Cliff Gilker Park Management Plan

Bufo Incorporated ▲ Judith Reeve Landscape Architect

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Executive Summary

Cliff Gilker Park is one of the jewels of the Sunshine Coast. This management plan for Cliff Gilker is a major step in the development of the final plan which will guide park management for the next decade or so, and will form the basis for a three-party conservation covenant. The contents of this document are the result of input from the public, from the advisory committee, from technical experts, and from interviews with stakeholders. Input was quite consistent: people highly value Cliff Gilker because of its scenic trails in a beautiful natural environment of forest, waterfalls, and streams, and its flexible sports field immersed in this natural setting.

In the course of identifying the park's key values, participants offered thoughts on what issues the park might be facing. These challenges have been categorized – in descending order of significance – as "crises", "issues" and "concerns". Only one crisis – defined as "requiring immediate attention" - has been identified: the proposed subdivision immediately adjacent to the park. The current road options for this subdivision have potential to have a serious impact on the ecological integrity of the park. Issues, defined as challenges to be met within 3 years, were identified for the natural park and the sports area. Concerns - challenges over the long term – were also identified for all areas with the most significant being the potential impacts of increasing use of the park.

Management strategies are proposed in this document that will eliminate or mitigate the crisis, issues and concerns. Noteworthy amongst these is a proposal to create a short (<100 m) barrier-free trail which will provide users with mobility issues, the opportunity to enjoy the park and its scenery. Other recommendations relate to parking, trail conditions, erosion, education, and ecosystem monitoring. In response to the plan's role in developing a covenant, this document also includes a set of draft management principles. Specific trail locations have been located for large-scale mapping using GPS; scale does not permit legible, specific mapping in this document.

Appendices, which follow the main plan, include summaries of public input, trail assessment details, references, and a bird list.

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Cliff Gilker Park Advisory Committee Members:

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Robert Charters
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Finally, we would like to thank members of the public who participated and provided comments, recommendations and input for this Management Plan at the three open houses held during the course of this project.

Table of Contents

Table of Contents (continued)

1.0 Introduction

1.1 Purpose

The SCRD Board approved a terms of reference for the Cliff Gilker Management Plan in 2005. The objectives for this plan were stated as follows:

- To provide a long-term, publicly supported, strategy which will guide all subsequent management actions for Cliff Gilker Park
- To parallel the vision of the park's natural, cultural and recreational values
- To communicate strategies for dealing with a range of issues – including (but not limited to) fire and invasive species management, educational and stewardship activities, signage, maintenance, upkeep and improvements to facilities and trails.
- To implement a process that will hopefully avoid great expense and many years of deliberation.
- To provide the stepping stone for the covenant that will be placed on the park.
- To use the vision and objectives developed through the SCRD Strategic Parks Management Plan.

1.2 Goals

The following questions have guided this planning process:

What are key values of Cliff Gilker Park that must be sustainably managed?

How can Cliff Gilker Park be protected in the context of increased recreational activities and other pressures surrounding the Park?

What is the best strategy for mitigating or reducing current, known park issues while providing managers with a process and tools for responding to future, presently unknown challenges?

1.3 Vision

The Sunshine Coast Regional District Strategic Park Master Plan (2005) recommendations identified the following vision for parks and open space:

"Together with the community and our partners, the Sunshine Coast Regional District will work towards the delivery of a coordinated rural park and open space system which:

- *Supports the identity, spirit, biodiversity, and vitality of the region, and,*
- *Supports the growth of individuals by providing healthy opportunities for residents of and visitors to the Sunshine Coast."*

A draft vision statement for Cliff Gilker Park evolved from public input at the open houses and meetings with the Advisory Committee:

> *"Management of Cliff Gilker Park will protect and enhance its role as a natural park where recreation and ecological integrity sustainably coexist, and as a valuable sports field in a natural setting."*

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1.4 Development of the Management Plan

Our methodology involved using an ecosystem management approach. Ecosystem management is a process that integrates biological, social and economic factors into a comprehensive strategy aimed at protecting and enhancing sustainability, diversity and productivity of our natural resources. The following principles (from the Ecological Society of America) guided the process.

- **Sustainability:** Ecosystem management does not focus primarily on deliverables but rather regards intergenerational sustainability as a precondition.
- **Goals:** Ecosystem management establishes measurable goals that specify future processes and outcomes necessary for sustainability.
- **Sound Ecological Models and Understanding:** Ecosystem management relies on research performed at all levels of ecological organization.
- **Complex and Connectedness:** Ecosystem management recognizes that biological diversity and structural complexity strengthen ecosystems against disturbance and supply the genetic resources necessary to adapt to long-term change.

- **The Dynamic Character of Ecosystems:** Recognizing that change and evolution are inherent in ecosystem sustainability, ecosystem management avoids attempts to freeze ecosystems in a particular state of configuration.
- **Context and Scale:** Ecosystem processes operate over a wide range of spatial and temporal scales, and their behavior at any given location is greatly affected by surrounding systems. Thus, there is no single appropriate scale or timeframe for management.
- **Humans as Ecosystem Components:** Ecosystem management values the active role of humans in achieving sustainable management goals.
- **Adaptability and Accountability:** Ecosystem management acknowledges that current knowledge and paradigms of ecosystem functions are provisional, incomplete, and subject to change. Management approaches must be viewed as hypotheses to be tested by research and monitoring programs.

Public involvement has been an essential component for the success of this project. In total, three public open houses were held over the duration of the project, including one specifically to review the draft plan.

The first open house had two objectives: the first was to introduce the project and acquire opinions on the park's natural values and issues and; the second was to create public trust, support and participation in the planning process.

At the second open house, a summary of input received at the first open house was displayed confirming that public input had been heard. The third open house provided opportunities for the public to comment on the draft management report. Approximately 12 members of the public participated and their comments were generally supportive. A recurrent concern was the potential impact of increased use.

The public was given ample opportunities to speak to staff and consultants at these Open Houses, and to provide written input both during and following the Open Houses. The public were also encouraged to send comments by phone, letter or electronically.

Input from the Sunshine Coast Regional District staff was gained through on-site meetings, telephone conversations and email. An Advisory Committee was established specifically to assist this project which, to date, has included four meetings and one site tour. Stakeholder groups and individuals were interviewed when possible and individuals participated through meetings, interviews and email.

Thorough field reconnaissance was conducted of the park including at least ten site visits to the park. Visits were made with

the SCRD staff and stakeholders, and with a forest health expert from the Canadian Forestry Centre. A number of visits were made to different areas of the park and the entire boundary was walked and areas bordering the park visited to identify potential issues on lands adjacent to the park.

Additional research involved a review of various documents applicable to the park, examining maps, conducting internet research and looking to other parks for solutions.

1.5 The Study Area

Cliff Gilker is a 55 hectare park located just off Highway 101 in Roberts Creek, next to the Sunshine Coast Golf Course. The park is a natural jewel with creeks, waterfalls, bridges, and a mixed density forest with an understory predominately of salal, sword fern and Oregon grape. Although it may not appear so to a casual visitor, the trails are heavily used by dog walkers, hikers, families and nature lovers. The sports field is frequently used for soccer, baseball and family outings. The trails in the forest generally use the natural substrate. The sports field has two diamonds, a soccer pitch, lights for night play, a horseshoe pit, washrooms, picnic tables, and a playground with a slide, swings and sandbox.

1.6 Background

Cliff Gilker Park was acquired as a Crown lease for “public recreational purposes” in 1977; title was obtained in 1989 with the condition that it be used for park purposes only. In ensuing years a number of development options have been presented but have been rejected by the SCRD. After a review of management options and public discussion, the SCRD made the decision to register a 3rd Party covenant on the park. The goal of the covenant is to reduce or eliminate the potential for Cliff Gilker to be considered for purposes other than those it has provided over the past decades.

2.0 Key Park Values

Key park values are those which define the place and therefore must be preserved though wise management. Some values are easily observed and catalogued; others are more aesthetic and personal. Open house participants and advisory committee members were asked what they valued most about Cliff Gilker. From this input, the following summary of key values was developed:

2.1 Natural Values

- A forest that is regenerating naturally after a major fire
- Biodiversity including some old growth trees, streams and wetlands

2.2 Cultural / Recreation Values

Recreational

- A valuable sports facility in a beautiful setting
- Lights for evening games
- Trails that explore different environments within the park
- Dog walking opportunities

Emotional

- Sanctuary - a refuge from the urban world
- Real Nature – a sense of wilderness…raw, not manicured
- Beauty – waterfalls, flowers, etc

2.3 Conclusions

Cliff Gilker Park is valued most highly for its natural qualities combined with a diversity of recreation, all in close proximity to populated areas. The management plan uses these values to determine management actions. The forest will, of course, evolve over time into a different forest as part of natural succession. Management must work with this natural process while maintaining the same natural experience for its users: biodiversity, recreation, sanctuary, refuge, beauty.

Translating these values into more concrete guidelines is challenging but possible. The following principles offer a basis for on-going management guidelines.

Cliff Gilker Management Principles:

- The footprint for the sports field area (including the playground, parking area and all other structures) should not increase, however, modifications or replacement to facilities are permissible to maintain or enhance function, or to increase sustainability.
- Any change in the footprint of the park must result in a net enhancement of the park's natural values.
- Only foot or wheelchair travel (including users with dogs) should be allowed in the park except as necessary for park management.
- The natural park should be managed to sustain natural processes, nature-based recreation and to minimize human impacts.
- Infrastructure within the natural area should be limited to maintenance, enhancement, removal or relocation of structures or activities necessary to protect the park's ecological integrity.
- Trees may only be removed if they are determined to be a significant and immediate hazard to users. Disposition of such trees is the responsibility of SCRD Parks.
- Fallen trees and dry brush may be removed if determined to constitute a significant fire hazard based on a fire hazard assessment. Disposition of these materials is the responsibility of SCRD Parks.
- No further parking space should be provided outside of the existing parking areas.
- A route which provides a non-mechanized, healthy alternative travel option along the Sunshine Coast Ferry-to-Ferry corridor, and does not compromise key park values, e.g. along the park perimeter, can be considered for implementation.
- Any exception to these principles should require the unanimous approval of the covenant holders, and should involve a public review process.

