Denman islands had a joint parks service. The "Hornby Island Community Parks and Greenways Service Amending Bylaw No. 385, 2015," enables

the regional district to plan for, acquire and develop parks and greenways on Hornby Island.

Mount Geoffrey Nature Park and the Crown land trails are managed by the CVRD under authority of the above bylaw.

Park use, management, improvement, operation and control are regulated by the CVRD's Electoral Areas Parks Regulations Bylaw No. 103, 2010. The bylaw establishes dog leashing rules, which parks are open to horseback riding, and restricts camping, campfires, vehicles and harvesting of native plants in parks.

Parkland Dedication

The CVRD is the local authority on Hornby Island to accept parkland dedicated at subdivision or money in lieu of park land¹³, or parkland donated at time of rezoning. Because the responsibility for planning and subdivision approvals rests with the Islands Trust and the responsibility for parks and greenways with the CVRD, the two agencies work closely together when new parks are created at the time of rezoning or subdivision.

Since the 1998 Mount Geoffrey Parks Master Plan was adopted, the CVRD accepted two small parks created at time of subdivision. Added to the CVRD parks system in 2010, the 0.65 ha (1.6 acres) Beluah Creek Nature Park abuts the Crown lands about 500 metres north of Slade Road. It is land-locked but accessible from the Crown lands. Its key value is the protection of a piece of riparian area along Beluah Creek.

In 2005, the CVRD acquired 5.76 ha as a result of a density bonus subdivision at the

end of Lea Smith Road. That area is now part of Mount Geoffrey Regional Park.

The CVRD also owns a 1.51 ha (3.7 acres) park at the end of Mount Road, called Mount Geoffrey Bench Park. The park abuts Mount Geoffrey Escarpment Park. It offers scenic views over Lambert Channel, Denman Island and the Beaufort Mountains.



View from Mount Geoffrey Bench Park

Recreation Sites and Trails BC

The CVRD holds a section 57 authorization under the provincial *Forest and Range Practices Act* to build, repair and maintain trails on the Crown lands on Mount Geoffrey. The permit is administered by the Recreation Sites and Trails BC branch of the Ministry of Forests, Lands and Natural Resource Operations, out of the Port Alberni office.

The section 57 authorization or permit allows the CVRD (through the Regional Parks Committee) to:

- Construct and repair trails on the Crown lands.
- Build footbridges and board walks.
- Improve drainage by installing culverts and ditches.

¹³ Under section 510 of the Local Government Act, landowners who are applying to subdivide their properties and are creating three or more new lots 2

ha or smaller in size have to dedicate 5% of the parent parcel as parkland or provide cash-in-lieu.

- Manage hazards to trail users such as hazard trees, trip and fall hazards, etc.
- Put up directional and user etiquette signs.
- Reduce fuel load close to trails (e.g. prune low branches or cut any trees less than 6” in diameter that may be considered ladder fuel and would help wildfires spread up into the tree canopy).
- With special permission, install gates to keep out trucks and other vehicles.
- Construct and maintain mountain biking technical features to Whistler or IMBA standards.

As part of the park management planning process for this parks management plan, the CVRD explored obtaining a section 56 legal designation for the Crown land trails. Under section 56 of the *Forest and Range Practices Act*, recreational trails on Crown land can be legally established and managed by agreement between Recreation Sites and Trails BC and another party, in this case the CVRD. A section 56 legal establishment can be just over the trail corridors plus a few metres of buffer on either side or over the entire land area.

Legal establishment of the trails would create a map notation (for example, Mount Geoffrey already has a map notation as a groundwater recharge area). This notes the trail or facility on the provincial status maps and assists in identifying a trail or facility in any future referral process for resource development. It is put into the BC government database so other users like other ministries and forest licensees will see it when they are proposing any works on the Crown lands.

The legal establishment would also allow the CVRD to apply the *Forest Recreation Regulations*, post and enforce rules.

Ministry of Forests, Lands and Natural Resource Operations

Authority to issue permits for tree cutting for firewood rests with the forestry branch of the Ministry of Forests, Lands and Natural Resource Operations (FLNRO). However, firewood cutting permits are not granted on the gulf islands, including Hornby Island, due to the minimum amount of Crown land and the non-forest resources on that land base.

Hornby Island Residents and Ratepayers Association

CVRD works with the Regional Parks Committee of the Hornby Island Residents’ and Ratepayers’ Association (HIRRA). The two parties have entered into a service agreement under which the Committee maintains the CVRD parks on Hornby Island. The Regional Parks Committee does this through a local contractor and volunteer efforts. The Committee meets regularly to discuss park issues, identify and plan trail maintenance and repair work, discuss signage and other issues as they arise. CVRD staff attend the meetings as needed.

K’ómoks First Nation

Mount Geoffrey lies within the traditional territory of the Pentlatch First Nation. The K’ómoks First Nation history speaks to the merging of the Pentlatch and K’ómoks First Nations in the early 20th century. The K’ómoks First Nation name for Hornby Island is Ch’áta’yich meaning “outside”.

Archaeological records have identified a former village site at Shingle Spit dating back to 440 AD and occupied as late as about 1840.

Aboriginal rights recognized in section 35 of the 1982 federal *Constitution Act* give First Nations peoples the right to participate in

traditional activities that are integral to their distinctive cultures. These activities include traditional harvesting, such as fishing, hunting or gathering plants within the traditional territory.

The K'ómoks First Nation are in treaty negotiations with the federal and provincial government. An agreement in principle was signed by the three parties on March 24, 2014.

The agreement in principle lays out the topics that will form the basis of the final treaty. The agreement identifies and defines a range of rights and obligations, including: existing and future interests in land, sea and resources; structures and authorities of government; relationship of laws; regulatory processes; amending processes; dispute resolution; financial component; and fiscal relations. The agreement in principle also lays the groundwork for Final Agreement (Treaty) including implementation of the treaty.

The K'ómoks First Nation and the federal and provincial governments are in the process of negotiating the final treaty.

This management plan will be reassessed and updated upon completion of the treaty.

Islands Trust

The Islands Trust is a federation of local island governments with a provincial mandate to “preserve and protect the trust area and its unique amenities and environment for the benefit of the residents of the trust area and of British Columbia generally” (*Islands Trust Act*). The Local Trust Committee is the regulatory body for Hornby Island. One of the Islands' Trust guiding principles is to “provide leadership for the preservation, protection and stewardship of the amenities, environment and resources of the Trust Area. When making decisions and exercising judgment, Trust Council will place priority on

preserving and protecting the integrity of the environment and amenities in the Trust area.”

Hornby Island Official Community Plan

The Hornby Island Official Community Plan (OCP) bylaw 149, adopted in January 2016, contains a number of objectives and policies that offered guidance in the development of the Mount Geoffrey Nature Parks and Crown Land Trails Management Plan.

Policies affecting Mount Geoffrey Nature Park and the Crown land trails:

3.1 Environmental Stewardship

3.1.11 Efforts to control the spread of invasive exotic plant species (such as Scotch broom, holly, ivy, daphne and Himalayan blackberry) and to eradicate them from environmentally sensitive areas to enable their replacement with native species are encouraged and supported.

3.2 Environmentally Sensitive Areas

3.2.3 In areas of water collection and aquifer recharge, natural drainage patterns should be retained, and any removal of forest cover or other physical changes should be conducted so as to preserve the ability of the ground to retain water to recharge the aquifers, and may be regulated by Development Permit.

3.2.7 Fish-bearing streams, their riparian areas, tributary creeks and wetlands feeding them will be protected and enhanced in accordance with the Provincial Fish Protection Act through regulations and through supporting enhancement programs.

3.2.8 Connectivity of relatively undisturbed natural areas should be maintained wherever possible including between the shore and the interior forested uplands.

3.3 Parks and Protected Areas

3.3.11 The Comox Valley Regional District is requested to:

- a) continue to manage Mount Geoffrey Regional Nature Park as an undeveloped Park, for low-impact, nature-oriented uses, with only those minimal facilities necessary for public health and safety. The Management Plan for this Nature Park should continue to emphasize protection of ecosystems, retention of vegetation, and protection of fragile areas and existing water sources;
- b) continue active community involvement in the planning, stewardship and management of parks and other undeveloped parcels under its jurisdiction on Hornby; and
- c) investigate and report on options for acquiring tenure of the adjoining vacant Crown land including management of this parcel as an addition to either the existing provincial or regional park.

3.4 Groundwater Protection – Sustainable Ecosystem Management Area (Mount Geoffrey Area)

Policies:

- 3.4.1 This area should be conserved as a forested area and all planning should be undertaken with the perspective of a forest-based rather than a human-based time scale.
- 3.4.2 This area should not be subdivided except to create nature reserves or other land-holding arrangements for the protection of the natural environment.
- 3.4.3 No permanent buildings should be permitted on the land; other structures should be limited by regulation to those required in pursuit of the objectives of this sub-section
- 3.4.4 Sensitive ecosystems within this area should be fully protected. Transfer of this

area to conservation or park is supported in order to protect the wetlands.

Advocacy Policies

- 3.4.5 The use of fertilizers and pesticides and the storage and disposal of waste material, hazardous chemicals and other potential pollutants should be prohibited to protect the groundwater resource and natural ecology.
- 3.4.6 Excavation, quarrying, soil removal, road development, ditching and drainage works should be regulated to protect against alteration of natural surface drainage or groundwater catchment and storage functions and against impacts upon identified ecological values.
- 3.4.7 Studies that provide additional data on the groundwater catchment and flow system should be supported.
- 3.4.8 The Ministry of Environment is requested to consider acquisition of the Mount Geoffrey area identified by the GW/EPA designation on Schedule B for a provincial park or other type of protected area.
- 3.4.9 As a preferred alternative tenure option, the Minister of Environment is requested to propose legislation that would enable the designation of this area as a community groundwater recharge area for the protection of the community's groundwater resource, to be managed through community stewardship with objectives and policies compatible with this Official Community Plan.
- 3.4.10 As an alternate tenure option, the Comox Valley Regional District is requested to investigate in consultation with the Local Trust Committee, the community and relevant First Nations, the appropriate options for obtaining tenure that would be compatible with the objectives and policies of this Official Community Plan.

3.4.11 Ministry of Forests, Lands and Natural Resource Operations is requested to only consider dispositions of this land or interests in this land that is compatible with the objectives and policies of this Official Community Plan.” (Islands Trust, Bylaw No. 149, pages 12-24)

Hornby Island Land-Use Bylaw

The 400-hectare Crown lands used to be zoned "Upland" (Land Use Bylaw No. 86, 1993). In June 2000 they were rezoned as "Groundwater Recharge/Sustainable Ecosystem Management Area", to bring the permitted uses in line with the philosophy of the existing Official Community Plan (O.C.P., 1992).

The Hornby Island Land-Use Bylaw No. 150, adopted in February 2016, largely confirmed the 2000 bylaw zones. Mount Geoffrey Nature Park is zoned as P2 - public park undeveloped and the adjacent Crown lands are zoned as EP1- ecosystem protection/groundwater recharge. Mount Geoffrey Escarpment Provincial Park is also zoned P2.¹⁴

Permitted uses in the P2 park zone are: low impact public recreation and education and accessory uses. All other uses are prohibited.

Permitted structures are pit toilets and benches, subject to regulations set out in the bylaw. All other structures and any buildings are prohibited.

In the EP1 zone **permitted uses are** low impact recreation and sustainable ecosystem management. Buildings or structures are not permitted.

Land in neither the P2 nor the EP1 zone can be subdivided.

CVRD – Islands Trust Agreement

In 1997, the Comox-Strathcona Regional District (predecessor to the Comox Valley Regional District) and the Hornby Island Local Trust Committee signed a protocol agreement that specified the nature in which the two parties would communicate, share information and coordinate activities. The agreement was updated in early 2011 and was signed by both parties in June 2011.

The updated agreement commits the two parties to meeting a minimum of once per year to discuss and coordinate activities in areas where responsibilities overlap and/or are closely intertwined. The protocol agreement states:

“The parties agree to coordinate activities within the local trust areas/electoral areas including but not limited to such matters as:

- (a) community planning
- (b) park planning and parkland acquisition
- (c) servicing arrangements; and
- (d) bylaw enforcement where both parties participate in joint enforcement processes to effectively control situations where one or both parties’ bylaws are being contravened, including consideration of cost sharing undertakings.”¹⁵

¹⁴ However, the Section 14 of the provincial *Interpretation Act* exempts the Province from being constrained by the regulations of local bylaws; therefore, the zoning regulations in the Hornby Island Land Use Bylaw have no effect on provincial

parks. The zoning would come into effect, however, should the Province decide to lease or otherwise dispose of all or portions of the provincial park.

¹⁵ Can be found on page 2 of the protocol agreement.



Cliff ecosystem

Islands Trust Fund

Regional Conservation Plan

The Islands Trust Fund is the conservation land trust of the Islands Trust, established in 1990 to preserve and protect unique ecological or cultural properties in the Islands Trust Area through voluntary conservation initiatives.

The Island Trust Fund's 2011-2017 Regional Conservation Plan (RCP)¹⁶ sets conservation targets for the islands trust area and an implementation plan. Through extensive ecosystem mapping, the plan identifies the areas with the highest biodiversity values and greatest need for conservation.

Sensitive ecosystems identified on Mount Geoffrey include the cliff faces which provide protected nesting sites for a variety of birds. The cliff crevices are used by roosting bats and deeper crevices are overwintering sites for snakes and lizards. Peregrine falcons can be observed riding the air currents along the cliffs. The cliffs also have unique plant communities of Arbutus, Garry oak, various mosses and wildflowers.

Other sensitive ecosystems include patches of mature forest below the cliffs and in the

Beulah and Ford Creek watersheds. Mature forests are provincially rare and often support other rare plant and animal species that depend on these forests for all or part of their life cycle.

Small wetlands exist to the east of helipad 2, in patches in low lying areas between Northwind and Coltsfoot trails and in the Beulah and Ford Creek watersheds.

See the sensitive ecosystem map in appendix 2.

The planning and development of park trails should endeavor to take into consideration sensitive ecosystems and conservation priorities identified in the 2011-2017 Regional Conservation Plan.

Ministry of Transportation and Infrastructure

The Ministry of Transportation and Infrastructure holds a Section 16 Quarry Reserve/Notation for Sand and Gravel (Tenure #771589) on 4.985 hectares of the Crown lands south of Strachan Road.

Ministry of Environment

The Ministry of Environment holds an Environment, Conservation and Recreation Reserve Notation (ILRR #171071) for a Watershed Reserve on 390 hectares of the Crown lands.

BC Parks

BC Parks is the provincial agency that manages Mount Geoffrey Escarpment Provincial Park lying to the south of Mount Geoffrey Nature Park and the Crown land trails. Mount Geoffrey Escarpment Park is a Class A park under the provincial *Park Act*.

¹⁶ The original 2011-2015 plan was extended to 2017 in January 2015.

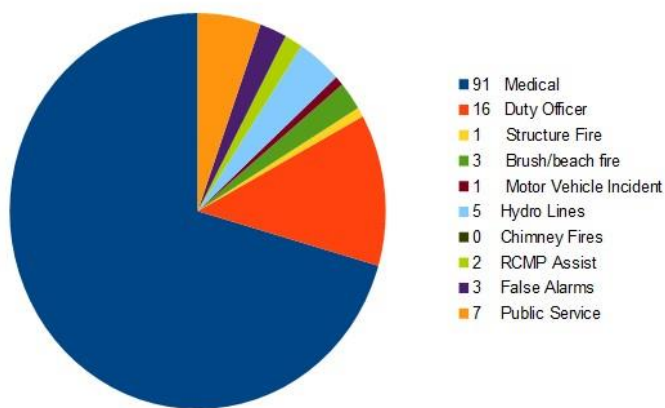
The park was established in 2004. For a brief history of the park, see chapter 2.

The CVRD and BC Parks are committed to work together to ensure a seamless visitor experience between the two adjoining parks. This includes a single trail map for the two parks and complimentary trail use designations and park rules. Other joint or complimentary projects may include public education, interpretation signs, research, wildfire risk reduction and data exchange.

Hornby Island Fire Rescue

Hornby Island Fire Rescue is a volunteer fire department led by the Hornby Fire Chief, an employee of the CVRD.

The department responds to a variety of emergencies. In 2015, the department responded to 129 calls. Three were in response to fires.



Source: higd.org

2010-2014 saw similar numbers for call outs to brush and beach fires ranging from 0 to 6 incidents per year.¹⁷

¹⁷ Hornby Island Fire and Rescue Incident Summary Jan 1 2010 to Dec 31 2014. Brush and beach fires involving fire response: 2010 - 0, 2011 - 2, 2012 - 5, 2013 - 0, 2014 - 6.



Coastal Fire Centre

In case of a wildfire on Mount Geoffrey, response would be shared by the Hornby Fire Department and the Coastal Fire Centre depending on jurisdiction. The Coastal Fire Centre is based in Parksville and operated by the B.C. Wildfire Service of the Ministry of Forests, Land and Natural Resource Operations. The Fire Centre works together with the Hornby Fire Chief to train volunteers and respond to wildfires.

Hornby Island has a Community Wildfire Prevention Plan that was completed in 2006. The plan assessed fire risk on Hornby Island. Mount Geoffrey was assessed as high to extreme fire risk. A more recent review of the fire risk by staff with the BC Wildfire Service suggests that, using current threat assessment techniques, wildfire risk on Mount Geoffrey may be less than previously suggested.¹⁸

¹⁸ Personal communication with A. Berry, Forest Protection Officer, BC Wildfire Service. Spring 2016 and spring 2017.



5. Biophysical, Recreation and Cultural Values

Combined, Mount Geoffrey Nature Park and the adjacent Crown lands cover 618 hectares of natural area, or 21% of Hornby Island. This represents one of the largest contiguous natural areas on the Gulf Islands.

Mount Geoffrey has an interesting geological history and plays an important role as a groundwater recharge area. It also acts to conserve Coastal Douglas-fir forest, coastal bluffs, wetlands and associated ecological and plant communities and several species at risk. At the same time, this natural area is also popular with locals and visitors for its recreational trails and superb views of the Beaufort Mountains, Denman Island and the Comox Harbour.

Biophysical Values

Geology

The geology of Hornby Island originates from depositional activity during the late Cretaceous period 99.6 – 65.5 million years ago. The shape of the island is believed to have been influenced over 55 to 42 million years ago as plate tectonic activities transformed the region. These plate movements pushed seabed sediments towards the mainland with massive pressure.

The numerous cliffs, points, and bays can be attributed to past glacial activity and erosion processes. Between 15,000 and 29,000 years ago, BC experienced the most recent glacial period or “ice age”, referred to as the Fraser Glaciation period. Ice accumulated on the

mountain peaks of Vancouver Island and slowly grew into large glaciers. Eventually these joined with other glaciers and formed ice sheets that filled the major valleys. The ice sheets also joined others from the Coast Mountains and filled Georgia and Hecate Straits, and Queen Charlotte Sound.

During this period, Hornby Island was completely submerged in the ocean due to the weight of the ice sheets. It is estimated that the coastal areas of British Columbia experienced 300 m of vertical depression due to this glacial loading (Clague and James, 2002).

Deglaciation occurred over a period of approximately 4,000 years. During this period, the depressed land masses rebounded. This process is still continuing today (Clague and James, 2002).

By about 12,000 years ago, the sea level at Parksville and Courtenay had fallen from 108 m to 52 m and 150 m to 21 m above present mean sea level, respectively (Clague and James, 2002). Given its proximity to Parksville and Courtenay, it is probable that Hornby Island experienced a similar sea level history.

Interpretation of Gulf Island geology has changed since the 1998 Mount Geoffrey Park Master Plan was written. The original geological map for Hornby Island, produced by Muller and Jeletzski (1970) and reproduced in the 1998 plan, showed numerous large offset faults defining Mount Geoffrey. The observed rock outcrops and the significant elevation difference between Mount Geoffrey and the low-lying flats to

the west were explained as faults (Allen and Matsuo 2002)

Unpublished Master of Science research by Katnick (2001) revised the Muller and Jeletzski's geologic interpretation. The two scientists re-interpreted the structures, originally interpreted as large offset faults, as conformable contacts¹⁹ between the five formations that underlie Hornby Island.

Hornby Island is underlain by bedrock of sedimentary origin that belongs to the Upper Cretaceous Nanaimo Group. In general, the sequence of rocks consist of alternating coarse, predominantly sandstone and conglomerate, and fine-grained mudstone units (Mustard, 1994). The fine grained formations include the Cedar District, Northumberland and Spray formations, while the coarser-grained formations include the De Courcy, Geoffrey and Gabriola formations.

Mount Geoffrey Nature Park, Crown lands and Mount Geoffrey Escarpment Provincial Park are underlain by the Geoffrey Formation. The large sandstone cliff on the western flank of the island is the most visible evidence of the Geoffrey Formation. The thickness of the Geoffrey Formation varies between 215 m and 400 m. It includes a massive conglomerate of well-worn, rounded pebbles and cobbles up to one foot in size and imbedded with medium-grained sandstone and mudstone layers. The sandstones are rich in quartz and contain minor feldspar, mica and rock fragments.

¹⁹ Mount Geoffrey consists of sedimentary rock deposited in stratigraphic succession like layers in a cake. A conformable contact shows no evidence of erosion or break in stratigraphic succession. That is,

each successive layer is younger in age than the layer below. Geologic contacts are mapped as solid lines showing breaks between rock formation or rock type. See figure 1 below.

Figure 1: Cross section of Hornby Island rock formations

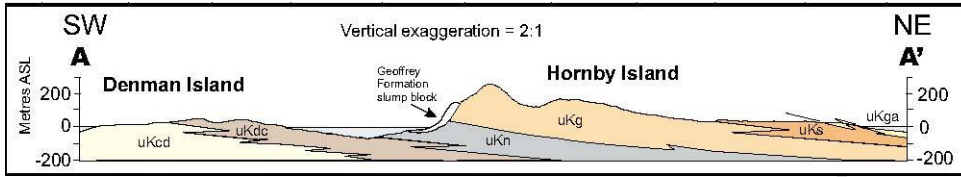
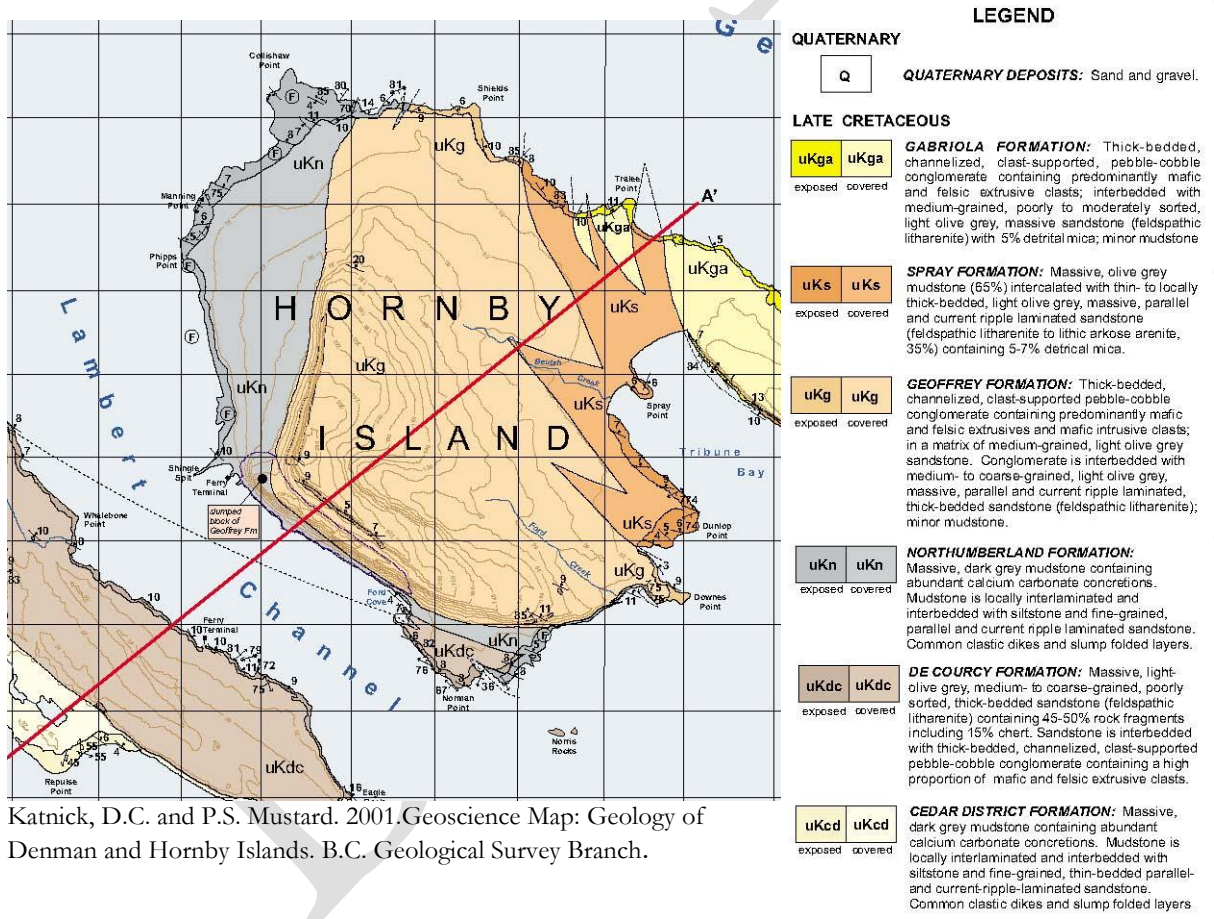


Figure 2: Hornby Island rock formations



Katnick, D.C. and P.S. Mustard. 2001. Geoscience Map: Geology of Denman and Hornby Islands. B.C. Geological Survey Branch.

Groundwater and Hydrology

Mount Geoffrey is the island's most important recharge area for groundwater. See figure 3 below. Groundwater supplies the majority of the potable water for

Hornby Island residents. There are about 600 wells (both shallow and deep) on Hornby Island, which have been dug over the last 80 to 90 years, with a significant number installed in the last 30 to 40 years.²⁰ There are also a number of springs at the

²⁰ Allen, D.M. and G. P. Matsuo. 2002. Results of the Groundwater Geochemistry Study on Hornby Island, BC. Report prepared for Islands Trust, Victoria, BC.

base of the escarpment which are used for domestic water.

The groundwater that feeds the wells is recharged from precipitation that infiltrates the soil, percolates down and fills the numerous tiny spaces in the soil and rock below the water table. Rock type and structure have a significant bearing on groundwater flow.

The low porosities (<5%) of the sandstone units comprising the Nanaimo Group mean low permeability and capacity to transmit water.