3.0 Ecosystem Summary

3.1 Ecosystem Composition

A complex system is used to identify British Columbia's ecosystems. This is necessary to address the complexity of the province. The following table uses British Columbia's Ecoregion Classification and Biogeoclimatic Ecosystem Classification to identify the ecosystems of Cliff Gilker Park on a descending scale from its broadest characteristics to its most specific. The Ecoregion system uses topography and climate for naming areas; the Biogeoclimatic system uses dominant plants, and plant communities and associations, for this task.

Our preliminary assignment of ecosystems is as follows:

Most of the large trees throughout the park are Douglas-fir including the eastern portion that contains the largest trees and probably the oldest in Cliff Gilker.

Ecoprovince	Georgia Depression Ecoprovince
Ecoregion	Lower Mainland Ecoregion
Ecosection	Georgia Lowland Ecosection
Biogeoclimatic Zone	Coastal Western Hemlock (CWH)
BGC Subzones/Variants	Very Dry Maritime (CWHxm) Dry Maritime (CWHdm)
Site Associations	Douglas fir-Western Hemlock-Salal Western Hemlock-Flat Moss Western Redcedar-Lady Fern Western Redcedar-Sitka Spruce-Skunk Cabbage
Wetlands	Western Redcedar-Western Hemlock–Skunk Cabbage (Ws54)

The shrub layer of the park is dominated by Sword fern which prospers in nitrogen-rich soils in areas that frequently hold water. Salal dominates in areas with nitrogen-poor soils where water runs off quickly. Salmonberry is often common in very wet soils.

3.2 Forest Characteristics

Most or much of the forest is regenerating after the human-caused 1906 fire that swept from the west to the east. Most of the park was burned leaving a forest that is generally classed as a young forest (40-80 years old) or a mature forest (80-250 years old).The largest survivors occur in or near the riparian areas, particularly in the eastern portion of the park ("The Triangle") suggesting that the fire had changed route or had lost some of its strength in that area.

There are numerous stumps – some with springboards – confirming anecdotal accounts of small-scale selective logging in the area.

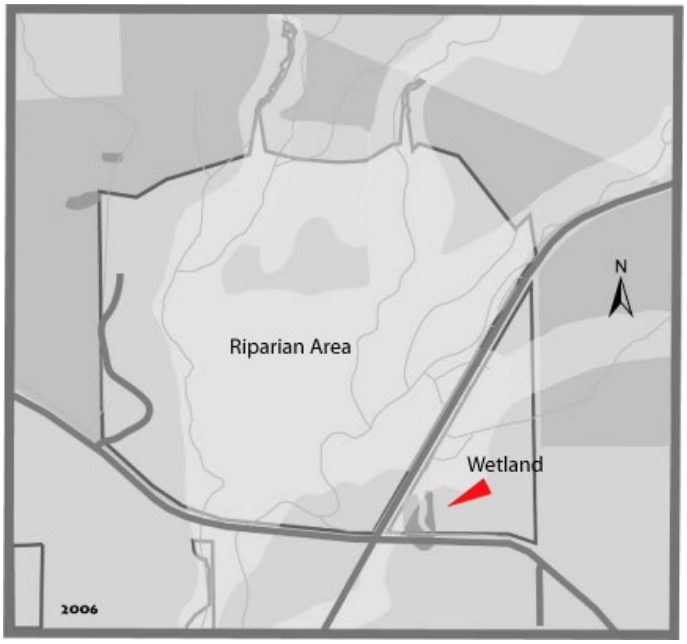
Regeneration throughout the park is primarily western hemlock; most common deciduous trees are alder and bigleaf maple.

While Douglas-fir, western redcedar and western hemlock are the most abundant tree species in the park , there are a few western yew, western white pine and Sitka spruce – most in poor condition.

The pine (left photo) somewhat surprisingly survived the fierce windstorms of 2006, as did the dead Douglas-fir (right photo) which has attracted serious attention from the park's pileated woodpeckers

Of special note in Cliff Gilker is the great variety and abundance of the simpler life forms: mosses, lichens and fungi. In large areas the ground – and fallen tree – layer is covered in mosses and lichens. Many areas display a wide variety of fungi during the "fruiting" season, and bracket fungi are always visible on the larger trees.

The Sunshine Coast Sensitive Ecosystem Inventory identified a large part of Cliff Gilker as a sensitive ecosystem because of its watercourses: Clack and Roberts Creek.



Salmonids – possibly cutthroat trout - were observed in Clack Creek; other unidentified small fish were observed in both Clack and Roberts Creek.

Few wildlife species were observed; all were common species typical of young western hemlock forests, e.g. Douglas Squirrels, black bear, etc. Courtesy of Tony Greenfield, we have included, in the appendices for this plan, a list of 60 species of birds that either have been observed in Cliff Gilker or very probably occur here. Virtually all 60 species likely nest in the park or in similar nearby areas. Other species doubtless fly over the park but have not been included in this list which focuses on the avian "residents" of the park which means no visit will not include seeing and/or hearing at least a few of these species.

4.0 Management Analysis & Discussion

This section deals with the management issues that have been considered in the process of creating the plan. The next section will define the recommended means to mitigate these issues.

Definition of Terms used in this Analysis

Crisis: *requires immediate attention*

Issue: *requires action within the next three years*

Concern: *requires study and planning for the long term*

4.1 General

A concern for both the sports field area and the natural park area is potential impact of the inevitable increase in population and in park users. From the sports field perspective it appears possible to add another corner diamond that would be suitable for young players and – if using half-size fields for young children - to have two soccer pitches available. From an overall park perspective, parking could become an issue particularly if users end up parking along the side of the road, impeding traffic and increasing the potential for accidents. At present, the sports field area can safely park approximately 50 cars reasonably near the sports field. This number seems adequate for the usual or even high loading that happens occasionally. There is, however, the probability of a significant increase in use of the nature trails which currently can safely parallel-park approximately 10-12 vehicles along the road in areas where they are completely clear of the road surface.

4.2 Sports Field, Playground & Structures

The sports field area is directly managed by SCRD Park staff. It has one current issue. There are no crises regarding the sports field area.

Our only issue is the location of the playground and sandbox which are currently within a few metres of dense vegetation and less than 100 metres from water. The potential for a child to quickly wander out of view is significant.

The potential for this happening is exacerbated by the location of the picnic table at a significant distance from the play area, and closer to the potentially distracting playing fields. Two options have been considered: fencing, and relocating the picnic tables and play area. The latter option is based on reversing the locations of the tables and play area.

4.3 Natural Area Ecosystem Integrity

A number of challenges arise as part of managing the natural areas of the park. They are organized under categories of threat. But first, it is necessary to define ecosystem integrity. The following definitions are drawn from Canadian sources including the provincial ministry of environment.

Ecological integrity is defined as:

> *"The quality of a natural unmanaged or managed ecosystem in which the natural ecological processes are sustained, with genetic, species and ecosystem diversity assured for the future."*
>
> BC Ministry of Environment
>
> *"A minimal loss of natural biodiversity on natural, unmanaged, or managed ecosystems, which is maintained into the future."*
>
> Canadian Forestry Centre

It can be argued that Cliff Gilker does not have – and will never have - ecological integrity as a result of its small size and because it is effectively an "island" surrounded by man-altered landscapes without a buffer zone or easy access for species to immigrate into the park to replace lost individuals and species. Nonetheless, this plan suggests that Cliff Gilker can maintain – with careful management - a level of ecological integrity sufficient to sustain the key park values.

Bark and Ambrosia beetle excavations – an early stage of converting newly-fallen trees into soil.

4.3.1 Biotic Factors

Natural biotic factors include disease, fungi, and parasitic plants. Root disease results in the eventual decay of the rooting structure. Root disease can result in windthrow, while heart rot can lead to both windthrow and stem breakage.

Mistletoe is a common parasitic plant that grows on the branches or stems of the western hemlock tree and depends on the host for support, water and nutrition. Heavy infestations reduce growth and may even cause the death of a tree.

Forest insects include bark beetles, ambrosia beetles, defoliators such as hemlock loopers, and many others. In large outbreaks, these invertebrates can severely damage or kill a tree

While the above agents that affect forest health occur in Cliff Gilker Park, they are only found at endemic or natural levels and in no way pose an immediate or extreme risk to the health and continuance of the forest. These agents will simply continue to

exist within the stand, and over a long period of time will assist in the successional development of the forest.

We do not regard these as a threat but recommend that they be monitored as part of the park monitoring program. Monitoring these biotic agents may provide valuable information on the general condition of the ecosystem as an increase may indicate other stresses and concerns within the park.

The only biotic issue is invasive species which can outcompete native species under specific conditions. The primary target species in Cliff Gilker is English Ivy, a non-native, invasive plant species that chokes out native plants, harms the native trees, destroys the habitat of native wildlife and creates Ivy deserts.

English Ivy was brought by early settlers to coastal BC. It was used in gardens and for landscaping and escaped from home sites to the forest environment. This area's environment provides an ideal situation: lots of moisture, not too sunny, no natural enemies and our native wildlife does not use it for a food source

Hand removal is the preferred technique for dealing with this species. Its waxy leaves make herbicides impractical in parks: enough herbicides to kill it would also harm native plants, wildlife, and water quality. Mechanical means like rototilling are impractical because of terrain and disruption of the habitat and wildlife.

Ivy is not widespread in the park so the potential is high for success in terms of removal or at least control of this invasive.

4.3.2 Abiotic Factors

Natural forest fire is a concern regarding the long-term stability of the park, but such an event is impossible to predict and thus it remains an unknown. On one hand, a fire could occur at any time, but on the other, the forest has survived the last 100 years and is slowly recovering.

One concern is the buildup of fuel as the trees compete for sunlight, a process during which some will lose and ultimately fall in a windstorm. A large buildup of this kind of debris could increase the potential for severe crown fires that will destroy a stand. SCRD Parks is currently undertaking a fire risk assessment. It is worth noting that on the coast, most fires are caused by people. It is also important to remember that while fires in this forest type are relatively rare (100+ years apart on average), global warming does present the risk of a significant increase in fire events.