Of Hornby Island's average annual precipitation of 1547 mm only a small percentage is able to infiltrate into the ground to replenish groundwater. The storage and permeability capabilities of the island, rather than the annual precipitation, appear to be the limiting factors controlling groundwater availability.

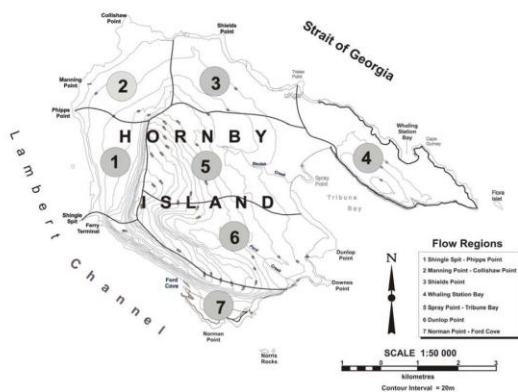


Figure 3: Groundwater recharge areas on the island from Allen and Matsuo, 2002

The island is divided into seven watersheds. Mount Geoffrey Nature Park and the Crown lands have at least some part of five of these watersheds within their boundaries. The majority of the park and Crown lands drain into Beulah Creek which is part of the Spray Point-Tribune Bay watershed. The escarpment and lower bench fall within two watersheds, the Shingle Spit-Phibbs Point

and the Manning Point-Collishaw Point watersheds. The southern area drains into the Strachan Valley, part of the Dunlop Point watershed. A small area south of Mount Geoffrey drains south into the Norman Point-Ford Cove watershed.

There is little standing water on Hornby Island – one marshy lake in the Strachan Valley, three wetlands and two fish-bearing creeks. Other wet areas are found in the valley/depression that cuts across the park northwest to southeast, roughly between Coltsfoot trail and Northwind trail and along the Beulah Creek drainage.

Between about 2000 and 2010, a beaver dam created what became known as Strachan Lake. For roughly that decade Strachan Lake was the only large body of fresh water on the island. The beaver dam did not persist and, today, Strachan Lake is more of a marsh than a lake. Had it persisted, the lake may have had a significant impact on the hydrology in the vicinity of the lake and downgradient. Large lakes often act to moderate the large seasonal fluctuations in groundwater levels (Allen and Matsuo 2002).

Forested land covering Mount Geoffrey is important to groundwater recharge. Vegetation reduces the surface impact of falling rain through interception and delay of water reaching the surface. Forested land also decreases the amount and velocity of storm runoff over the land surface. The soil beneath streamside forests, for example, is honeycombed with cavities and passageways created by decaying roots, burrowing animals and fungi, making it a highly porous medium that readily absorbs precipitation. In the meantime, ground cover and organic debris accumulated on the forest floor acts as a barrier to help slow down and deter surface water runoff after rainfall or during snowmelt, thus providing additional time for infiltration to take place. This increases the amount of water that soaks into the ground, a portion of which can ultimately recharge

underlying aquifers. Conversely, water from connected aquifers that are close to the surface may enter streams and wetlands, helping to maintain their water levels during dry periods.

Forests also maintain high water quality by minimizing soil erosion, reducing sediment in water bodies (wetlands, ponds, lakes, streams, rivers) and trapping or filtering water pollutants in the forest litter.

In recognition of its importance as a ground water recharge area, the Islands Trust has zoned the Crown lands as EP1, ecosystem protection and groundwater recharge.

In January 1994, the Ministry of Environment put an environment, conservation and recreation reserve notation (ILRR #171071) for a watershed reserve on the 390 hectares of the Crown land adjacent to the Mount Geoffrey Parks.

Soils

Most of the soils within the Mount Geoffrey parks and Crown lands have a fairly shallow organic layer. Deeper organic layers are encountered at low lying areas. Along the escarpment face, the soil is very thin with layers of moss which are highly susceptible to disturbance and take a long time to self-repair.

Implications for park management are reinforcing the importance for park users to stay on trails and to locate trails to avoid channeling run-off along trails which causes the soil to erode down to the underlying conglomerate.

Climate

Although Hornby Island is warm and dry in the summer, the winter brings heavy rain and occasional snow.

The climate of Hornby Island is classified as cool maritime with relatively mild, wet winters and warm, dry summers. The

average annual precipitation is 1547 mm; of that, 1222 mm falls between October and April. June to September sees an average of 325 mm in precipitation. The driest month is July with an average of 40 mm of rain.

The area above the escarpment is particularly dry during the summer. The area below the escarpment, especially on the west side of the escarpment is, relative to the rest of Hornby Island, a rainforest. The rainforest loop trail located in that area of Mount Geoffrey Nature Park is the park's wettest trail.

Mount Geoffrey is not greatly affected by winter storms as a result of the topography which slopes gradually into the prevailing storm weather (south-east). As a result, blow downs during winter storms are not common. The exception is the Strachan Valley which tends to funnel the winter south-east winds

Natural Ecosystems

The cool maritime climate supports ecological succession towards this region's climax species – large stands of Douglas-fir.

Mount Geoffrey lies within the northern extent of the Coastal Douglas-fir biogeoclimatic zone that stretches south from Deep Bay to Metchosin along eastern Vancouver Island and includes Denman, Hornby and the southern Gulf Islands. Specifically, Mount Geoffrey is situated within the northern extent of the Coastal Douglas-fir moist maritime biogeoclimatic subzone (CDFmm).

The Coastal Douglas-Fir and Associated Ecosystems Conservation Partnership²¹ indicates that:

- The Coastal Douglas-fir biogeoclimatic zone (CDF zone) is the smallest and most at risk zone in BC and is of conservation concern (Biodiversity BC, 2008).
- The CDF zone is home to the highest number of species and ecosystems at risk in BC, many of which are ranked globally as imperilled or critically imperilled (BC CDC, 2012).
- The global range of the CDF lies almost entirely within BC, underscoring both its global uniqueness and BC's responsibility for its conservation.
- Of all the zones in BC, the CDF has been most altered by human activities. Less than 1% of the CDF remains in old growth forests (Madrone, 2008) and 49% of the land base has been permanently converted by human activities (Hectares BC, 2010).
- The trend of deforestation and urbanization continues and has resulted in a biogeoclimatic zone that is now highly fragmented with continuing threats to remaining natural systems.
- Approximately 9% of the CDF zone is protected in conservation areas (MFLNRO, 2011).
- The extent of disturbance combined with the low level of protection places the ecological integrity of the CDF zone at high risk (Holt, 2007).

Wind, forest pathogens and fire are all important natural processes that help to maintain Mount Geoffrey's ecological diversity. As a high point on Hornby Island, Mount Geoffrey is susceptible to strong

wind events. Trees that fall down from wind throw are an important source of coarse woody debris for woodpeckers, salamanders, fungi and many other species. In addition, forest pathogens, such as laminated root rot on Douglas fir, western hemlock dwarf mistletoe and several fungal infections that affect Arbutus trees, contribute to coarse woody debris and standing dead wood that has very high wildlife value for many species. Fire also plays an important role in maintaining the Douglas fir and Arbutus ecological communities on Mount Geoffrey.

The 2000 Cascadia Research report identified the following potential red-listed species occurring in the Crown lands: Northern Goshawk, marbled murrelet, Peregrine falcon, Vesper sparrow, purple martin, Keen's myotis bat, Vancouver Island shrew. Potential blue-listed species include short-eared owl, Vancouver Island pygmy owl and Western screech owl, Pine grosbeak, Hutton's vireo, Townsend's Big-eared bat, Vancouver Island Ermine and painted turtle.



Peregrine falcon

There may be additional species at risk in the Hornby Island Local Trust Area that are not recorded with the B.C. Conservation Data Centre or whose locations are considered confidential information.

²¹ <http://www.cdfcp.ca/index.php/about/why-is-the-cdf-at-risk>

The Mount Geoffrey escarpment and cliffs include patches of Garry Oak woodlands which potentially support 93 species at risk including birds, moths, butterflies and Northern Alligator Lizards.

As discussed above, Mount Geoffrey also includes wetlands and riparian corridors that contribute to wildlife habitat and also support the local natural hydrologic system.

The protection and stewardship of these natural systems requires careful attention to land use and resource management decisions.

The map in appendix 2 shows the distribution and extent of these Hornby Island ecosystems.

Protection of Ecosystems into the Future

Mount Geoffrey's ecosystems appear to be healthy; however, there are a few threats that require active management.

Invasive Species

In the long term, a challenge to the integrity of the native ecosystems on Mount Geoffrey is the invasion of non-native species.

If left uncontrolled, invasive non-native species will displace native plants and the diverse bird, insect, amphibian and other animal species that have evolved together with these native plant communities over millions of years and that depend on them for food and shelter.

On Mount Geoffrey, invasive species of greatest concern are: English holly, Canada thistle and Scotch broom.

Invasive species can be managed through mowing, as in the case of Canada thistle, or cutting, in the case of holly or broom.

Deer Browsing

Black-tailed deer have no natural predators on Hornby Island – other than the rare cougar that may swim across from Vancouver Island. As a result, deer populations thrive on the island.

In high densities, deer can have a profound impact on the regeneration of forest ecosystems. Bucks rub their antlers on young, flexible trees to remove the velvet that initially covers the antlers. This raking action damages the cambium, the tree's vascular system, and can kill them.

Deer also browse certain species of shrubs and trees thereby inhibiting their growth.

On Mount Geoffrey, deer browsing affects particularly the regeneration of Western red cedar trees. This is very evident along the Bike Fest Dual trail in the Strachan Valley where nearly all the young cedar trees are stunted as a result of deer browsing of the lead branches. Other trees potentially affected by deer browsing are young arbutus and Garry oak trees. Both largely occur on the rocky and westward facing slopes of Mount Geoffrey Escarpment Provincial Park. Some are on steep cliffs and out of reach of deer.

To prevent deer browsing of young trees, the trees would need to be protected.



Browsed cedar along Bike Fest Dual Trail.

Natural Disturbance and Fire Risk Management

Wildfires were once common in the Coastal Douglas-fir forests and played an important role in shaping its ecosystems. For example, there is evidence that 300 or 400 years ago, large fires consumed much of the forest on Vancouver Island's east coast, from Victoria to Campbell River.

Today, forest fires are suppressed and play a lesser role in the area's ecology. One reason Douglas-fir dominate many of this zone's ecosystems is that they are well adapted to living with fire. Old Douglas-fir have thick, fire resistant bark that protects them from all but the hottest flames. Many large old trees show areas of charred bark and fire scars at their base. After a fire, young Douglas-fir seedlings quickly colonize the burned area. As fires kill off other, less fire-resistant species, they help establish and maintain the Douglas-fir as the dominant tree in the area. (BC Ministry of Forests, 1999).

Mount Geoffrey was extensively logged in the late 19th and early 20th centuries. It is

now in recovery, with some areas of 80+ year-old trees. The understory has started to thin out and the forest is moving toward a mature forest ecosystem.

Mature and old growth trees occur in a few patches on Mount Geoffrey.

The fire risk associated with Hornby Island's long, dry summers is a concern to residents. The hotter and drier summer conditions anticipated as a result of climate change may further increase the risk of fire in the Gulf Islands.

Reports from the mid-2000s indicate a high fire risk rating for Mount Geoffrey.

However, a more recent assessment of wildfire risk by authorities responsible for fire prevention in the province, rated wildfire risk as moderate. Ladder fuels, such as medium sized trees and shrubs that facilitate fires spreading to the forest canopy, are fairly sparse in the parks and on the Crown lands. Further, several wider trails that bisect the parks and Crown lands, such as Summit, Northwind and Coltsfoot trails, act as breaks should a ground fire get started. These trails also provide access for firefighting purposes. Mount Geoffrey Nature Park has four emergency helicopter landing sites and ponds for firefighting purposes.



Recreation Values

The Mount Geoffrey Nature Park and adjacent Crown lands provide residents and visitors with a wide variety of year-round recreational opportunities.

Mount Geoffrey has an extensive trail system. Altogether, Mount Geoffrey Nature Park, the Crown lands and Mount Geoffrey Escarpment Provincial Park have 50 km of trail. Of these, 22 km are within the Nature Park and 18 km on the Crown lands.

Trails vary in width from single track trails to wide trails such as Northwind and Coltsfoot trails that allow two to three people walking side by side. Difficulty ranges from easy trails with very little elevation change to more challenging trails that include some rolling hills or steep uphill sections (see appendix 3). Both Mount Geoffrey Nature Park and the Crown lands also include a few technical features for mountain bikers.

Some of the trails follow old logging roads. This includes Northwind and Coltsfoot in the Nature Park and on the Crown lands and Summit Trail in the provincial park.

The majority of the single track trails were constructed over a period of many years by local volunteers. Over the past two decades, much of the trail construction has been led by the Hornby Island Mountain Biking Association (HIMBA).

Residents engage in a variety of recreational activities in the parks and Crown lands. Of those who responded to the 2014 survey, 85% said they hike, 58% said they mountain bike, 48% nature or bird watch, 44% walk their dogs, 22% jog, and 9% horseback ride²². Other activities listed by respondents

were mushroom picking, fruit and herb harvesting and photography.

The trail system is maintained by the Parks Committee of the Hornby Island Residents and Ratepayers Association (HIRRA) through a local contractor and volunteers. See chapter 4 on governance.



User Created Trails

There are a number of user-created trails on Mount Geoffrey that have been built without the knowledge and/or support of the Hornby Island Regional Parks Committee or CVRD Parks.