2006 Storms

In late fall and early winter of 2006, severe storms had a major impact on the Sunshine Coast including Cliff Gilker Park. In November, a strong windstorm and a heavy snowstorm both resulted in a loss of trees in the park and a significant loss of branches as a result of the winds and the accumulated weight of the heavy snow. These events resulted in the park being closed for a number of days. It appears, however, that the most severe impacts resulted from a windstorm in late December. While wind velocities are available for the park itself, winds of up to 100 km/hr were recorded in the area.

A preliminary examination of the resulting damage suggest that these strong winds came from the west and north of the park with major damage occurring along or near the Clack and Roberts Creek channels. Large western redcedars and other species were toppled when their roots could no longer maintain them in a standing condition; in a number of cases, the massive rootballs are almost complete exposed on the surface. This also suggest that the Venturi effect – which states that when air flow is constricted, the air must speed up in the restriction, reducing its pressure and producing a partial vacuum – may have been at work along the narrow stream channels. The impacts were also certainly exacerbated by the narrow buffer area between the park boundary and the open golf course area. This area is now, of course, significantly more exposed to weather from the north.

Yellow Trail. 2nd bridge

Large riparian tree knocked over by December windstorm

Yellow Trail from Parking

Branch and tree debris including extracted rootball

Although the forest itself will recover – probably well less than 5% of the trees were downed or seriously damaged but still standing – a number of concerns need consideration:

- The large riparian trees felled in the storms increase vulnerability of the remaining trees both to windthrow and to invasive species entering the area
- The large trees which fell in or near the streams may result in a loss of soil stability and increased erosion which may impact the water quality
- The sheer volume of fallen branches and medium-to-large trees, in some area, result in soil covered in centimetres, and sometimes a metre or more, which - although natural material that will eventually decompose – is of such mass as to significantly retard forest recovery

The situation is too fresh (and possibly unfinished) for specific recommendations, save conducting a review and analysis of the storm impacts that involves stream experts as well as forest ecosystem professionals.

Red Trail, North Side

Rootball (left centre of photo) of large redcedar. Also visible are other trees brought down – likely by the falling redcedar

Red Trail, wet area east of Clack Creek

Branch and tree debris – note increased opening to golf course in the background.

4.3.3 Human Factors: *adjacent to the Park*

The only crisis faced by Cliff Gilker Park is the result of a proposed subdivision adjacent to the Triangle portion of the Park. The subdivision will require road access. In the course of conversations with Ministry of Transportation and the landowners, two options were put forward to the SCRD Planning Division.

- Adding an access road along the southern edge of the park paralleling the highway will result in ***direct removal of land from the park*** which will also increase edge effect – note that a land exchange has been suggested in connection with this option,

OR

- Using B&K (Largo) Road to access the existing Blackburn Road allowance, which will parallel the park's eastern boundary, will cause ***further isolation, edge effects and safety issues*** for the Triangle portion of Cliff Gilker.

NOTE: SCRD Parks has no authority over provincial land including road right-of-ways. The Highway Department of the BC Ministry of Transportation (MOT) is ultimately responsible for decisions in these matters. SCRD Parks role is to identify park concerns as part of any dialogue and to assist in resolving any conflicts.

General Comments of SCRD staff regarding the Blackburn road allowance and the proposed subdivision adjacent to Cliff Gilker Park:

1. The best option is that the park remain intact as it is (no land removed for frontage road), AND that Blackburn road allowance be closed and transferred to park.
2. Neither of the 2 subdivision access options presented to the SCRD – A) frontage road, and B) using Blackburn Road, are considered good options by SCRD staff.
3. **IF** one of the options were to be chosen, staff believe that the frontage road would be preferred **IF**:
    a. Blackburn Road allowance were closed and transferred to park
    b. There be additional land of equal or greater size and equal or greater value provided to compensate for land lost to frontage road.
    c. The provision for a frontage road does not risk the park status – still waiting to hear from the Province
    d. Following detailed professional assessment, if it is determined that the risk of windthrow in the area of the new frontage road would the park, additional land of equal or better natural value be provided to add to Cliff Gilker Park in compensation.

The alterations to the adjacent landscapes have created concerns about edge effects. The exposed edges of Cliff Gilker Park act to isolate and limit the functioning of the internal stand processes and enable, through increased incident light, the establishment and growth of a dense understory of coniferous regeneration and competing vegetation. Edge effects were noted surrounding the boundary of the park and in small areas within the park.

Windthrow is one of the common edge effects. A function of topographic exposure, stand structural characteristics and soil conditions, windthrow can be exacerbated by root and stem diseases. A common disturbance in all forest types, this disturbance typically impacts dominant and co-dominant trees as they are the most exposed features.

Opportunities and Options to Enhance Safety

There are several other issues adjacent to and in the park. They are all road safety-related and therefore subject to same limitations as to the degree that SCRD Parks can influence decisions concerning provincial land. This section addresses several issues and offers some options for mitigating them.

B&K Road (Largo Road), a forest service road, crosses the park in its eastern portion. In addition to doubling the edge effects, the road is used by fully loaded logging trucks travelling at various speeds. There are few opportunities for park visitors to safely park - only a couple of locations along the west side of the road and at the start of the road where it widens as it joins the highway. The road is also busy on weekends as mountain bikers are dropped off up the mountains and their vehicles are driven back and parked along the road.

The most serious issues are along Highway 101 where vehicles are turning off or on to the park road. Coming from the south, the park turn is not visible until a vehicle is very close to it. The left turn from the north requires crossing a solid double yellow line which, while legal "…if leaving the highway" (Hwy Code Sections 155(2) and 156), is hazardous. This section of the code conflicts somewhat with the Highway Code Section which prohibits impeding traffic in order to cross a double yellow line. A possible remedy could be achieved by implementing the same solution as occurs a few 100 metres north at the Sunshine Coast Golf Course entry where a gap in the yellow lines is provided at the turning point for southbound traffic.

Also confusing for a south-bound driver is the arc of the road and presence of the park sign on the far side of the turn, a combination which may lead to sudden turns. Both of these approaches to the park create safety issues. Some benefit would be derived from adding "turn ahead" signs at an appropriate distance for north-bound travellers. The long-term benefits of a dedicated turning lane have been brought to the attention of the Ministry by SCRD. This option has been acknowledged by the Ministry and it is under consideration.

4.3.4 Human Factors*: in the Park*

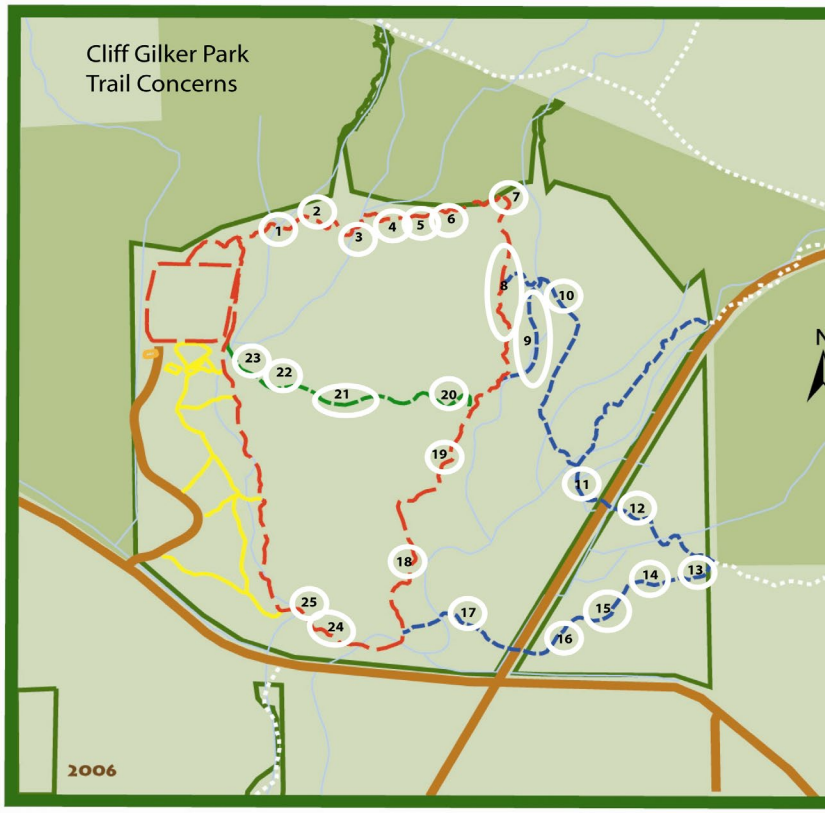
User-based

This discussion must be prefaced by an acknowledgement that the park is in good shape and is well-maintained. There are no crises associated within the park, only a few issues and concerns.

While most of the trails are in good shape, there is, in a number of locations, moderate to severe erosion largely as a result of trail use but particularly accentuated by trail flooding in the winter season. This seasonal flooding not only increases erosion along the trail it floods but tends to create new trails – and new eroded areas – as users try to find relatively dry routes rather than go wading. Most, if not all, of this can be resolved by low boardwalking and closure of the volunteer trails including revegetation if necessary. Note that the scale of this report precludes meaningful mapping of specific trail issues. These have been mapped using GPS technology.

Trail erosion resulting from water flow and human travel.

Trail braiding – caused by Hikers avoiding wet areas. May result in significant impacts on tree roots – particularly if the erosion circles the tree completely.



TRAIL NOTES: The legend for the numbers on this map are provided in appendix to this report. The vast majority of areas identified have been so because flooding has resulted in significant erosion which in turn has caused trail braiding or expansion. We recommend that areas like this be treated with low boardwalking which allows the water to pass under and hikers to stay reasonably dry. We also recommend that boardwalking replace the trail rounds (or cookies) which can be slippery and often lead to wider trails.

Erosion is also an issue near the two most northerly bridges on Clack Creek. The erosion has doubtless began with the trails but now expands over a substantial area right up to the water. It is probable that this is a result of the use of these areas as play areas for dogs and children. The bank is still relatively stable and the issue may be resolved by the use of plantings and rocks for stabilizing the shoreline and reducing the use. It may also be prudent to determine one or two locations where this is acceptable and directing visitors there

Major erosion at the second bridge on Clack Creek

Unsanctioned trails are relatively rare in the park but do occur and can expand quickly. Quick closures with revegetation and signs are often effective in controlling this issue.

Unsanctioned use by bikers and horseback riders is also not widely distributed but does occur regularly, particularly on the Triangle area trail. In some cases this may be an innocent mistake; a concern which can be remedied by appropriate trailhead signs.

Human-caused fire is, at present, a relatively low concern but this is expected to change in step with climatic changes. In 2006, a fire was almost certainly deliberately set in a decaying stump and we found the evidence of an attempted fire on a bar in Roberts Creek. A fire message should be added to the entry signs.

The Sunshine Coast Museum & Archives has records of 3 substantial fires in the area in 1865, 1906, 1925. The 1925 fire is supposed to have been the largest one; it was started by a steam donkey getting shakes, which was in the Roberts Creek area again; possibly the top of Crowe Road. Photos of charred hillsides are available but none can positively be linked to the Cliff Gilker area.

The Pacific Forestry Centre in Victoria only has records of one very small fire in 1940s around Cliff Gilker. However, PFC only digitized wildfires - and only since 1920 – so if a fire occurred before 1920 or the area was logged and slash-burned, it's not in their digital records.

A fire atlas for 1920-40 indicating a fair amount of slashburning to the north of Roberts Creek. However, even those records might be incomplete if the area was private land at that time or in a timber berth, as these maps are mainly of activity on Crown land under control of the BC Ministry of Forests.

Increasing use by people, some with dogs, is a concern as the population of the Sunshine Coast increases. There are no figures to confirm an increase in use so this should be monitored via trail counters and/or surveys. The correct response to increasing use is not easy to determine and many agencies have struggled to determine a method for calculating the carrying capacity of a park. In other jurisdictions, use has been controlled (or attempts have been made to control) by restricting parking, zoning to provide a short experience that will satisfy most users in order to protect the other areas, and by charging a fee. The latter would be very difficult to impose politically or practically given the multiple entrances available at Cliff Gilker. The initial strategy should be to identify present use of the park and to initiate a monitoring program of the natural systems in order to have a baseline for evaluating increasing use and its impact on the park.

Park Infrastructure & Programming

Some new infrastructure would benefit the users.

First on the list is accessibility for people with mobility issues. This category of user is increasing in number with our aging population. A principle of barrier-free access is not to make every trail wheelchair passable but to provide a representative experience for those visitors. For those visitors, this plan suggests the

creation of a short (<100 metre) trail that connects the user to a viewing platform at one end with excellent views of the waterfalls, and, at the other end, a viewing platform with a view of the forest and Clack Creek. No vegetation larger than 2.5cm in diameter would need to be removed.

Issues in several trail areas result from dangerous – unstable or very slippery – portions which should be repaired, most often with steps.

Park information, especially wayfinding and entry notices, are in need of revision and redesign. Small wayfinding signs at each trail junction would solve this issue and be particularly appreciated by many new users.

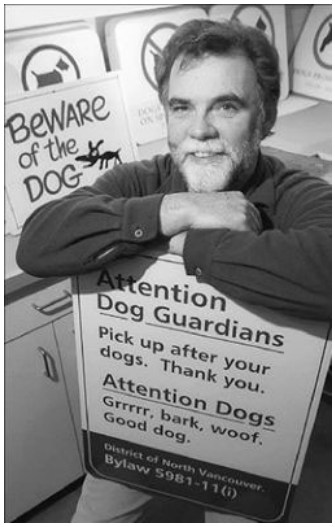
Cliff Gilker has the potential for becoming an excellent interpretation and education resource. This could achieved by interpretive panels, interpretive brochures with numbered posts, by podcasts, and/or by personal programming, i.e. guided walks.

A concern in this plan is for monitoring both the park ecosystems and the park users. This may be a role for volunteer wardens or naturalists, may be a suitable long term project for a local high school biology class, or a project for some post-secondary institution e.g. Capilano College. Projects could range from water sampling, to breeding bird surveys, to visitor surveys, etc.

The caretaker position at Cliff Gilker is of considerable value in maintaining the quality of the facilities, especially in the Sports Field Area. This position should be retained if possible.

SCRD Parks are in the process of revamping their wayfinding and orientation signs. The goal for entry signs is to: orient the user to where they are and what opportunities are available where; remind users of what is and is not permitted, and; to interpret the reasons why Cliff Gilker is a park so that users will value and respect the place.

A reminder that regulatory signs are often the least liked signs…but they are received more willingly when they incorporate humour and a soft sell.



5.0 Management Strategies

The following strategies are recommended for implementation. Some require capital expenditures, many can probably take place within existing budgets, and a number are administrative and regulatory only with costs limited to changing text on a sign. Cost estimates will be provided in the final plan. The last section discusses the possible means for implementing these strategies with the involvement of NGOs, volunteers or partnerships.

5.1 Crises: *requires action immediately*

Human Factors			
Adjacent Land			
Agent	**Evaluation**	**Park Status**	**Action Required**
New road for proposed subdivision	Crisis	Present options will compromise park significantly – edge effect, loss of land, increased safety issues	Negotiate with Ministry of Transportation and the landoner for a road location or land exchange which does not impact on the park

5.2 Issues: *requires action within 3 years*

Biotic Factors			
Agent	**Evaluation**	**Park Status**	**Action Required**
Invasive Plants	Issue	low level – ivy is the main issue	Hand removal followed by monitoring
Human Factors			
Park Users (Natural Area)			
Trail Braiding and Erosion	Issue	Present on many trails –the product of heavy use and/or avoiding flooded portions of trail	Use boardwalking to mitigate season trail flooding Replant areas damaged by new trails
Erosion near streams	Issue	Present in a number of areas; significant in two areas	Stabilize slopes at most serious areas using natural materials Direct users to specific sites for water access
Unsanctioned Trails	Issue	Few in number but can expand quickly and easily if left unchecked	Close all unsanctioned trails using signs and revegetation

Human Factors (continued)			
Park Users (Natural Area)			
Road Safety: B&K Road, turnoff from HWY 101	Issue	B&K Road cuts through park – Hwy 101 turnoff is dangerous from both directions because of limited vision on approach and short distance from the sign to the turn – potential for serious accident	Work with Ministry of Forests to create or designate parking areas along B&K Road including signage. Provide advance warning sign for north-bound traffic for turn into Park 200m before turn. Consult with Ministry of Highways regarding potential highway changes e.g. add turning lanes
Fire	Issue	Fire and evidence of attempted fire in Park	Maintain vigilance Include fire message on interpretive signs
Unsafe trail segments	Issue	Trail slopes and condition a risk on portions of blue trail	Add steps and railings where necessary
No accessible trails or facilities	Issue	No trails suitable for wheelchairs or other mobility issues	Develop a short (>100 m) disabled access trail that includes viewpoints and adequate turnaround areas Upgrade washroom to full barrier-free
Park information – particularly wayfinding & entry notices	Issue	Unclear or (sometimes) absence of clear trail markers for orientation No clear entrance experience Park boundary signs absent at some entry points	Signage needs a full review i.e. kiosk signs are cluttered and confusing, five dog signs at Sports Field, etc. May need to add small maps on wayfinding trail signs. May also benefit from identifying levels of trail e.g. easy, rough terrain, etc. Mark all Park entry points with small sign
Sports Field Area			
Playground Location	Issue	Unsafe setting for small children with brush and forest immediately beside the swings and slide, and water within less than 100 m	Move playground to area adjacent to grove of large trees nearer to the sports field Move picnic tables to act as buffer between playground and forest i.e. in general area where the playground is now

5.3 Concerns: *requires study and planning for the long term*

Biotic Factors			
Agents	**Evaluation**	**Park Status**	**Action Required**
numerous	endemic	natural condition	Incorporated into monitoring program
Abiotic Factors			
Agent	**Evaluation**	**Park Status**	**Action Required**
Windthrow	Concern	common	Windthrow along riparian areas is a byproduct of erosion and natural exposure – creates woody debris – may block channels – removal may occasionally be necessary
Fire	Concern	Increasing fuel buildup	Fire risk assessment should be made at regular intervals / removal of excess brush may be necessary. Risk likely to increase with climate change
Erosion (natural)	Concern	common	Monitor to identify need for slope or shoreline stabilization – can be a natural product of streams and high levels of precipitation but often directly related to human impacts
Human Factors			
Adjacent Land			
Agent	**Evaluation**	**Park Status**	**Action Required**
Edge Effects	Concern	Entry road, B&K road, Hwy 101 & golf course all produce edge effect	No activities should permitted that result in a significant expansion of the edge effect.
Adjacent lands	Concern	Island Effect	Park integrity should be considered in any planning in the neighbourhood
Park Users (Natural Area)			
Increasing use: people, dogs	Concern	Apparent increase may be result of increasing population and increasing awareness of the park by tourists	Surveys to determine rate of increase Review options for reducing impact: limited parking, zoning, fees

Park Users (Natural Area continued)			
Unsanctioned use: bikes, horses	Concern	Evidence of some use of bikes and horses in triangle portion of Park	Signage at all entry points
No formal monitoring of park condition	Concern	Trails check on regular basis but no long term monitoring to detect incremental changes in ecological integrity and visitor impacts	Establish a monitoring program that addresses the need for timely information for successful park management. Should be ecosystem-focused including human impacts
Parking	Concern	Inefficient use of parking area	Reorganize to move some spaces closer to the washroom building Parking currently adequate but will doubtless change over time and may require modification

6.0 Management Implications

6.1 Monitoring

A key element in the protection of the park is monitoring. Monitoring should encompass a wide range of conditions and activities, for example:

- Monitor the site, and in particular its boundaries, to determine if human activity is impacting on the park.
- Monitor ecosystem-level elements for early detection of change, e.g. appearance of invasive species;
- Establish control areas and survey areas to identify trends. These should include abiotic components such as water quality, and biotic components such as vegetation quadrants and annual breeding bird surveys.
- Monitor user activities and survey users to assess their origin, needs and preferences

While some of these monitoring tasks may be done by Park staff as part of their regular work, others will require assistance from outside of the SCRD. Assistance may be available from volunteers, from high school teachers and classes, from post-secondary institutions such as Capilano College, from NGOs, or from other levels of government. Assistance could take the form of labour, information, equipment (e.g. trail counters), or discretionary funding

The monitoring program should evolve as resources ($ and people) become available. Specific monitoring should be tailored to the skills available and – in the case of education institutions – should accommodate the curricula needs in addition to the park's requirements.