Each new trail adds to the annual trail maintenance and repair costs for Mount Geoffrey parks and Crown lands and places additional stress on park maintenance budgets. Further, some of the user-created trails do not meet trail standards for safety, erosion control or respect for environmentally sensitive areas such as wetlands, streams and steep slopes. Finally, a high density of trails introduces more human disturbance into natural ecosystems and wildlife habitat and may lead to increased habitat fragmentation.

At time of writing this management plan, most of the user-created trails are on the

²² The percentages do not add up to 100% since most respondents indicated that they pursue more than one type of activity.

Crown lands and in Mount Geoffrey Regional Nature Park and to a lesser degree in Mount Geoffrey Escarpment Provincial Park.

Over the past several months, the Regional Parks Committee has been leading a process to update the trail map for Mount Geoffrey (See appendix 1). The Committee added some of the user created trails where those trails were safe, didn't impact sensitive environments and provided an important trail connection.

Where trails are going through sensitive environments or run parallel to existing formal trails, the intent is to let them fall into disuse or actively decommission them.

Shoulder Season Use

An increasing number of tourists bring their mountain bikes with them and explore Mount Geoffrey parks and Crown lands during their stay.

The increase in trail use during the summer months, when it is dry and the trails are well drained, can largely be accommodated with existing trail maintenance efforts.

Should shoulder season use of the trail system increase in the future, during a period when the soils hold a lot of water and tires may leave ruts and there is a greater potential for trail braiding and erosion, additional efforts will be required to improve drainage and repair trails.

From a trail maintenance perspective, mountain biking and horseback riding on the trails during wet conditions (typically November to March or April) is not desirable.

Cultural Values²³

While there are no recorded archeological sites within Mount Geoffrey Escarpment Park, nearby recorded and unrecorded sites point to the importance of Hornby Island in First Nations' history and culture. The proximity of a sizable village site at Shingle Spit (at the base of Mount Geoffrey) and at Fillongley Park (across Lambert Channel from Mount Geoffrey on Denman Island), suggest Mount Geoffrey may have been an important harvesting and traditional use site.

Studies at the Shingle Spit village site suggest occupation from about AD 440 to approximately 1840. The shell midden at this site is approximately 1.5-2 metres deep and shows evidence of pre-contact harvesting of elk, deer and sea lion along with several species of perch, rockfish, dogfish and an array of shellfish.

The forests of Mount Geoffrey provided a rich source of food (berries, deer and other game) and other resources, such as medicinal plants, cedar bark and large cedars. Camas found in Garry oak meadows on the Island may have been prized for trading with First Nations to the north, as Hornby Island is close to the northern extent of this ecosystem.

Given the vista offered from the top of Mount Geoffrey and the significant rock shelters on the mountain, it may be that the mount was also an important strategic defensive site. Elders from the K'ómoks First Nation also point to Mount Geoffrey as an important location for spiritual practices and other rituals completed prior to ceremonies.

²³ Based on research completed by Jesse Morin, archaeologist, for the K'ómoks First Nation between 2015-2016.

The K'ómoks First Nation places Hornby Island near the southeastern extent of the Nation's southern core territory. There are several K'ómoks language place names around the Island, which reflects the importance of the island in K'ómoks First Nation history and culture. The K'ómoks First Nation name for Ford Cove is t'út'lhiyin, and the name for Hornby Island is Ch'átáyich (pronounced "Ja-dai-aich"), which means "outside", referring to Hornby Island as the outer island as viewed from the Comox Estuary on Vancouver Island.

The K'ómoks First Nation points to the historical importance of the park, but also the current and future value offered by the park. Mount Geoffrey plays a role as part of the living history of the Nation. Maintaining Mount Geoffrey in its natural state, and protecting the natural values traditionally utilized by the K'ómoks First Nation, provides the Nation with opportunities to re-establish a connection to the territory and to re-build cultural practices.

Given its relatively undisturbed nature, Mount Geoffrey Escarpment Park can also play a role in filling knowledge gaps regarding First Nations history and archaeology on Hornby Island.

Parkland on Hornby

32% of Hornby Island is protected as park or natural area. Mount Geoffrey parks and

Crown lands make up 21% of parks and natural areas on Hornby Island, playing a crucial role in protecting the island's ecosystem and providing recreational opportunities. The following table provides a summary of the number and total size of provincial parks, Crown lands and CVRD parks.

Table 1: Hornby parks and natural areas

Jurisdiction	Area (ha)	Area (acres)
3 provincial parks: Helliwell (excl.marine area), Tribune Bay, Mount Geoffrey Escarpment	329	812
Mount Geoffrey Crown lands	285	704
7 CVRD parks: Mount Geoffrey Nature Park, Mount Geoffrey Bench Park, Arthurs Park, Beluah Creek Park, High Salal Park, St. John's Point Park, Tralee Park, Wells Park, Periwinkle Park	344.5	851
4 CVRD managed beach access parks: Clamshell, Grassy Point, Hidden Beach and Sandpiper	3.5	8.7
Total area of parks and natural areas	962	2377
Total area of Hornby Island	2995	7393
% of Hornby protected as park or natural area	32%	32%

Summary of Mount Geoffrey Values

The ecological, recreation and cultural values presented in this chapter as well as the economic opportunities identified in the HICEEC report and presented in chapter 2 are summarized below. These values will inform park and Crown land management and were key to developing the vision, goals, objectives and actions presented in the following two chapters.

Table 2: Summary of Mount Geoffrey Values

Ecological Values	Recreation Values	Cultural Values	Economic Values
Northern extent of the rare coastal Douglas-fir biogeoclimatic zone.	Hiking trails. Mountain biking trails. Equestrian trails	Within Pentlach traditional territory.	Opportunities for outdoor recreation and adventure businesses
Forests of coast Douglas-fir, western redcedar, Garry oak, arbutus and bigleaf maple.	Spectacular views to Denman Island, the Beaufort Mountains on Vancouver Island and Georgia Strait.	First Nations history.	Tourism attraction Possibilities for responsible shoulder season recreation.
Wetlands, creeks and riparian areas, coastal bluffs, forested benches and rugged shoreline.	Bird watching and wildlife viewing.	Western redcedar trees for cultural uses such as house posts and long houses.	Groundwater is essential to support tourism industry.
Rare plant communities.	Nature appreciation.	Traditional and medicinal foods.	
Species at risk including the Peregrine Falcon and Northern Red-legged Frog.	Photography.	Place for First Nation spiritual and cultural practices.	
Critical area for rainfall capture to recharge groundwater on the island.		Opportunities for cultural awareness and education.	

6. Park and Crown Land Management Goals and Actions



Implementation of the park vision and goals identified in the previous chapters will be achieved through a number of actions that were confirmed with the public at the June 15, 2015 open house. The actions were also reviewed with the Mount Geoffrey Parks Planning Committee, the K'ómoks First Nation and other government agencies. They are designed to protect the environmental, recreation, economic and cultural values of Mount Geoffrey.

Governance

Goal 1: Be responsive to the local community.

The CVRD has been working in cooperation with the Hornby Island Residents and Ratepayers Association (HIRRA) to protect Mount Geoffrey going back to about 1980.

This working relationship has enabled the CVRD to be responsive to community needs and has involved Hornby islanders

directly in decisions affecting their local park and trails.

Actions:

- 1.1 Continue to maintain the park and trail system with local forces through a service agreement with the Regional Parks Committee of HIRRA.
- 1.2 Work with the Regional Parks Committee to seek public and park user input on new initiatives or significant changes to park entrances and the trail system.

Goal 2: Work with the K'ómoks First Nation and with other government agencies to protect the environmental, recreation and cultural values of Mount Geoffrey.

Over the years and especially through this planning process, the CVRD has developed strong working relationships with the K'ómoks First Nation, the local Trust Committee, BC Parks, Recreation and Trails BC, the Hornby Fire Chief and provincial staff at the Coastal Fire Centre.

Actions:

- 2.1 Continue to work with BC Parks to ensure a seamless visitor experience between the two parks and Crown lands. Areas of cooperation may include, but are not limited to, trail use designations, trail maps, park rules and regulations, interpretative signs, protection of ecological values, public education and fire prevention.
- 2.2 Work with the K'ómoks First Nations to identify and advance common interests.
- 2.3 Explore opportunities to coordinate any monitoring efforts in the park and on the Crown lands between CVRD, BC Parks and the K'ómoks Guardian Watchmen.

- 2.4 Invite and involve the K'ómoks First Nation, BC Parks, Recreation Sites and Trails BC, the Hornby Fire Chief and the Coastal Fire Centre in future consultations on the park and Crown land.

Environmental Stewardship

Goal 3: Protect Mount Geoffrey's rare Coastal Douglas-fir ecosystem and its associated ecological communities.

CVRD Parks has a dual mandate to provide recreational opportunities and to protect the natural environment. While many recreational uses are compatible with the protection of ecological values, it is sometimes necessary to place limits on activities to protect the environment.

Actions:

- 3.1 Continue to fill information gaps related to the ecological values in the park and on Crown lands utilizing local, scientific and Traditional Ecological Knowledge.
- 3.2 Include information on Mount Geoffrey's ecological values, sensitive ecosystems and ecological processes in park information materials.
- 3.3 Work with the regional parks committee and other partners to develop interpretive/educational materials about Mount Geoffrey's ecological, wetland and groundwater recharge values.
- 3.4 Share content of interpretive and educational materials with BC Parks to ensure information provided in the regional and provincial park is complementary.
- 3.5 Maintain the natural character of the parks and Crown lands. Aim to have any interpretive signs blend in with the natural environment.

- 3.6 Inventory invasive species, monitor their spread and remove as soon as possible. Removal may be done through volunteer work parties in coordination with the Regional Parks Committee and other partners.
- 3.7 Include information on the ecological impact of removing downed trees and other natural resources in educational/interpretation materials.
- 3.8 Ensure the anticipated effects of climate change (e.g. hotter/drier conditions, increased intensity and frequency of storm events) are considered in park management decision making, and that parks are managed to increase its resilience against anticipated changing conditions.
- 3.9 When restoring natural areas, plant native species that are drought resistant and would naturally occur within the ecosystem to be restored.
- 3.10 Identify natural areas for regeneration (planting and protection of seedlings) of western redcedar, Arbutus, Garry oak and other tree species that are browsed by deer.
- 3.11 Ensure trail construction, repair or maintenance is coordinated through the Regional Parks Committee and Mount Geoffrey and follow best practices; for example, limiting surface run-off and erosion as well as protecting First Nations cultural archaeological features.
- 3.12 Encourage visitors to stay on the trails to limit their impact on Mount Geoffrey's forest understory, streams and wetland ecosystems.
- 3.13 Work in partnership with the Regional Parks Committee, other partners and volunteers to provide environmental interpretation to help create an appreciation and acceptance of the

limits on human use required to protect sensitive ecosystems.

Conservation Covenant Area

Goal 4: Protect lower lying, wetland areas, field-forest edge and mature forest within the conservation covenant area.

Aside from being in Mount Geoffrey Nature Park, the former Cross properties have an additional level of protection through a conservation covenant. The covenant is registered on the title of the land. Conservancy Hornby Island (CHI) and The Land Conservancy of British Columbia (TLC) jointly hold and monitor the covenant. The covenant is to protect and enhance the ecosystem and biodiversity of the lands. The conservation covenant also stipulates that a site management plan is required for the covenant area.

Actions:

- 4.1 Since field-forest edge habitat is rare on Mount Geoffrey, keep the field within the conservation covenant area open by mowing. This will also help control Canada Thistle and Scotch broom.
- 4.2 Work with CHI and TLC to complete an inventory of the native plants and animal species found in the conservation covenant area. This information will help the three agencies manage the area for those species.
- 4.3 Prepare a site management plan for the covenant area to protect native species and control invasive species.
- 4.4 Manage recreational use to minimize impact on the natural environment within the covenant area.

Cultural Values

Goal 5: Recognize and protect First Nation cultural values on Mount Geoffrey

Cultural values identified by the K'ómoks First Nation include food harvesting, monumental Western redcedar for carving of canoes and totems and other natural resources traditionally harvested throughout the K'ómoks' traditional territory.²⁴

The rock shelters along the Mount Geoffrey escarpment may have been used as strategic defense sites.

K'ómoks elders indicate that Mount Geoffrey was used for spiritual practices leading up to ceremonies.

Maintaining Mount Geoffrey in its natural state is important to the K'ómoks to rediscover and rebuild cultural practices.

Actions:

- 5.1. Recognize the importance of the area to K'ómoks First Nation cultural practices on interpretive signs or other public educational materials as appropriate and explain First Nation rights to harvest, K'ómoks' names, uses of medicinal plants etc.
- 5.2. Work with the K'ómoks First Nation to ensure that cultural practices benefit ecosystems and maintain the safety of park users.
- 5.3. Ensure trail construction considers the potential impact on cultural and natural values including wildlife and vegetation of importance to First Nations.
- 5.4. Inventory, in partnership with K'ómoks First Nation, key cultural/ archaeological sites for the purpose of

preservation and/or learning about traditional practices.

- 5.5. Preserve micro-environments that may have cultural uses such as medicinal plants.
- 5.6. Identify K'ómoks First Nation place names for Mount Geoffrey.
- 5.7. Form partnerships to educate park users regarding First Nation culture and practices.
- 5.8. Seek to increase the collective knowledge of cultural practices and archaeological sites in the parks and on Hornby Island in general.

Note: Management planning is without prejudice to First Nation Treaty outcomes and/or other self-government initiatives.

Sustainable Trail Network

Goal 6: Provide a first class recreational experience while ensuring that sensitive environments are respected and trail maintenance is sustainable.