6.2 Cost Estimates

These estimates include approximate costs if the work was done commercially.

Task	By Whom?	Product / Effort	Cost Estimate
Negotiate with Ministry of Transportation and landowner for a road location which does not impact on the park	Park staff and Community	Significant period of negotiation e.g. 6 months +	Staff Time
Removal of Invasive Plants	Park staff / volunteers	10-15 person/days per year	Staff Time and volunteers
Use low boardwalk to mitigate season trail flooding Replant areas damaged by new trails	Park Staff / volunteers	Estimate approx 100 – 150 metres in total Plants	Commercial 150 linear metres @ $100@LM
Stabilize stream slopes using natural materials Direct users to water access sites	Park staff / volunteers Park staff	Rock or log erosion guards Sign / website / brochure	Commercial Erosion - $500-$1000 Sign/brochure - $1500
Close all unsanctioned trails using signs and revegetation	Park Staff	Sign	Commercial $200 @sign
Work with Ministry of Forests to designate parking areas and produce signage on B&K Road alerting drivers and pedestrians. Advance warning sign for Park for north-bound travelers 200m from turn. Consult with MOT re: add turning lanes	Park Staff	Extended period of lobbying and negotiation	Commercial $200 @sign
Include fire message on interpretive signs	Park staff	Sign	Included with signs
Add steps and railings in unsafe trail areas	Park staff / volunteers	Estimate approx 50 metres in total	Commercial 50 x $100@LM
Develop a short (100m) disabled access trail that includes viewpoints / adequate turnaround areas	Park staff / volunteers / community organizations	Boardwalk Decks Trail widening and surface Benches	Commercial Trail - $600-$800 @LM Decks – 2 x $1500 Benches - $200@

Task	By Whom?	Product / Effort	Cost Estimate
Signage needs a full review Small maps on wayfinding trail signs. Identifying levels of trail e.g. easy, rough terrain, etc. Signs at all Park entry points	Park staff	Signs Kiosks & Posts Graphic Design	Commercial Kiosks - $3000 Signs - $800@ Graphic Design - varies
Move playground to grove of large trees nearer to the sports field Move picnic tables	Park staff / volunteers / sports field users	Heavy equipment operator	Commercial - $3000
Monitoring forest diseases & pests	Forester	Report	$2000 annually
Removal of woody debris in creeks may occasionally be necessary	Park staff / Forester / Fisheries Biologist	May require small mechanized equipment	Commercial $150@hr
Fire risk assessment	Fire expert	Report	Commercial - $1000
Streams - monitor to identify need for slope or shoreline stabilization.	Park staff / streamkeepers	Report	N/A
No activities on surrounding land that expands the edge effect.	Park staff	Representation at planning meetings	N/A
Park integrity should be considered in any planning in the neighbourhood	Park staff & community	Representation at planning meetings	N/A
Surveys to determine rate of increase Review options for reducing impact: limited parking, zoning, fees	Park staff / volunteers	Data & analysis Report	Commercial - $3000

6.3 Management Process

A challenge for every management plan is funding. Parks in many jurisdictions (perhaps most) do not have the resources to provide the complete services that would benefit their park system. Some of the ways in which these challenges have been met include:

Volunteers: Volunteer Park Wardens and Park Naturalists – as proposed in the SCRD Strategic Park Master plan – have provided valuable services in a number of other park systems, e.g. BC Parks, GVRD Parks, etc.

Co-operating Associations: Often called “Friends of…”, these groups often provide volunteer services including trail construction, cleanups, etc. and may participate further by fundraising and submitting grant proposals to provide additional funding for park initiatives.

Community Organizations: Also proposed in the Strategic Master Plan, community organizations, such as service clubs, may participate because of their commitment to community improvements generally or because their organization’s mandate relates directly to parks. May provide funding, labour or other resources.

Stakeholder Groups: Defined as those which have a vested interest in aspects of park management. May assist in design and construction of facilities that benefit their members, and participate in basic services, e.g. trail improvements and cleanups by hiking groups, dog walkers or naturalist clubs.

Schools: Projects may be undertaken by schools if of value and appropriate to the park, and, of value to the children’s learning, as an example of community service, or as a resource for meeting curriculum goals. Post-secondary institutions may enter into agreements to provide technical or professional services to the park in exchange for access to the park for research purposes.

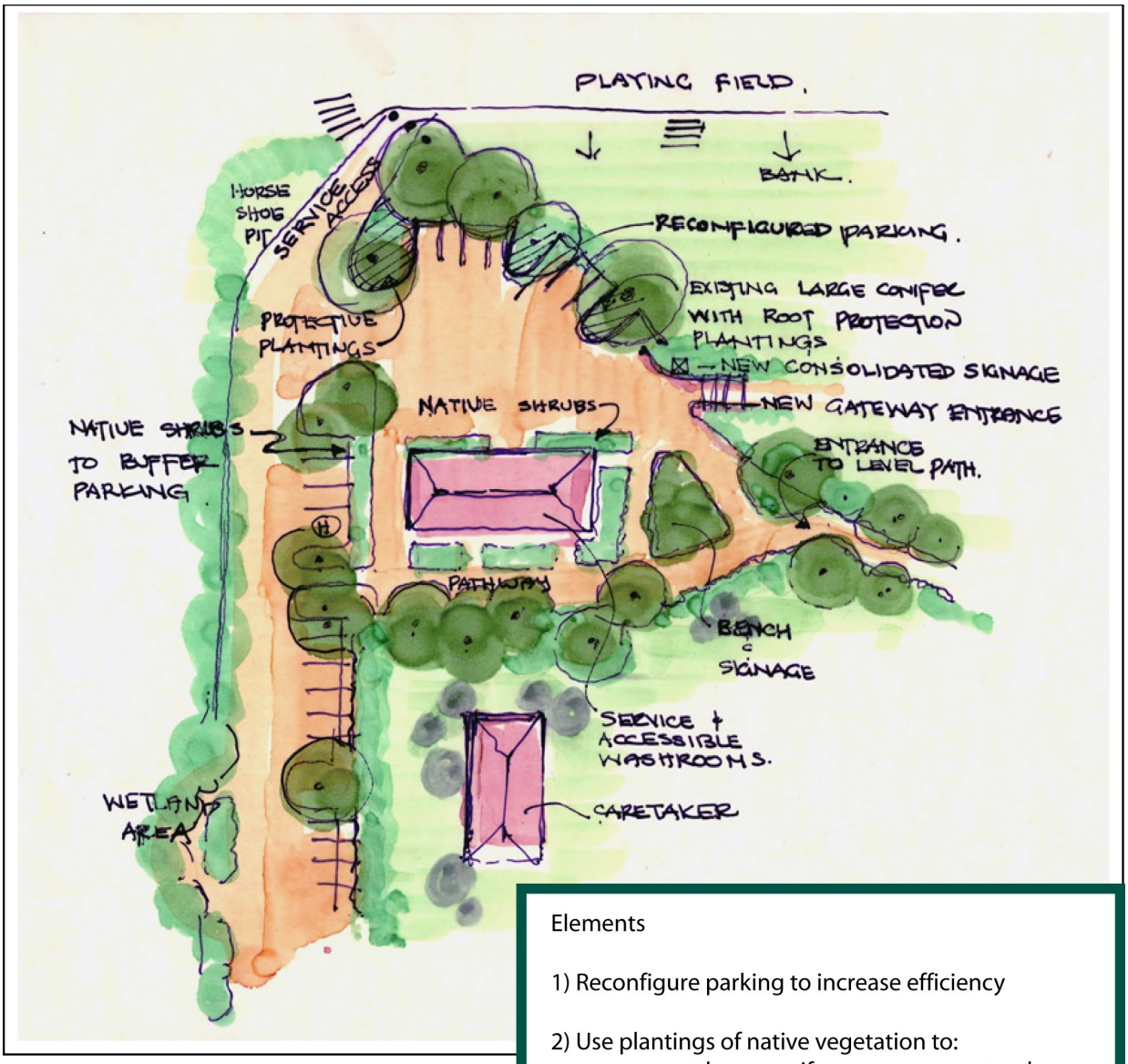
An increasing trend in park systems is the creation of a non-for-profit society that integrates all of these potential partners into a single group. This mix of agency, organizations and individuals also captures a variety of interests and knowledge and – because they all have a seat at the table – reduces user conflicts. This form of management structure is most often used within a park system or a very large park i.e. a National Park.

All of these approaches should be considered in order to meeting the challenge of finding the resources to maintain and enhance parks.

7.0 Preliminary Concepts

In the course of developing this management plan, some recommendations evolved that have significant implications for park infrastructure. As is inevitable, some design ideas were shared both to refine the recommendations and to provide a reference for developing cost estimates. Although design is outside of the scope of the management plan, we have included our preliminary thoughts in sketch form. It should be noted that these are no more than they appear – conceptual sketches that identify possible solutions to management issues identified in this plan. It should be noted that these sketches were shared with the advisory committee and their comments and general approval noted.

7.1 Entrance and Parking



Elements

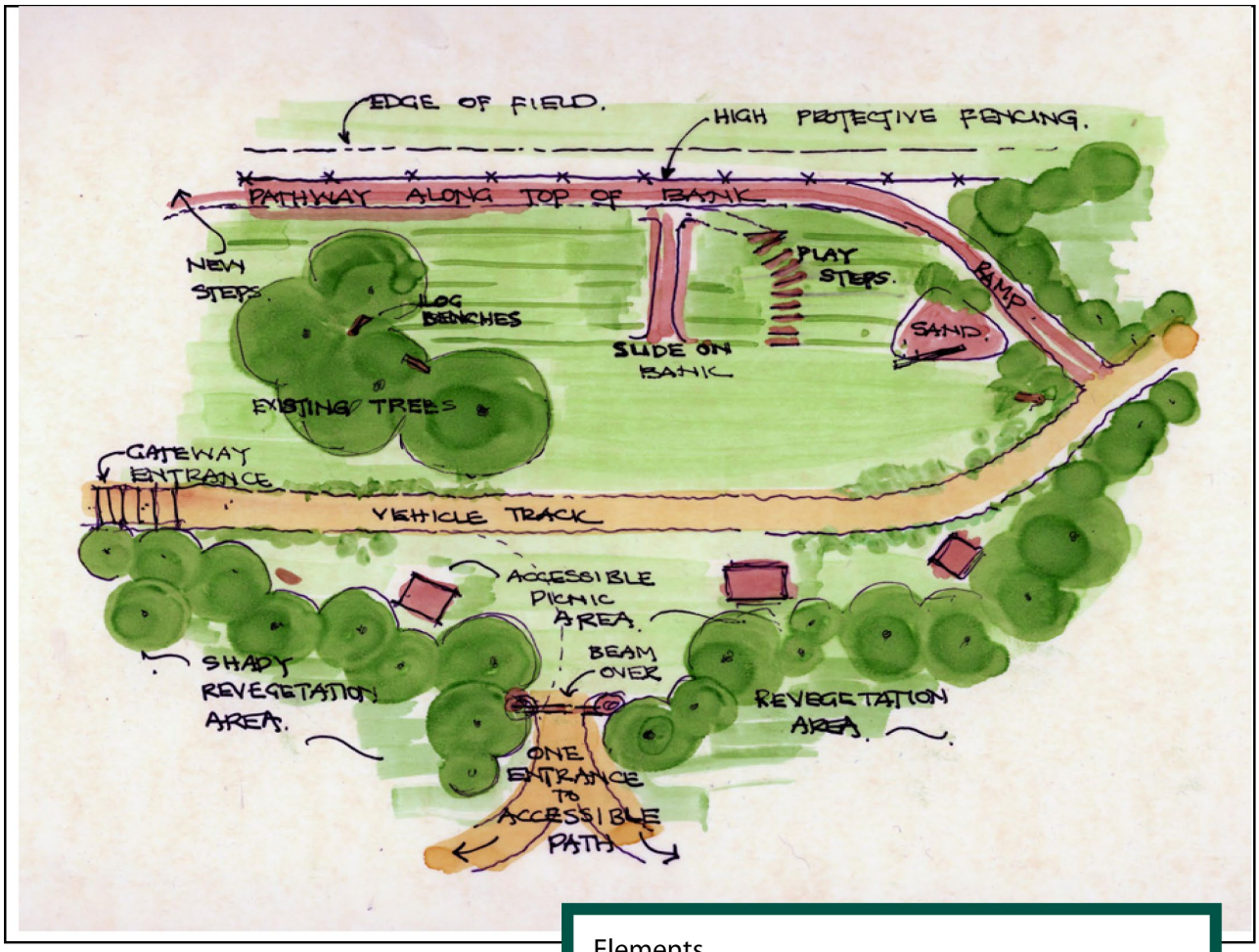
1) Reconfigure parking to increase efficiency

2) Use plantings of native vegetation to:
protect large conifer near entrance to play area
define edges of parking areas
soften change/washroom building
improve service access

3) Formalize entrance - new signage to play area

4) Convert washrooms to fully accessible

7.2 Playground



Elements

1) Relocate swings, slide, sandbox

2) Relocate picnic table to former playground area

3) Use benches in tree area

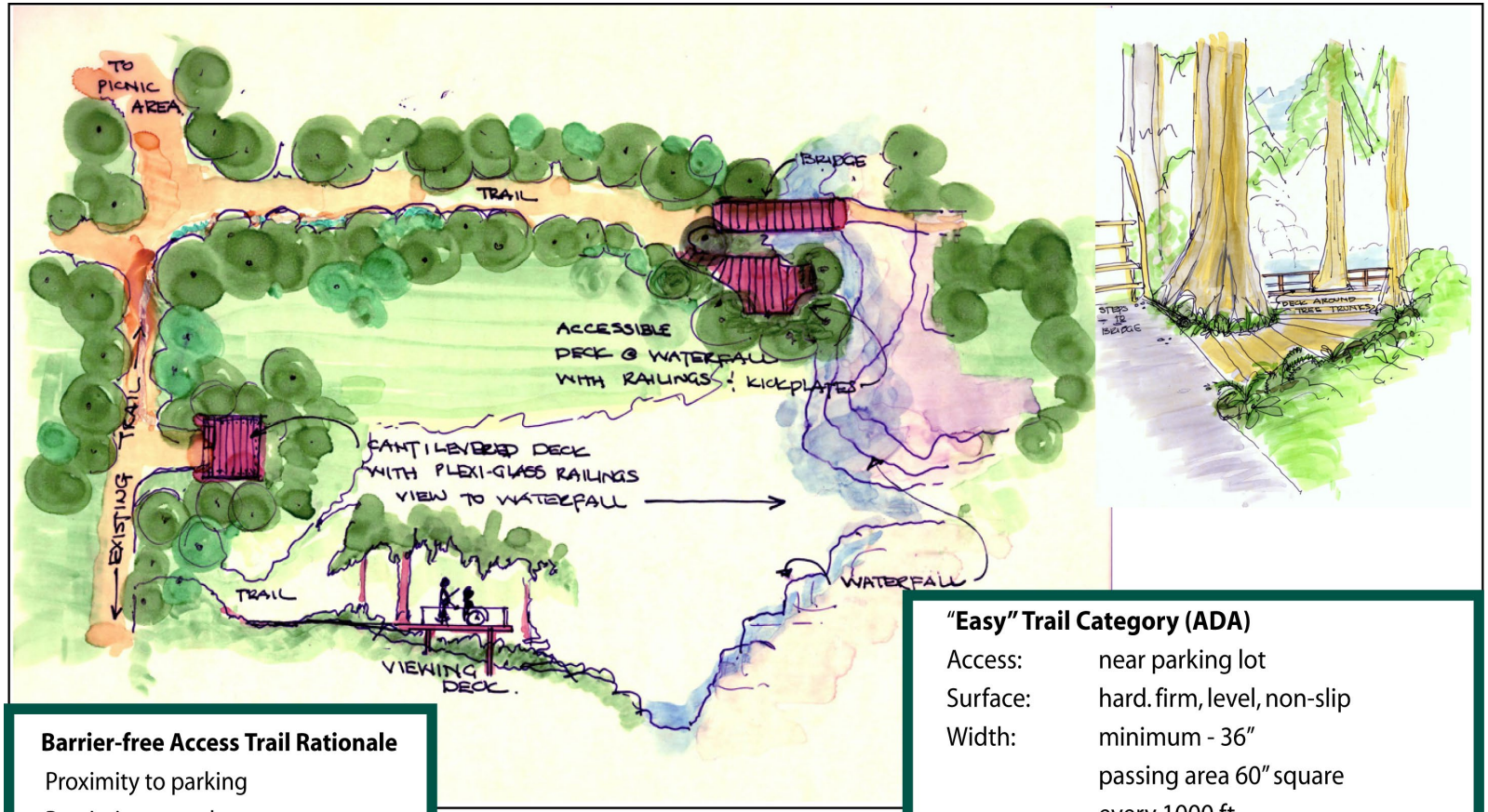
4) Add an accessible picnic table

5) Preserve all trees

6) Add steps up slope to pathway at top of bank

7) Select one entrance for accessible path

7.3 Barrier-free Trail



Barrier-free Access Trail Rationale

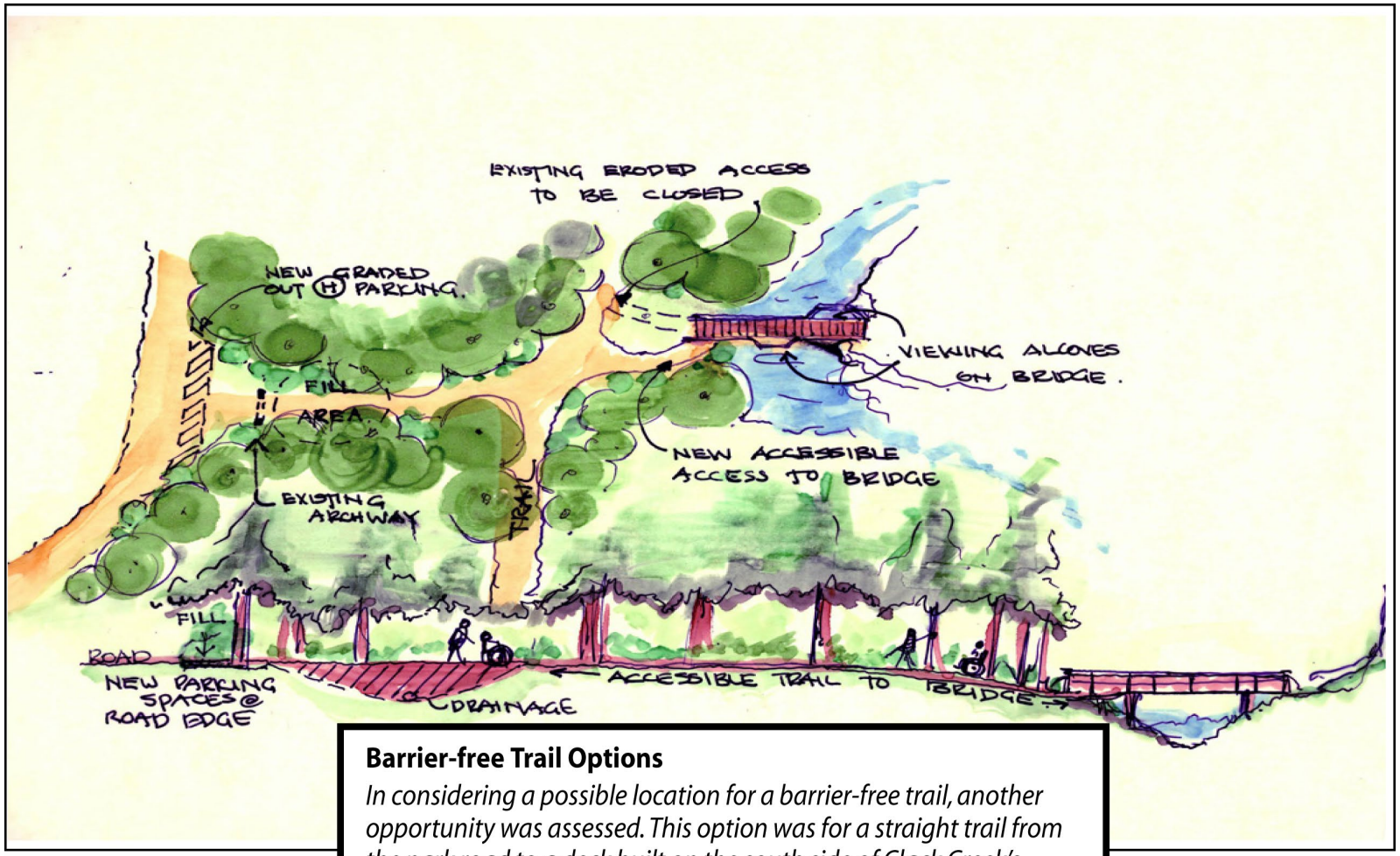
Proximity to parking
Proximity to washrooms
Short (approx 100 m one way)
Rest area with bench at each end
View of Key Park Values:
- waterfalls
- forest
- streams