The trail network on Mount Geoffrey has expanded steadily over the past few decades. The current trail network offers a variety of experiences from wide multi-use trails to walking-only trails and includes easy and technical mountain biking trails. The existing trail system seems to meet user needs and is manageable within current budgets, volunteer, staff and contractor resources.

There are some user-created trails on Mount Geoffrey that have been built without knowledge and support from the Hornby Island Regional and Provincial Park Committees or from BC Parks or CVRD Parks. Each new trail adds to the annual trail maintenance and repair costs for Mount

²⁴ Based on research provided by Jesse Morin, archaeologist, to the K'ómoks between 2014 – 2016.

Geoffrey parks and Crown lands and places additional stress on park maintenance budgets. Further, some of the user-created trails do not meet trail standards for safety, erosion control or respect for environmentally sensitive areas such as wetlands, streams and steep slopes. Finally, a high density of trails introduces more human disturbance into natural ecosystems and wildlife habitat.

Actions:

- 6.1. Focus on maintaining and improving existing trails rather than expanding the network.
- 6.2. In the longer term, as visitor numbers increase, additional trails may be appropriate in the regional park and on the Crown lands. The following criteria will be used to evaluate new trail proposals:
 - a. Minimal impact on sensitive ecosystems (steep slopes, wetlands, creeks, streams, wildlife migration, wildlife habitat, etc.)
 - b. Ability to control erosion of the trail surface due to heavy use or water flows.
 - c. Safe for public use. Mountain biking trails meet Whistler standards.
 - d. Results in an important connection that is not provided by other trails.
- 6.3. If trails require closure because they impact sensitive environments or have eroded and the area needs to be restored, the trail will be decommissioned.
- 6.4. Park use permits are required for commercial tours and other activities in the park. Permit applications may be turned down if the likely impact on trails is considered too high, as during wet shoulder seasons.

Goal 7: Improve wayfinding in the park and on the Crown lands.

During the public consultations, better trail directional signs were identified as one of the improvements needed. Especially new trail users felt that existing trail signs and maps can be confusing and it is easy to get lost. At the same time, there seemed to be agreement that there should not be too much sign clutter in the park. Users did not want to see significant changes to Mount Geoffrey's natural feel and "sense of place".

Concurrent with the parks planning process for Mount Geoffrey, the Regional Parks Committee has been working to update the trail map for Mount Geoffrey (see appendix 1).

The long term goal is that all mapped trails will be signed with a trail name sign at trail junctions.

Actions:

- 7.1. Install permanent trail maps at the most popular entrances and consider one or two locations within the regional park or Crown lands for a permanent trail map.
- 7.2. Continue to provide paper copies of maps at popular entrances until cell phone service on Mount Geoffrey allows downloading of electronic maps.
- 7.3. Work in cooperation with BC Parks on trail map updates and publish joint trail maps for Mount Geoffrey.
- 7.4. Over time, sign all mapped trails.
- 7.5. Inform park users on the maps and information materials that user created trails are not mapped or signed.
- 7.6. Consider symbols or other markings to improve orientation within the trail system.

- 7.7. While improving orientation, aim to maintain the natural and social character of Mount Geoffrey. Maintain local trail names and ensure signage/directional markings are non-obtrusive.

Goal 8: Maintain a low conflict environment between trail users while providing a variety of trail experiences for hiking, mountain biking and horseback riding.

Generally speaking, interactions between park users are positive and visitors experience very few conflicts with other user groups. Given the multi-use nature of many of the trails, it is important that the various user groups continue to respect the needs of others and share the trails appropriately. During the public consultations, some people raised concerns about safety and impacts on the enjoyment of their recreational experience.

Safety concerns included interactions with dogs that were off-leash, the speed of some mountain bikers on narrow trails, and walkers on steep mountain biking trails. Concerns regarding impacts to the quality of the recreational experience included dogs off-leash and motorized activities.

Dogs have to be on-leash in Mount Geoffrey Escarpment Provincial Park. Dogs are permitted off-leash in Mount Geoffrey Regional Nature Park and on Crown lands, but they have to be ‘under control’ and not negatively impact the experience of other park visitors or chase wildlife. On the regional park’s Cliff Trail, owners are cautioned to leash their dogs to ensure the safety of their pet. This reflects the current practice of most dog walkers.

Trail use on Mount Geoffrey is increasing, particularly mountain biking, but there are no signs of overcrowding or impacts associated with overuse at this time.

Actions:

- 8.1. Post trail use designations on the trails where needed (e.g. hiking only, hiking and biking, horseback riding allowed, mountain biking only).
- 8.2. Reinforce the existing culture of respect on Mount Geoffrey in park information materials.
- 8.3. Maintain current restrictions on motorized uses in the park and on the Crown lands.
- 8.4. Make users aware of the dog leashing requirement in Mount Geoffrey Escarpment Provincial Park at trail heads that lead into the provincial park.
- 8.5. At key trail heads in the regional park, post dog owner etiquette signs to remind dog-walkers of leashing requirements as appropriate and to keep their pets under control (both for user safety and the protection of natural values).
- 8.6. Monitor dog use. If user conflicts increase, explore making some of the busier trails “dogs on-leash”.
- 8.7. As dog use increases, explore requiring dog leashing during sensitive times for wildlife, such as fawning and bird nesting times.



June 2015 open house

Goal 9: Ensure park improvements are in harmony with the natural setting of Mount Geoffrey

Many people who participated in the public consultations said they like Mount Geoffrey ‘the way it is’. They want to keep the park natural. While improvements to trail information signs at park entrances and trail directional signs were important to many, outhouses and picnic tables were rated as low priorities. Further, most felt that parking is not an issue at park entrances.

It may be that further park improvements will become a higher priority as visitor numbers increase.

Actions:

- 9.1. Maintenance of the existing trail network and signs to improve orientation are the priorities for park improvements.
- 9.2. Minimize formal picnic tables to maintain the natural setting of Mount Geoffrey. Consider benches to support recreational activities where appropriate.
- 9.3. Monitor use levels and if park use and need for outhouses or parking increases, work with BC Parks, park committees and the public to identify appropriate locations and designs for those amenities.

Wildfire Risk Management

Goal 10: Work with fire services to reduce the risk of wildfires on Mount Geoffrey

The fire risk associated with Hornby Island’s long, dry summers is a concern to residents. The hotter and drier summer conditions anticipated as a result of climate change may further increase the risk of fire on the Gulf Islands.

Reports from the mid-2000s indicate a high fire risk rating for Mount Geoffrey. However, a more recent assessment of wildfire risk by staff with the BC Wildfire Service suggests that wildfire risk on Mount Geoffrey may be less than previously suggested. Ladder fuels, such as medium sized trees and shrubs that facilitate fires spreading to the forest canopy, are fairly sparse in the parks and on the Crown lands. Further, several wider trails that bisect the parks and Crown lands, such as Summit, Northwind and Coltsfoot trails, act as breaks should a ground fire get started. These trails also provide access for firefighting purposes. Mount Geoffrey Nature Park has four emergency helicopter landing sites and ponds for firefighting purposes.

Recognize the role fire has played in the maintenance of Coastal Douglas Fir ecosystems.

Actions:

- 10.1. Work with the Hornby Island fire department to continue maintaining the helicopter landing sites and ponds for firefighting purposes to reduce response time in case of a forest fire.
- 10.2. Maintain the width of Coltsfoot and Northwind trails that run north-south to provide access to the helicopter landing sites and to act as fire breaks for ground fires.
- 10.3. Continue to patrol the park during dry spells to inform users of park regulations that prohibit camping and campfires.
- 10.4. Put up no smoking signs at entrances when fire risk is extreme.
- 10.5. In cooperation with the Hornby Island Fire Department, the Coastal Fire Centre and BC Parks, identify appropriate measures for fire prevention on Mount Geoffrey.

10.6. In the event of a wildfire, responding agencies will prioritize the protection of public safety, key infrastructure and private property. Look for opportunities while suppressing wildfire to meet wildfire management and ecosystem restoration objectives. For example, under specific conditions, introducing additional fire can indirectly attack the wildfire, reduce fuel loads and restore elements of the ecosystem that benefit from wildfire.²⁵

Future of the Crown Lands

Goal 11: Protect the recreation and natural values of the Crown lands into the future.

The Crown lands are located to the east of Mount Geoffrey Nature Park. These lands are a groundwater recharge area recognized by the province and Islands Trust. The CVRD currently holds a permit to build, repair and maintain trails on the Crown lands. The permit is issued by Recreation Sites and Trails BC, a branch of the Ministry of Forests, Lands and Natural Resource Operations.

During the public consultations, the public wanted the Crown lands protected into the future and supported the CVRD seeking a more secure tenure.

A first step in that direction is a legal designation of the Crown lands under the provisions of Section 56 of the *Forest and Range Practices Act* from Recreation Sites and Trails BC. This designation would legally establish the trail system on the Crown lands and add the trails to provincial status maps. This means other users such as other ministries and forest licensees would need to take the trail system into consideration when

they are proposing any type of resource development on the Crown lands.

Under this designation, the CVRD and the Hornby Island Regional Parks Committee could post trail designations, set and enforce rules such as no motorized vehicles on the trails, no campfires (especially during the dry summer season) or no camping, for example.

Actions:

11.1. In the short term, apply for legal designation, under the provisions of section 56 of the *Forest and Range Practices Act*.

11.2. Work with the provincial government and First Nation partners to explore other options for securing the long-term protection of the Crown lands.

Firewood Cutting

Currently, a few people are illegally cutting trees in the Crown forest for their own use or for local sale. However, there is no form of tenure or license from the Ministry of Forests, Lands and Natural Resource Operations for firewood cutting as an economic activity. Further, the Ministry does not issue cutting permits for personal use on Mount Geoffrey in recognition of the rare ecosystems on Mount Geoffrey and its role as a groundwater recharge area. In order to control illegal cutting, as well as inappropriate use of the trails and emergency access roads by motorized vehicles, the community has sought the gating of vehicle access points to the Crown land and the Regional Nature Park. However, some firewood cutting continues and the CVRD has been approached to seek

²⁵ This direction is being developed in consultation with the BC Wildfire Service (FLNR).

permission from the Ministry to manage cutting through a permit system.

It is not within the CVRD's mandate or capacity to facilitate or manage firewood cutting or removal on the Crown lands. The CVRD's focus is the trail system and natural environment.

Actions:

- 11.3. The CVRD does not support firewood cutting or removal in the park or on the Crown lands. It will continue to manage the Crown lands for recreation and environmental protection.

Parks Management Plan Review

Goal 12: Keep the parks management plan up to date

The typical life span of a park management plan is ten to fifteen years depending on the rate with which demographics, park uses and other social and environmental conditions change.

Actions:

- 12.1. Initiate a public review of this parks management plan in 10 – 15 years, or earlier if needed to respond to social changes, such as the treaty negotiations, and environmental changes.

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7. Implementation of the Plan



The following table groups the actions in the preceding chapter into short, medium and long term priorities for implementation between 2017 and 2030. The priorities are followed by principles and guidelines for every day, on-going work.

2017 – 2020: Short Term Priorities

Short Term Priority Actions		
Governance		
2.3	Explore opportunities to coordinate any monitoring efforts in the park and on the Crown lands between CVRD, BC Parks and the K'ómoks Guardian Watchmen.	
Conservation Covenant Area		
4.1	Since field-forest edge habitat is rare in the park, keep the field within the conservation covenant area open by mowing. This will also help control Canada Thistle and Scotch broom.	
4.2	Work with CHI and TLC to complete an inventory of the native plants and animal species found in the conservation covenant area. This information will help the three agencies manage the area for those species.	
4.3	Prepare a site management plan for the conservation covenant area to protect native species and control invasive species.	
Cultural Values		
5.4	Inventory in partnership with K'ómoks First Nation key cultural/archaeological sites for the purpose of preservation and/or learning about traditional practices.	
5.6	Identify K'ómoks First Nation place names for Mount Geoffrey.	
Sustainable Trail Network		
7.1	Install permanent trail maps at the most popular entrances and consider one or two locations within the regional park or Crown lands for a permanent trail map.	
7.5	Inform park users on the maps and information materials that user created trails are not mapped or signed.	
Wildfire Risk Management		
10.5	In cooperation with the Hornby Island Fire Department, the Coastal Fire Centre and BC Parks, identify appropriate measures for fire prevention on Mount Geoffrey.	
Future of the Crown lands		
11.1	In the short term, apply for legal designation, under the provisions of section 56 of the <i>Forest and Range Practices Act</i> .	
11.2	Work with the provincial government and First Nation partners to explore other options for securing the long-term protection of the Crown lands.	

2021 – 2025: Medium Term Priorities

Medium Term Priority Actions		
Environmental Stewardship		
3.1	Continue to fill information gaps related to the ecological values in the park and on Crown lands utilizing local, scientific and Traditional Ecological Knowledge.	
3.2	Include information on Mount Geoffrey's ecological values, sensitive ecosystems and ecological processes in park information materials.	
3.3	Work with the regional parks committee and other partners to develop interpretive/educational materials about Mount Geoffrey's ecological, wetland and groundwater recharge values.	
3.7	Include information on the ecological impact of removing downed trees and other natural resources in educational/interpretation materials.	
3.10	Identify natural areas for regeneration (planting and caging of seedlings) of western redcedar, Arbutus, Garry oak and other tree species that are browsed by deer.	
3.13	Work in partnership with the Regional Parks Committee, other partners and volunteers to provide environmental interpretation to help create an appreciation and acceptance of the limits on human use required to protect sensitive ecosystems.	
Cultural Values		
5.1	Recognize the importance of the area to K'ómoks First Nation cultural practices on interpretive signs or other public educational materials as appropriate and explain First Nation rights to harvest, K'ómoks' names, uses of medicinal plants etc.	
5.7	Form partnerships to educate park users regarding First Nation culture and practices.	
Sustainable trail network		
7.4	Over time, sign all mapped trails.	
7.6	Consider symbols or other markings to improve orientation within the trail system.	
8.1	Post trail use designations on the trails where needed (e.g. hiking only, hiking and biking, horseback riding allowed, mountain biking only).	
8.4	Make users aware of the dog leashing requirement in Mount Geoffrey Escarpment Provincial Park at trail heads that lead into the provincial park.	