Double entrance could provide loop

"Easy" Trail Category (ADA)

Access:	near parking lot
Surface:	hard. firm, level, non-slip
Width:	minimum - 36"
	passing area 60" square
	every 1000 ft
Maximum Grade:	10% for no more than 30 feet
Cross Slope:	3%
Trail edge:	kickboard or equivalent
	not less than 3" high
Benches:	every 300 feet
Trail:	gravel base
Surface:	fine crush ("rock dust")
	or soil hardener

7.4 Barrier-free Trail Option



Barrier-free Trail Options

In considering a possible location for a barrier-free trail, another opportunity was assessed. This option was for a straight trail from the park road to a deck built on the south side of Clack Creek's middle bridge. It was ultimately replaced by the previously described trail from the main parking lot because of concerns regarding cost and because it offered less opportunity for a loop experience.

It is included here as another option and in case additional barrier-free trails are needed in the future.

APPENDICES

A: Summary of Public Comments

B: List of Potential and Confirmed Bird Species

C: Trail Assessment Legend

D: Selected References

Appendix A: SUMMARY OF PUBLIC COMMENTS

Cliff Gilker Management Plan Open House # 1
17 May 2006

VALUES

What are the Key Park Values of Cliff Gilker Park? What makes it different from other parks you visit or have visited?

- wilderness
- Heavy forested area with beautiful creeks – oxygen-rich air, quite solitude – dirt trails. I have backpacked my children and grandchildren through it for 28 years. Baseball and soccer come as well – great field.
- Undisturbed forest trails – landscape values
- Well-maintained trails
- Huge trees, waterfalls, bridges over streams, the feeling of being in the wilderness
- Maintain present limited car access, continue to maintain trails, add pertinent signage to limit access by horses, bicycles – no motorized vehicles allowed, and attempt to minimize off trail use
- Dogs on leash in general – allow an relatively small area (contained) for dogs to run free so people know there are options
- Yes to the two points above
- Forest, this is the place where we connect with community and enjoy nature with our family. We like to be able to go to one spot close to our house, ideally by biking safely or walking safely from Lower Road to be able to enjoy a variety of outdoor activities
- The playground

ACTIVITIES

What activities are compatible with protecting the Cliff Gilker Park?

- Walk/run/enjoy nature/meditate
- Soccer, baseball, walking and hiking
- Golfing early is nice – quiet and green
- I do not see this park as wheel-chair or stroller compatible; or mountain biking and free dogs
- Walking trails
- Ball games on the ball park area
- Children's play area
- Changing & washroom facilities
- Compatible activities – walking

- PLAY!! Especially for kids under six. An improved playground area would attract more families i.e. sprinkler park, climbing gym, soccer/baseball/dog training
- Interpretive signs/historical info/ maps/trails
- Concession stand (place to purchase locally made food and beverage)
- Off-leash dog area
- More lights for nighttime use
- Barbeques by the picnic tables
- Establish sensitive ecosystems, endangered species habitat keep trails out of these areas
- Keep the park as it is with minimal development, beyond maintenance of the existing trails and bridges. I would hope that families will enjoy Cliff Gilker Park for its wilderness qualities and therefore do not support an expanded playground; barbeques, lights and **NEVER** a concession stand. There are other parks on the Sunshine Coast where these kind of facilities are available and no other parks like Cliff Gilker. Leave it as it is and spend the money elsewhere.
- I would like to see an area of the park where wheelchairs and strollers can go, and people with limited walking ability (canes, walkers). Why should these people not enjoy a park such as Cliff Gilker – none of us are getting any younger as the years go by

ISSUES

Are there any issues that concern you about Cliff Gilker Park?

- I would like to see the focus on improving the trail surface
- I'm also concerned about the kind of trail damage from bikes and horses
- Garbage, cigarette butts, dog poop
- Stream protection
- Would like to see trails retain their woodland quality but kept safe
- Erosion issues on some parts of the trails
- Concerns about unwanted development in the park area
- Dogs should be on leashes, clean up
- I was concerned when there was talk about a community centre and parking lot in the park – I wish to see it remain a wilderness park (except for the ball field area)
- Who maintains trail south and east of the golf course?
- Connected corridors for wildlife
- Improved entrance – widen road, add bike lane
- Owners must clean up after their dogs
- I feel there could be an area for wheelchair access – so EVERYONE has access tot he park and its beauty

COMMENTS

Are there any other comments you wish to add about Cliff Gilker Park?

- No bikes – there are lots of other trails for bikes on the coast
- No horses – they do way too much damage to the trails

- Improve overall trails for jogging/running. Perhaps the European [method] of wood chip trails
- Dogs off-leash have never been a problem
- Better access to park from highway bus stop at Coho Clack Creek Trail (there is no access at this point)
- Do not increase parking – provide better access via trails, not cars
- Perhaps more benches at view points – perhaps some with roofs over them for rain – the park is magical in the rain
- Would like to see knowledgeable and respectful relationship with the golf course
- I'd like to maintain the current uses and character of the park as much as possible
- I would like Cliff Gilker Park to remain just as it is – never made smaller, no trees removed – perhaps more trails leading to it so fewer parking spaces are needed
- I think Cliff Gilker Park should stay as it is. It is beautiful the way it is now and I love playing soccer and going for walks. KEEP IT THE SAME!!
- Bear-resistant garbage disposal PLEASE!

Cliff Gilker Management Plan Open House # 2
1 June 2006

VALUES

Have we missed any Key Park values of cliff Gilker park? What makes it different from other parks you visit or have visited?

- Keep it as a wilderness area. Encourage wildlife. Document any unique plants, trees or wildlife.
- Keep as much natural forested area which exists as possible
- Wilderness park – please keep it that way
- I strongly support the wilderness character of the park. Leave it as it is; this is what makes Gilker unique and valuable
- I love the wilderness nature of the park. Please retain that.

ACTIVITIES

Have we missed any activities that are compatible with protecting Cliff Gilker park? What are they?

- *Wheelchair access to a viewing point near the waterfall*
- *Retain and maintain the existing wilderness-like character of the park. No water sprinkler stuff or extra playing fields. Build another park for that. Cliff Gilker is intended as a natural experience*
- *Trail development for those with mobility issues should not be at the expense of retaining the wilderness character*
- *Dogs should be leashed in playground and peopled areas, but leashing on interior trails when others are not present is unnecessary*
- *No changes to the park – retain its character*

ISSUES

Have we missed any issues that concern you about Cliff Gilker park? What are they?

- Families in Cliff Gilker do not need a playground. What is there now is enough. Please do not make this into a city park. I am worried with the barrier free idea. Some parks can't be all things to all people. You start making trails easy to access and you ruin the park.
- This park could be considered for dogs off-leash
- Problem of non-native invasive plants. For example: remove any scotch broom that is found in the park.
- Encouraging wildlife: strategically placed bird houses and keeping dogs on leash

- Better highway entrance (no crossing the double line)
- Proper signs for indicating no biking on trails. If signs do not work, put up bike gates!
- Limit trails that are made wheelchair accessible (perhaps the one to the waterfall). Most of the trails should stay rustic, dirt paths that are compatible with the wilderness nature of the park.
- Strongly support the absence of further development in the park
- Make better maps, easier to read
- Maintain the bridges but don't do new development. Repair/maintain trails as needed but limit the disturbance of surrounding area; keep it natural

COMMENTS

Are there any other comments you wish to add about Cliff Gilker park?

- Bark mulch the trails to prevent erosion
- Removal of downed trees near or on trails
- Cliff Gilker Park has endured numerous threats, dissections, illegal falling, etc. over the years. It's time to preserve this great, quiet place for those who appreciate it. If you prefer other activities there are other options; re: parks.
- Any "improvement" to sports field/playground/picnic areas should not impinge on natural areas – no encroachment
- Improvements to sports field and facilities: shooting wall (for balls), blackboards in changing rooms
- Generally the park should retain its wilderness-like character as is
- Dogs should be leashed/controlled in the playground area and when people are encountered. I walk daily in the park and off-leash dogs on interior trails are not a problem
- Keep trails dirt trails. I am against "surfacing" – keep it natural!