2026 – 2030: Long Term Priorities

Long Term Priority Actions	
Governance	
2.4	Invite and involve the K'ómoks First Nation, BC Parks, Recreation Sites and Trails BC, the Hornby Fire Chief and the Coastal Fire Centre in future consultations on the park and Crown land.
Sustainable Trail Network	
6.2	In the longer term, as visitor numbers increase, additional trails may be appropriate in the regional park and on the Crown lands. The following criteria will be used to evaluate new trail proposals: <ol style="list-style-type: none"> Minimal impact on sensitive ecosystems (steep slopes, wetlands, creeks, streams, wildlife migration, wildlife habitat, etc.) Ability to control erosion of the trail surface due to heavy use or water flows. Safe for public use. Mountain biking trails meet Whistler standards. Results in an important connection that is not provided by other trails.
8.5	At key trail heads in the regional park, post dog owner etiquette signs to remind dog-walkers of leashing requirements as appropriate and to keep their pets under control (both for user safety and the protection of natural values).
8.6	Monitor dog use. If user conflicts increase, explore making some of the busier trails “dogs on-leash”.
8.7	As dog use increases, explore requiring dog leashing during sensitive times for wildlife, such as fawning and bird nesting times.
9.3	Monitor use levels and if park use and need for outhouses or parking increases, work with BC Parks, park committees and the public to identify appropriate locations and designs for those amenities.

2017 – 2030: Guidelines and Priorities for Ongoing Work

Much of the work that happens in Mount Geoffrey Nature Park and on the Crown lands is not project based but ongoing operation and maintenance. Following are guidelines and priorities to guide the day to day work on Mount Geoffrey to maintain the trail system, create a safe and enjoyable visitor experience and communicate and work with partners.

Guidelines and Priorities for Ongoing Park Operation and Maintenance	
Governance	
1.1	Continue to maintain the park and trail system with local forces through a service agreement with the Regional Parks Committee of HIRRA.

Guidelines and Priorities for Ongoing Park Operation and Maintenance		
1.2	Work with the Regional Parks Committee to seek public and park user input on new initiatives or significant changes to park entrances and the trail system.	
2.1	Continue to work with BC Parks to ensure a seamless visitor experience between the two parks and Crown lands. Areas of cooperation may include, but are not limited to, trail use designations, trail maps, park rules and regulations, interpretative signs, protection of ecological values, public education and fire prevention.	
2.2	Work with the K'ómoks First Nation to identify and advance common interests.	
Environmental Stewardship		
3.4	Share content of interpretive and educational materials with BC Parks to ensure information provided in the regional and provincial park is complementary.	
3.5	Maintain the natural character of the parks and Crown lands. Aim to have any interpretive signs blend in with the natural environment.	
3.6	Inventory invasive species, monitor their spread and remove as soon as possible. Removal may be done through volunteer work parties in coordination with the Regional Parks Committee and other partners.	
3.8	Ensure the anticipated effects of climate change (e.g. hotter/drier conditions, increased intensity and frequency of storm events) are considered in park management decision making, and that parks are managed to increase its resilience against anticipated changing conditions.	
3.9	When restoring natural areas, plant native species that are drought resistant and would naturally occur within the ecosystem to be restored.	
3.11	Ensure trail construction or maintenance is coordinated through the Regional Parks Committee and Mount Geoffrey trail construction and repairs follow best practices; for example, limiting surface run-off and erosion as well as protecting First Nations cultural archaeological features.	
3.12	Encourage visitors to stay on the trails to limit their impact on Mount Geoffrey's forest understory, streams and wetland ecosystems.	
Conservation Covenant Area		
4.4	Manage recreational use to minimize impact on the natural environment within the covenant area.	
Cultural Values		
5.2	Work with the K'ómoks First Nation to ensure that cultural practices benefit ecosystems and maintain the safety of park users.	
5.3	Ensure trail construction considers the potential impact on cultural and natural values including wildlife and vegetation of importance to First Nations.	

Guidelines and Priorities for Ongoing Park Operation and Maintenance		
5.5	Preserve micro-environments that may have cultural uses such as medicinal plants.	
5.8	Seek to increase the collective knowledge of cultural practices and archaeological sites in the parks and on Hornby Island in general.	
Sustainable Trail Network		
6.1	Focus on maintaining and improving existing trails rather than expanding the network.	
6.3	If user created trails require closure because they impact sensitive environments or have eroded and the area needs to be restored, the trail will be decommissioned.	
6.4	Park use permits are required for commercial tours and other activities in the park. Permit applications may be turned down if the likely impact on trails is considered too high, as during wet shoulder seasons.	
7.2	Continue to provide paper copies of maps at popular entrances until cell phone service on Mount Geoffrey allows downloading of electronic maps.	
7.3	Work in cooperation with BC Parks on trail map updates and publish joint trail maps for Mount Geoffrey.	
7.7	While improving orientation, aim to maintain the natural and social character of Mount Geoffrey. Maintain local trail names and ensure signage/directional markings are non-obtrusive.	
8.2	Reinforce the existing culture of respect on Mount Geoffrey in park information materials.	
8.3	Maintain current restrictions on motorized uses in the park and on the Crown lands.	
9.1	Maintenance of the existing trail network and signs to improve orientation are the priorities for park improvements.	
9.2	Minimize formal picnic tables to maintain the natural setting of Mount Geoffrey. Consider benches to support recreational activities where appropriate.	
Wildlife Risk Management		
10.1	Work with the Hornby Island fire department to continue maintaining the heli landing sites and ponds for firefighting purposes to reduce response time in case of a forest fire.	

Guidelines and Priorities for Ongoing Park Operation and Maintenance		
10.2	Maintain the width of Coltsfoot and Northwind trails that run north-south to provide access to the helicopter landing sites and to act as fire breaks for ground fires.	
10.3	Continue to patrol the park during dry spells to inform users of park regulations that prohibit camping and campfires.	
10.4	Put up no smoking signs at entrances when fire risk is extreme.	
10.6	In the event of a wildfire, responding agencies will prioritize the protection of public safety, key infrastructure and private property. Look for opportunities while suppressing wildfire to meet wildfire management and ecosystem restoration objectives. For example, under specific conditions, introducing additional fire can indirectly attack the wildfire, reduce fuel loads and restore elements of the ecosystem that benefit from wildfire.	
Future of the Crown lands		
11.3	Continue to manage the Crown lands for recreation while seeking to minimize impacts on the natural environment.	

Funding Implementation of the Plan

Implementation of this parks management plan does not foresee significant increases in the annual parks maintenance and capital budgets for Mount Geoffrey.

The annual parks budget for the Hornby Island parks service is reviewed each year with the Hornby Island Residents and Ratepayers Association. The table below summarizes the recent (2015 and 2016) annual budgets for Mount Geoffrey Nature Park and Crown Land trails as well as actual 2015 expenditures. Funding comes from the tax requisition (property taxes) for the Hornby Island parks service. At times, the CVRD is able to raise funds for larger projects (such as bridge construction or significant trail upgrades) through senior government or foundation grants.

Table 2: Mount Geoffrey Operating Budgets 2015 and 2016

	2015		2016
	Budget	Actual	Budget
Mount Geoffrey Nature Park	\$18,950	\$15,847	\$21,300
Crown Land Trails	\$21,120	\$21,032	\$15,150
Total	\$40,070	\$36,879	\$36,450

It is anticipated annual budget increases for Mt Geoffrey operating budget will continue to increase 2-5% for annual maintenance with minor capital expenditures in the range of \$10,000-

\$15,000 each year being used for implementing the actions. The proposed budget is consistent with the approved current five year plan.

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Glossary

Biogeoclimatic zone	A geographic area having similar patterns of energy flow, vegetation and soils as a result of a broadly homogenous macroclimate.
Biodiversity	The variety of life on earth in all its forms including genes, species, and ecosystems and the natural processes that link and maintain them.
Coastal Douglas-fir biogeoclimatic zone	<p>The Coastal Douglas-fir (CDF) biogeoclimatic zone lies in the rainshadow of the Vancouver Island and Olympic mountains. It has warm, dry summers and mild, wet winters. The mean annual temperature ranges from 9.2 to 10.5°C. Minimum temperature ranges from -21.1 to -11.7°C. Where mineral soil is exposed, the water near the soil surface can freeze periodically, causing frost heaving. However, soil frost is unlikely if the soil surface is protected by a forest floor or a cover of vegetation.</p> <p>Mean annual precipitation varies from 647 to 1263 mm; very little (5% or so) falls as snow from November to April. In most winters the snow melts within a week of falling.</p> <p>The majority of forests that are found today in the CDF have regenerated after logging that occurred at the turn of the century. The coastal variety of Douglas-fir (<i>Pseudotsuga menziesii</i> var. <i>menziesii</i>) is the most common tree species in upland forests. It can regenerate under the canopy of mature and partly open stands on most habitats. Western redcedar, grand fir, arbutus, Garry oak, and red alder frequently accompany Douglas-fir. Less common trees in the CDF include shore pine, Sitka spruce (rare), western hemlock (rare), bitter cherry (<i>Prunus emarginata</i>), western flowering dogwood (<i>Cornus nuttallii</i>), bigleaf maple, black cottonwood, and trembling aspen (rare). (F.C. Nuzsdorfer F.C, Klinka K., and Demarchi D.A., 1991).</p>
Ecosystem	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.
Ecosystem Functions	The physical, chemical and biological processes that keep an ecosystem operating. Examples include infiltration of surface water, evapo-transpiration and nutrient cycling.
Ecosystem Services	The benefits people derive from ecosystems as for example food, wood and other raw materials, pollination of crops, water infiltration and purification and erosion prevention.

Garry Oak ecosystem	<p>The area and organisms associated with Garry Oak trees and all of the interactions between the plants, animals and their environment.</p> <p>Garry Oak ecosystems contain a wide diversity of wildflowers, ferns, mosses, insects, birds and mammals. Garry Oak ecosystems exist in diverse climates ranging from cool and humid near the coast to hot and dry in inland valleys and foothill woodlands. Distribution gives evidence that Garry Oaks can withstand both lengthy flooding and drought.</p> <p>In Canada, Garry oak and associated ecosystems are found only in southwest B.C. and their northern-most extent on Vancouver Island is the Comox Valley. Less than 5% of these ecosystems remain in near-natural condition. Because so much Garry oak habitat has been lost or degraded, more than 100 species of plants, mammals, reptiles, birds, butterflies and other insects that occur in these ecosystems are officially listed as “at risk”.</p>
Habitat	The area or natural environment where an organism or biological population lives, feeds, grows and interacts.
Local Government Act	The purposes of this Act are to provide a 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.
Official Community Plan	An official community plan (OCP) can be developed by municipalities, local trust committees and regional districts. The OCP provides a long term vision for the community. An OCP is a statement of objectives and policies to guide decisions on planning and land use management, within the area covered by the plan. OCP are integrated with other community strategies such as transportation plans, sustainability plans or drinking water management plans.
Riparian Area	Land adjacent to and influenced in its vegetation and ecosystem composition by a water course.
Sensitive Ecosystems	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.
Statutory Right-of-Way	An easement granted by a landowner to another entity (e.g. to another private landowner or to a public agency such as the regional district) to allow that entity access over the property. The easement is surveyed and registered on title under section 218 of the <i>Land Title Act</i> .
Sustainability	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.

**Treaty
Negotiations**

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.

Watershed

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.

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Appendices

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Appendix 1: Recreational Trail Map

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In cooperation with:
 HIRRA Regional Parks Committee
 Hornby Island Mountain Biking Association
 Provincial Parks Committee

LEGEND

Recreational Trails
 All trails are for hiking and biking unless otherwise specified. No Motorized vehicles are allowed

- Horseback riding allowed
- Biking Only Trails
- Walking Only Trails
- Single Track Trails
- Wide Trails
- Roads
- Easy Trail
- More Difficult Trail
- Most Difficult Trail
- Expert Unlimited Trail
- Dogs on-leash in Provincial Park
- Trail Near Cliff
- Viewpoint
- Helicopter Landings
- Park Entrances
- Vehicle Parking

Please Note: Only maintained trails are shown on the map. To prevent modification of trails and wildlife habitat fragmentation please stay on mapped trails. Please do not create new trails.



Some suggested loops & routes:

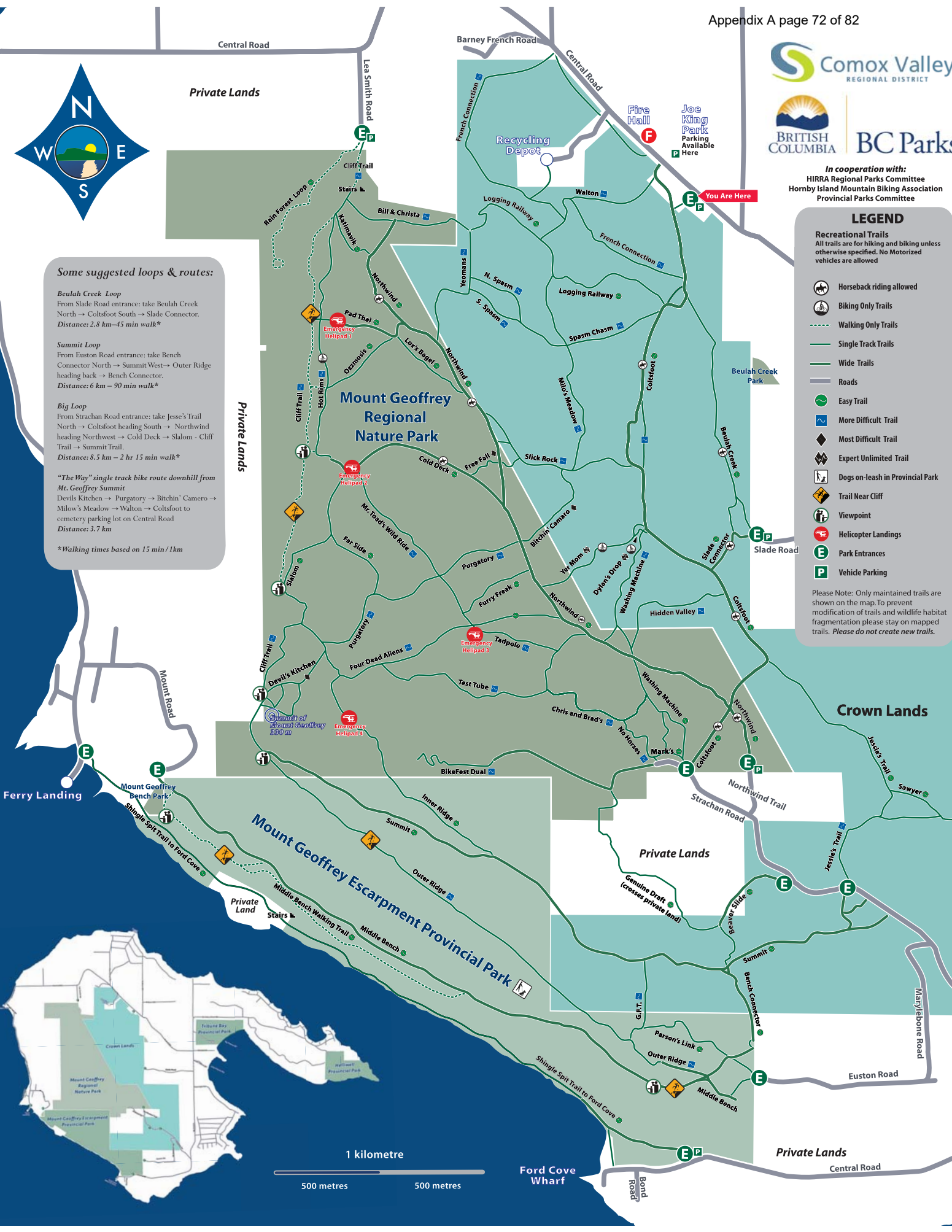
Beulah Creek Loop
 From Slade Road entrance: take Beulah Creek North → Coltsfoot South → Slade Connector.
 Distance: 2.8 km – 45 min walk*

Summit Loop
 From Euston Road entrance: take Bench Connector North → Summit West → Outer Ridge heading back → Bench Connector.
 Distance: 6 km – 90 min walk*

Big Loop
 From Strachan Road entrance: take Jesse's Trail North → Coltsfoot heading South → Northwind heading back → Cold Deck → Slalom - Cliff Trail → Summit Trail.
 Distance: 8.5 km – 2 hr 15 min walk*

"The Way" single track bike route downhill from Mt. Geoffrey Summit
 Devils Kitchen → Purgatory → Bitchin' Camero → Milow's Meadow → Walton → Coltsfoot to cemetery parking lot on Central Road
 Distance: 3.7 km

*Walking times based on 15 min / 1km



Ferry Landing



1 kilometre

500 metres 500 metres

Ford Cove Wharf

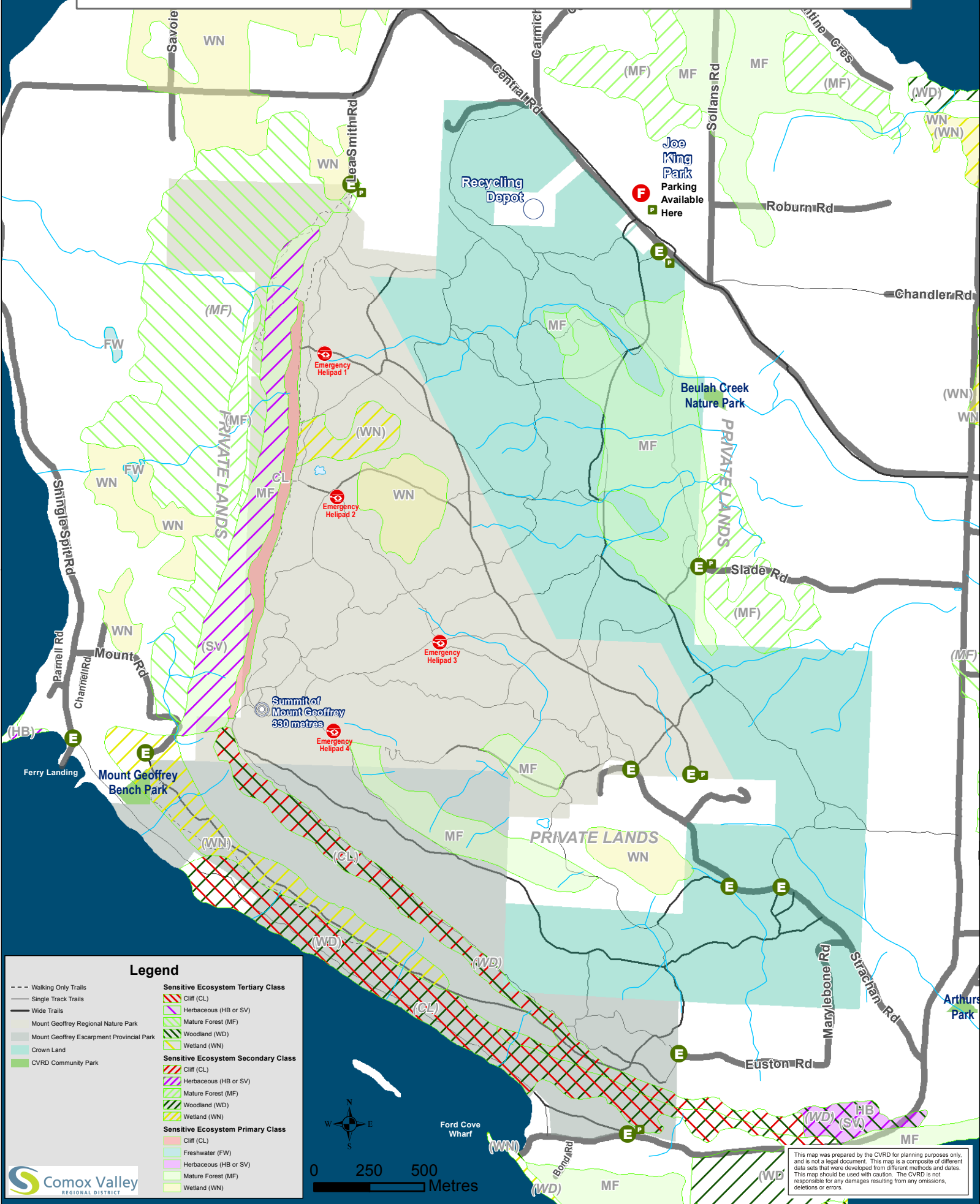
Private Lands

Central Road

Appendix 2: Sensitive Ecosystem Map

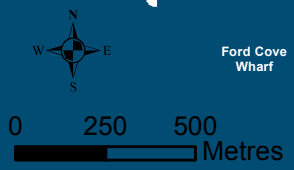
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MOUNT GEOFFREY SENSITIVE ECOSYSTEMS



Legend

Walking Only Trails	Sensitive Ecosystem Tertiary Class
Single Track Trails	Cliff (CL)
Wide Trails	Herbaceous (HB or SV)
Mount Geoffrey Regional Nature Park	Mature Forest (MF)
Mount Geoffrey Escarpment Provincial Park	Woodland (WD)
Crown Land	Wetland (WN)
CVRD Community Park	Sensitive Ecosystem Secondary Class
	Cliff (CL)
	Herbaceous (HB or SV)
	Mature Forest (MF)
	Woodland (WD)
	Wetland (WN)
	Sensitive Ecosystem Primary Class
	Cliff (CL)
	Freshwater (FW)
	Herbaceous (HB or SV)
	Mature Forest (MF)
	Wetland (WN)

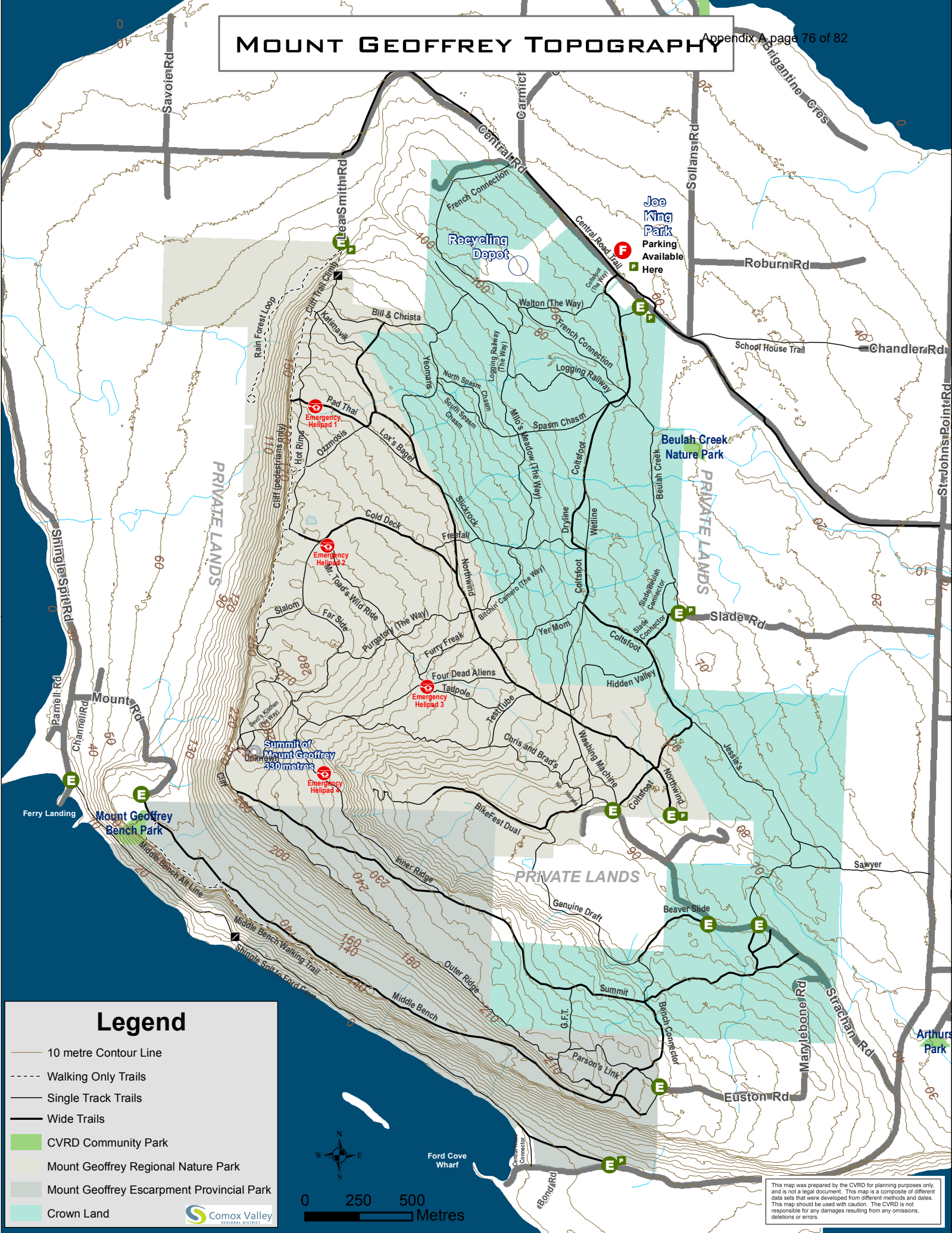


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Appendix 3: Topography Map

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MOUNT GEOFFREY TOPOGRAPHY



Legend

- 10 metre Contour Line
- Walking Only Trails
- Single Track Trails
- Wide Trails
- CVRD Community Park
- Mount Geoffrey Regional Nature Park
- Mount Geoffrey Escarpment Provincial Park
- Crown Land



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Appendix 4: Summary of 2014 Questionnaire Responses

2014 Management Planning Questionnaire Results Overview Mount Geoffrey Regional Nature Park Mount Geoffrey Escarpment Provincial Park Crown Land Trails

The following is an overview of the results of the 2014 Questionnaire to support the Mount Geoffrey planning projects underway by BC Parks and the Comox Valley Regional District.

This overview document introduces the Mount Geoffrey Planning Questionnaire Results Summary, which provides interpreted output of the results using bar graphs. There were also a number of written comments, which provided significant depth to the responses. For the purpose of providing a summary, these comments were put into response categories.