Cliff Gilker Management Plan Open House # 3

7 November 2006

- Explore backing into parking spots as there are a number of people walking up the road after they park. (there is a US study about parking issues in park areas)
- Provide more room for bike lanes so people can ride their bikes safely up the road to the playing fields and trail entrances
- Do not provide more road for land that is about to be sub-divided
- Tree removal should only occur if formally determined/assessed to be a hazard
- Schools and large groups should only be encouraged to use the park, but it “has to be a benefit to the park”. E.g. Scout Jamboree is a bad idea.
- RE: Wheelchair accessibility – okay with longer or more options
- The Caretaker should be retained in the park
- Need turn signs and a turning lane if possible for safe entry and exit from the park
- The slide in the playground is too steep
- Have you talked to the Sunshine Coast Conservation Association?
- Would like to see questions, posters and draft management plan in the libraries, Roberts Creek General Store for those who do not have access to computers and are unable to attend the open houses

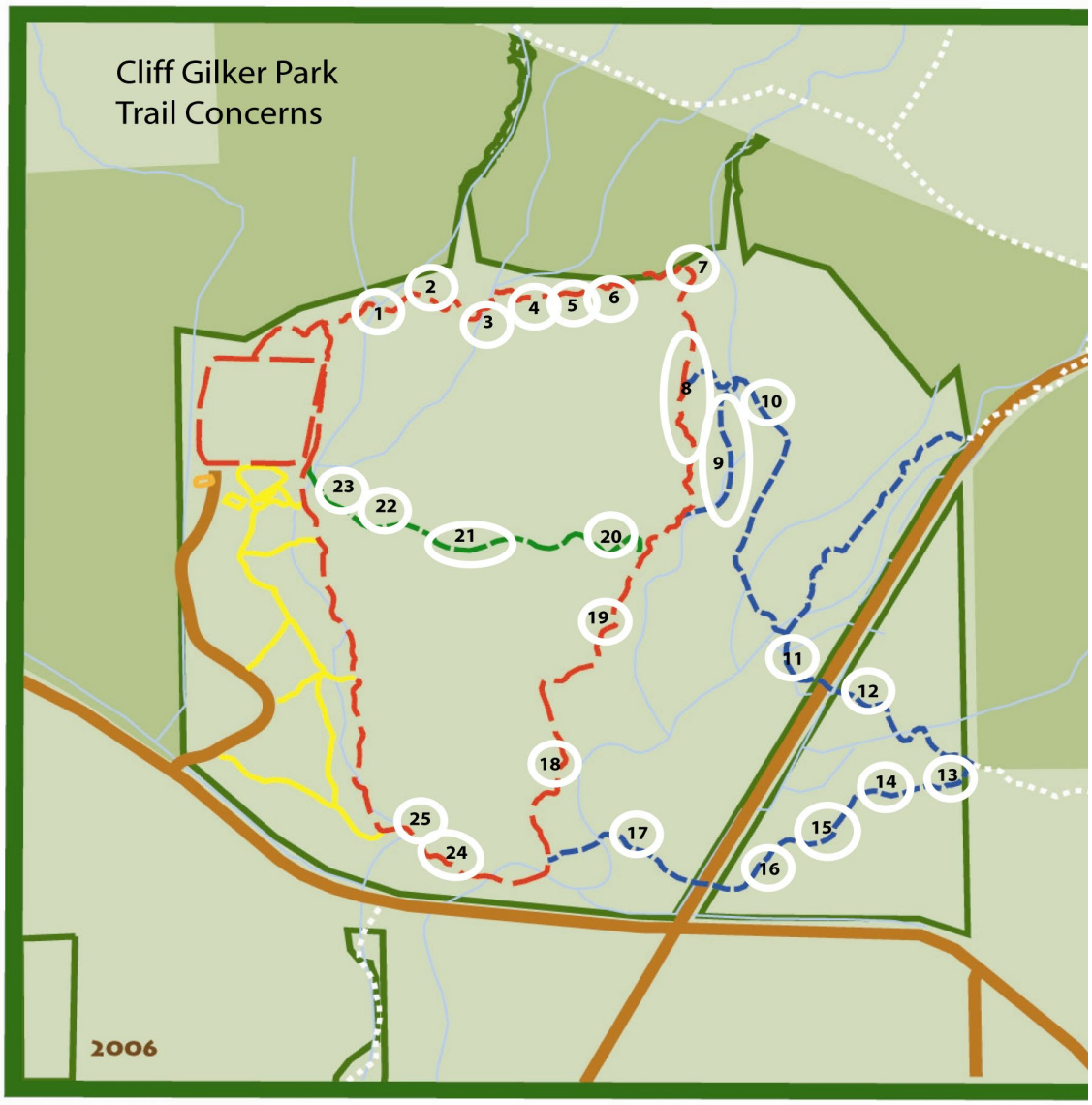
Appendix B: PROBABLE & CONFIRMED BIRD SPECIES

List of Probable and Confirmed Species in Cliff Gilker Park

Species	Status on the Sunshine Coast
Bald Eagle	common
Sharp-shinned Hawk	fairly common
Cooper's Hawk	uncommon
Red-tailed Hawk	fairly common
Merlin	uncommon
Blue Grouse	common
Ruffed Grouse	fairly common
Band-tailed Pigeon	common
Western Screech Owl	uncommon
Great Horned Owl	uncommon
Northern Pygmy-Owl	fairly common
Barred Owl	fairly common
Northern Saw-whet Owl	fairly common
Rufous Hummingbird	common
Red-breasted Sapsucker	fairly common
Downy Woodpecker	fairly common
Hairy Woodpecker	common
Northern Flicker	common
Pileated Woodpecker	fairly common
Olive-sided Flycatcher	fairly common
Western Wood-Peewee	uncommon
Willow Flycatcher	common
Hammond's Flycatcher	fairly common
Pacific-slope Flycatcher	common
Steller's Jay	common
Common Raven	fairly common
Chestnut-backed Chickadee	common
Red-breasted Nuthatch	common
Brown Creeper	fairly common
Winter Wren	common
American Dipper	fairly common
Golden-crowned Kinglet	common
Ruby-crowned Kinglet	fairly common
Swainson's thrush	common
Hermit Thrush	common
American Robin	common
Varied Thrush	common
Cedar Waxwing	common
Cassin's Vireo	fairly common
Hutton's Vireo	fairly common
Warbling Vireo	common
Red-eyed Vireo	uncommon
Orange-crowned Warbler	common
Yellow Warbler	uncommon
Yellow-rumped Warbler	common
Black-throated Gray Warbler	common
Townsend's Warbler	common
MacGillivray's Warbler	common
Wilson's Warbler	fairly common
Western Tanager	common
Black-headed Grosbeak	uncommon
Spotted Towhee	common
Fox Sparrow	fairly common
Song Sparrow	common
Dark-eyed Junco	common
Brown-headed Cowbird	common
Purple Finch	fairly common
House Finch	common
Red Crossbill	common
Pine Siskin	common

This list was produced by Tony Greenfield with input from the Sunshine Coast Natural History Society. More extensive information on the birds of the Sunshine Coast can be found Tony's Birds of the Sunshine Coast Checklist - a joint publication of the Society and British Columbia Wildlife Watch.

Appendix C: TRAIL ASSESSMENT LEGEND



Notes to accompany legend:

- Section 8 (northeast section of Red Trail) is being relocated to reduce the erosion and safety issues which have increased as a result of the 2006 winter storms.
- Section 9 is being significantly upgraded including a new bridge
- Many of the recommendations included in this portion of the document are routinely undertaken by the Parks operational and maintenance staff and are included here as a partial inventory of the trail conditions after a series of stormy weather events.

- ❖ Recommendations include removing tree cookies and replacing them with low boardwalking; cookies can be slippery and often generate wider trails besides them (because many walkers and hikers are reluctant to use them
- ❖ When boardwalking is recommended over a large area, it is not meant to imply that the entire trail are must be boardwalked – only the specific areas that require it.
- ❖ Boardwalking, in general, refers to low wooden structures that keep users dry on all but the most exceptional rainfalls. The necessary height is usually less than 10 centimetres and more than 5". Boardwalking needs to be made on a non-slippery material or covered with non-slipper material.
- ❖ Trees that are "surrounded" by trail are considered as being at the highest risk of root damage. In all circumstances, we recommend that one side of the trail (the one with the least erosion impact) be formalized as the trail while the other is decommissioned and block with natural materials.

Trail Assessment Legend

Location #	Concern	Prescription
1	Flooding and erosion	2 small bridges/boardwalks
2	Tree cookies with spreading trail	Remove cookies - boardwalk
3	Small wet area – consistently floods	boardwalk
4	Wet area between two bridges	Boardwalk
5	Narrow passage	Consider widening
6	Stairs and bridge rotting, unsafe	Repair
7	Unsanctioned trail	Block - add native shrubs
8	(eroding trail on unstable cliff)	Trail currently being relocated inland
9	New access to Blue Trail from Red	Steps needed
10	Narrow wet area with tree cookies	Boardwalk – remove cookies
11	Wet area – erosion into creek	Small bridge & steps
12	Tree roots exposed on all sides	Block south side with boulder, section of fallen tree trunk and/or shrubs
13	Significant erosion near creek crossing near large trees	Will probably need steps
14	Storm debris has collected in stream	Move storm debris out of creek
15	Erosion accelerated by Mountain bikes	Sign trail entrances (no bikes) – and boardwalk area

Location #	Concern	Prescription
16	Trail is widening from people avoid wet areas – very wet area	Boardwalk
17	Approach to Red Trail on lower Blue Trail – descent to small rapids and bridge – unstable steps / boardwalk	Repair
18	Trees/branches from storms left in stream	Relocate
19	Tree roots exposed on all sides	Block one side with large boulder (water side)
20	Tree cookies and flooding	Remove cookies – boardwalk
21	Number of unsanctioned trails/routes – extended flooding area	Boardwalk (preferred) or formalize unsanctioned trails that reduce erosion
22	Tree roots exposed on all sides	Pick one side – block the other side
23	Tree roots exposed on all sides	Pick one side – block the other side
24	Extended area of regular flooding with cookies	Boardwalk – remove cookies
25	Steep cliff down to waterfalls – trail narrow and eroding	Evaluate risk – IF excessive, build retaining structure and railing or consider relocation trail

Appendix D: SELECTED REFERENCES

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