Both the results summary document and the complete report for the questionnaire results are available for public review via: www.comoxvalleyrd.ca/mountgeoffrey

Thank you to all who responded to the questionnaire. The responses provide invaluable input into the Mount Geoffrey planning processes!

Reminders for Interpreting Results

- The questionnaire was not intended to be statistically significant; rather, it provides BC Parks and CVRD with a general sense of use patterns and emerging issues that may need to be explored during the planning process.
- Not all respondents provided a response to every question. In other instances, questions allowed respondents to select more than one response. This is important context when interpreting the results in percentages.

Background

- The questionnaire was available online and hardcopies were handed out during outreach sessions in August 2014 at the Hornby Island Market and Hornby Island Coop.
- In total, 133 questionnaires were submitted by September 30, 2014.
- More than half of the respondents identified themselves as a “year-round Hornby resident”, approximately 30% identified themselves as a “seasonal/part-time resident” and approximately 15% identified themselves as a “visitor”.
- Approximately 64% of respondents reported a high level of use, using the park *at least* once to twice per week. Approximately 20% of respondents indicated they use the parks less frequently (every few months or less).
- Few respondents were aged 35 or under (approximately 15%); the remaining respondents were well distributed through the other age classes (approximately 27% aged 36-50; approximately 32% aged 51-65; approximately 26% aged 66 and older).

Highlighted Results from Survey Questions

- The top reported uses for the parks/crown lands were hiking, mountain biking, nature/bird watching and dog walking, in that order. Other uses reported with a relatively high frequency included jogging, picnicking, horseback riding, and harvesting (mushroom, herb and fruit).
- Ninety-three per cent of respondents reported a relatively low level of conflict between user groups, indicating that interactions were “mostly positive”. In written comments, the majority of respondents (approximately 63%) indicated “no conflict”. A relatively smaller percentage provided examples relating to conflicts with dogs, motorized use activities and to a lesser extent mountain biking.
- The majority of respondents (65%) felt the amount of use of Mount Geoffrey trails had increased in the last 10 years (with mountain biking seeing the greatest increase).
- A variety of entrances were reported as being most used. Noted for the highest responses include: Slade Road, Mount Road, Strachan Road, Cemetery, Euston Road, Central Road, Lea Smith Road, Fire Hall Entrance and Central Road (to Ford Cove).
- A majority of respondents indicated parking was not an issue at the Mount Geoffrey entrances.
- A variety of trails were identified as respondents’ favourite trails and places. The highest response to this question was “all of them”, followed by Middle Bench Trail, Cliff Trail, Coltsfoot, Ford Cove to Shingle Spit, Summit Trail and Northwind Trail.
- When asked to rate the priority for improvements in the parks and Crown lands, respondents indicated improvements to trail and park information at entrances, interpretive signs and trail directional signs are medium/high priority. Respondents indicated outhouses and picnic tables were a low priority/not needed.
- There was a broad range of responses to the question seeking input on the future of unsanctioned trails. A few respondents said to sanction them (4%) and 25% said to leave them alone. Fifteen per cent wanted to see them decommissioned, 16.5 % suggested to keep some and decommission some, 22 % felt there needed to be better public education about unsanctioned trail building.
- Respondents were generally supportive of protection of ecological values, suggesting public education as the best means to protect those values. Approximately 50% of respondents indicated support or strong support for closing/relocating trails in sensitive ecosystems. Approximately 28% oppose or strongly oppose such efforts.
- Approximately 53% of respondents indicate they oppose or strongly oppose making the entire length of the Summit Trail, Inner Ridge Trail and Bench Connector Trail “dogs on leash only”. Approximately 32% supported or strongly supported this concept.

- Approximately 40% of respondents felt the Leaf House should be maintained. There was additional support for the Leaf House to be used as an interpretive centre and/or for interpretive purposes.
- Many respondents felt the Ford Family orchard should be maintained (approximately 49%). Approximately 22% felt it should be left as is. There was also some interest in having the orchard as a harvesting area for the community).

In an open-ended question inviting respondents to provide additional information, 92 people responded. Some representative comments from those responses are as follows:

- In the long-term, the Crown Lands should have a timber harvest management program, be it for firewood, etc. It is a shame that the Community Forest/Woodlot effort of the 90s failed. There would be two principal values to re-ignite this:
 - 1) provide access to firewood and specialty products - it is crazy we are getting most of our firewood from off island.
 - 2) It would seriously help with fire buffer protection.
- The last 3 years the trail maintenance crew have moved on with their lives and the support numbers hasn't been there like previous years. Days of rebuilding a trail in a day now takes many weekends.
- The whole area is a water recharge area and the utmost should be done to keep the water there and not let it run down into the creeks and ocean via badly built trails.
- Some trails are really worn, mainly due to water erosion; the roots are showing, and even bedrock. Maybe they should be closed, or somehow altered.
- There is a wonderful silence in the southern aspect of Mount Geoffrey, with only wind, rain and birds heard - no vehicles except boats. The snatches of view onto Ford Cove and Denman Island are beautiful. To protect this, motorized off-road vehicles should never be allowed, nor electronically amplified sound. It's the silence we all need. Keep it simple. Keep it simple. A few stumps to sit on are perfectly adequate.
- I would like to see identification of sensitive areas and plans for remediation in some area. I'd like to see the mountain bike use continue in a collaborative appropriate way (I use the trails they built), I'd like to see increased access in one or two very limited ways, but keep most of it pretty much as is for those that want to discover it on their own.
- I think that it would be proactive, timely and forward-thinking to include information on interpretive signs, pamphlets and information areas on water conservations, sustainable use,

- I like it the way it is. Generally, I don't believe more trails are needed, nor any other improvements done. My observation is that the status quo works nicely. The current park maintenance is very good, and the park is meeting the needs for both recreational opportunities and environmental protection. A job well done, mostly by local volunteers. Thank you!"
- I appreciate their existence every day. The parks & crown land trails are a vital link to family health, recreation, and appreciation of nature and natural systems. They are an integral link to the land, and our inter-generational learning/teaching & conservation.
- I'd like to express my interest in using some of the crown land in Strachan valley to facilitate affordable housing and permaculture agriculture.
- it has a diverse range of users, and should do its best to be all inclusive. as well in the "back 40" there should be an amphitheatre for a wide range of usage , as well as a wetlands project to help keep water on the island i.e., ponds that collect winter rain and ground water to allow for a slower discharge in the summer
- Some small scale firewood removal of fallen dead trees should be permitted to decrease the fuel load for potential forest fires.
- Is there a way that some of the trees that have fallen down could be used for fire wood. Either to elderly people or people who cannot afford expensive cords of wood?
- I would like to see a space for dirt biking
- Strongly oppose any restrictions on bikes, dogs, and horses. It is so nice to have free, unfettered use of the land, and almost all people respect it. Those that don't probably wouldn't respect any signs anyway- but it has been my experience that almost everyone who uses it appreciates and cares for Nature.
- I want to express my appreciation to whoever looks after the parks for changes over the years. Signs, much improved. I REALLY appreciate the bridges on Beulah Creek and Coltsfoot. They have greatly enhanced walking and cycling in winter! Cleaning up after storms has improved dramatically. I was amazed at how quickly the trails were cleared after this spring's snow storm. I would appreciate a bridge over Waterfall Creek where it crosses Washing Machine. It is sometimes impossible to cross in winter. I love these parks and trails as they are now!
- The main thing is that the trails are pretty good and we should not be wasting tax money on them. The only real concern is the fire hazard of downed trees and brush.
- If there were better directional signage, I'd use the trail system more extensively. Don't let the bikers keep taking over the park space.
- Please don't have so many rules about things.

- More relevance to local use, i.e., short loops near access points that are interesting topography.
- I love roaming the parks with my dog, as do many others. I would support some seasonal restriction of dogs on some parks - really have a blanket rule when there is no demonstrated need. In the winter, a few of us are the only ones there on the mountain. The deer normally avoid it as there is next to nothing to eat.
- I would like to see the Crown Land added to the park system so that it too is more protected from ideas the government may have for it in the future. Good job on Lea Smith entrance stairway and new entrance. Like the new parking lots at the cemetery and Ford's Cove, replacing those ugly yellow gates, using natural materials.
- For the most part, would like to see it left as is, with better signage and a circle route designated - Coltsfoot, Beulah, Coltsfoot, Jessie's, Bench Connector, Cliff, Bill & Christa, Yeomans, Logging Railroad, Walton - Start and finish at graveyard.
- Bridges that have been built with split cedar should be replaced to be planks with guard rails on one or both sides. Don't like the expanded steel as it is lifting. Would love it to be horse safe and other users would be willing to help with this.
- Appreciate if the bench trail was not on the edge of the cliff. Dangerous with children.
- It is one of Hornby's most valuable features for recreation and nature. All efforts should be made to retain it for generations to come. Hornby is more than beaches - its natural areas make the island beautiful.
- Mt. Geoffrey & the Crown Lands trails are truly unique & a big part of why we travel 5 to 6 hours yearly to visit Hornby (and hopefully support the regional economy a little in the process). Please keep the trail system as it is now, but to do that I believe you need to introduce some level of pro-active management for mountain bikers who will over time degrade the trails. I am advocating to keep these unique trails open to riders, but keep them geared towards cross-country & moderate speed downhill vs very fast, banked aggressive & damaging mountain bike park-like riding as we are seeing in other areas of BC. Make sure you do not consider providing any form of 'shuttle' opportunity where bikes can be driven to a higher elevation & ridden down. Currently the park is very family friendly & incredibly pristine due to the dry summers (less water erosion), low volume of visitors, and requirement that you ride your bike up before you can ride it down. This park is a true gem and needs special attention to keep it that way.
- It is a very special spot. I spent a great deal of my time waking the trail. The water flow from the mountain has to be first priority. Protection of the park nature environment is the most important concern.
- I visit Hornby 4-5 times per year specifically to mountain bike on Mt Geoffrey, and have many friends that do the same. I don't come for any other reason than this. While I'm on

Hornby, I typically spend money at the local businesses, and occasionally spend a night or 2 on the island. Most of my trips are in the offseason (Oct-May). I have been riding the trails on Hornby for more than 20 years. Please don't change them. They contribute significantly to the mountain bike community both on Hornby and the Comox Valley as a whole, and as a result, create revenue for local businesses throughout the Comox Valley.

- Please do something about the motor bikes
- These trails are a valuable community asset, drawing visitors year after year and providing endless enjoyment and exercise for residents (and dogs). The trails are also well used to commute across the island. The forest is part of a critically endangered Coastal Douglas Fir ecosystem as well as being a groundwater recharge area.
- To fully appreciate the parks you must take the time to reach a peaceful relationship with nature. It's not picnic tables, more trail development, more parking lots or trashcans.
- Tenure for the Crown land. The trees here are big enough that logging them will be tempting. Ironclad protection from logging and fracking should be priorities. Our watershed is Mt. Geoffrey - fire or logging or fracking would have a great adverse effect.
- Fire protection: When RDCS established Mt. Geoffrey park we upgraded the accessible roads and put in two fire ponds. More needs to be done. It's a long way from Heli site 4 to the Summit. Upgrading Summit Trail to a fire road - well gated - would be a huge step forward; and another heli site or two high up on the mountain. Without "turnarounds" one fire truck is a traffic jam. Without pull-outs it takes just two trucks to be a jam. Turnarounds and pull-outs were established along Northwind. They are not being kept clear of windfalls and limbs - They should be! A fire on the Mountain must be able to be dealt with by H.I.F.D. and volunteers. Forestry fire resources are stretched to the max just when we would probably need them. Hose Lay trail from the Heli site 1 pond to Northwind should be kept maintained and H.I.F.D should be aware of it. As much as easily possible, Coltsfoot should be fire truck accessible and a large water source established at the end of Slade road.
- The old logging roads pretty much ignored drainage. In most cases where these old road beds are used, the trail markers have done a lot toward re-establishing natural (more or less) drainage where it can be done by hand - fire truck upgrade of Northwind includes many waterbars, which are being maintained and working well. Summit Trail needs to move the water course off the road in as many places as possible to lessen erosion and allow water to seep into the aquifer.

Appendix B – Public and Agency Consultations Plan

1. Agency and First Nations referrals including but not limited to:

K'ómoks First Nations
Laich-Kwil-Tach Treaty Society
We Wai Kai
Kwiakah First Nations
Homalco (Xwemalhkwa) Indian Band
Islands Trust
Islands Trust Fund
Hornby Islands Residents' and Ratepayers' Association (HIRRA) and Regional Parks Committee
Conservancy Hornby Island
The Land Conservancy
Hornby Island Fire Chief
School District # 71
Agricultural Land Commission
Ministry of Agriculture
Ministry of Environment
B.C. Parks
Recreation and Trails BC
Coastal Fire Centre
Ministry of Forests, Lands and Natural Resource Operations
Ministry of Transportation and Infrastructure
Ministry of Aboriginal Relations and Reconciliation
B.C. Ferry Services
CVRD Planning and Development Services Branch
CVRD Corporate Services Branch
CVRD Corporate Financial Officer

2. Opportunities for Further Public Feedback

- Notice in Hornby Island newspapers (Grapevine and the First Edition);
- Draft management plan and email contact on the CVRD Mount Geoffrey webpage at: www.comoxvalleyrd.ca/mountgeoffrey as well as via a link on the BC Parks website;
- Draft management plan and comment forms available at the Hornby Island library;
- Social media including facebook/twitter and facebook discussion page.